



SITE PLAN

This document fulfils the requirements of Section 10 of the Forest and Range Practices Act and Section 34 of the Forest Planning and Practices Regulation.

ADMINISTRATION

REGION	DISTRICT	T.S.A.	GEOGRAPHIC LOCATION			DOCUMENT DRAFT DATE		
Kootenay Boundary	Rocky Mountain	Cbk	Quinn Creek			July 16, 2020		
LICENCEE		LICENCE	C.P.	BLK	BCGS MAPSHEET & OPENING #	LU	FDU	SUPPLY BLOCK
Galloway Lumber Co. Ltd.		F.L. A19042	182	3470	82G084	C27	4-Bull West	D

STANDARDS UNIT AREA DESCRIPTION (ha)

Timber Type Description: The block is comprised of a mixed species stand of spruce, and subalpine fir.					
SU	GROSS	NON-PRODUCTIVE		RESERVES	NET AREA TO BE REFORESTED (NAR)
		NAT	UNN		
1	4.8		0.4	0.8	3.6
TOTAL	4.8		0.4	0.8	3.6

FOREST STEWARDSHIP PLAN OBJECTIVES, RESULTS AND/OR STRATEGIES

Objective / Measure / Value	Applicable (Yes/No)	Result and /or Strategy Description/Rationale
BEO	Yes	The BEO for this FDU/LU combination is intermediate. This Site Plan is consistent with the BEO.
Old and Mature Forest	No	
Caribou	No	
Green-Up	No	
Grizzly Bear and Connectivity	No	Important grizzly bear habitat has not yet been mapped. The spatial deployment of old forests has been placed in connectivity corridors where available. The block is not within a regional connectivity corridor.
Consumptive Use Streams	No	
ERDZ-T	No	
Interpretive Forest Sites, Recreation Sites and Recreation Trails	No	
Scenic Areas	No	
Soils	Yes	See Soil Disturbance Limits section below for results and strategies.
Wildlife Habitat Area's	No	
Riparian	Yes	This Site Plan is consistent with the Forest Stewardship Plan.
Community Watershed	No	Applies to Watershed FDU only.
Biodiversity-Landscape Level	Yes	This Site Plan is consistent with the Forest Stewardship Plan.
Biodiversity-Stand Level	Yes	This Site Plan is consistent with the Forest Stewardship Plan.
Cultural Heritage Resources	No	No Cultural Heritage Resources have been identified for this area.
Stocking Standards	Yes	The stocking standards are consistent with the FSP.
Invasive Plants	No	Invasive plants have not been identified within the area. Revegetation requirements will minimize the potential for spread of noxious weeds onto exposed mineral soil. See the Logging Plan for additional measures to control the spread on Invasive Plants.
Natural Range Barriers	No	Natural range barriers have not been identified for this area. To the best of the licencees knowledge harvesting of the block and associated skid trails will not remove, or render ineffective, a natural range barrier.

16/07/2020

CRITICAL SITE CONDITIONS THAT AFFECT THE TIMING OF OPERATIONS, and how they affect them.

- | | |
|------|---|
| SU 1 | <ul style="list-style-type: none"> Operators should be aware of unidentified resource features and inform a Galloway Lumber Co. Ltd. Representative as soon as practicable should an un-identified resource feature be found during harvesting operations. |
|------|---|

SOIL DISTURBANCE LIMITS AND MAXIMUM PERMANENT ACCESS STRUCTURES

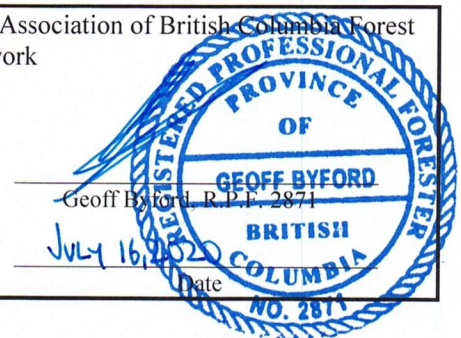
SU	Sensitive Soils (Y/N)	Maximum Allowable Soil Disturbance (%) ¹	Maximum Amount Soil Disturbance Limits may be Exceeded to Construct Temporary Access Structures (%) ¹	Proportion of the Total Area Occupied by Permanent Access (%) ²	Maximum Allowable Soil Disturbance for Roadside Work Areas (%) ¹
1	N	10	5	8.3	25
Comments:		1: based on a percentage of the net area to reforest. 2: based on a percentage of the gross cutblock area, including any reserves. The proportion of the total area occupied by permanent access exceeds 7% due to the relatively small size of the opening.			

STOCKING STANDARDS

FSP Stocking Standards ID Number			1062166			Natural Stand SPZ					WK		
SU	Species		Well Spaced/ha			Minimum Inter-Tree Distance (m)	Regen Delay (max years)	Min. Tree Height at Free Growing (m)			Tree Height to Brush (min %)	Post Spacing	
	PREFERRED	ACCEPTABLE	TSSpa	MSSpa	MSSp			Pl, Lw	Fd	OS		Min	Max
1	Pl, Sx, Bl	Fd, Lw,	1200	700	600	2.0	7	1.6	1.0	0.8	125	1200	3000-4000
<ul style="list-style-type: none">Maximum density = 10,000sph where lodgepole pine is <80%Pl in the inventory; maximum density = 25,000sph where lodgepole pine is >80% in the inventory.TSSpa = target stocking standard preferred and acceptable; MSSpa = minimum stocking standard preferred and acceptable; MSSp = minimum stocking standard preferredStocking standards footnotes apply.													

Person Completing this Site Plan:	Geoff Byford, R.P.F. July 16, 2020
-----------------------------------	---------------------------------------

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



The Following is Attached for Information Only and Does Not Form Part of the Site Plan

PRACTICE REQUIREMENTS			
Objective / Measure / Value	FPPR Section	Applicable (Yes/No)	Result and /or Strategy Description/Rationale
SOILS			
Soil Disturbance Limits	35	Yes	The Site Plan is consistent with <i>FPPR section 35</i> .
Permanent Access Structure Limits	36	Yes	The Site Plan is consistent with <i>FPPR section 36</i> .
Landslides	37	No	
Natural Surface Drainage Patterns	39	Yes	Natural surface drainage patterns will be maintained as per <i>FPPR section 39</i> .
Revegetation	40	Yes	Exposed mineral soil on the cut and fill slopes of the newly constructed road must be re-vegetated within 2 years post-construction (1 year if invasive plants present).
TIMBER AND FOREST HEALTH			
Modification of Insect Behaviour	41	No	
Use of Seed	43	Yes	The Site Plan is consistent with <i>FPPR section 43</i> .
Free Growing Stands Generally	44	Yes	The Site Plan is consistent with <i>FPPR section 44</i> .
RIPARIAN AREAS			
Stream Riparian Classes	47	Yes	The Site Plan is consistent with <i>FPPR section 46</i>
Wetland Riparian Classes	48	No	
Lake Riparian Classes	49	No	
Restrictions in a Riparian Management Area	50	No	
Restrictions in a Riparian Reserve Zone	51	No	T
Restrictions in a Riparian Management Zone	12(3), 52	Yes	The Site Plan is consistent with <i>FPPR section 52</i> and the FSP.
Temperature Sensitive Streams	53	No	
Stream Crossings	55	No	
Fish Passage	56	No	
Protection of Fish and Fish Habitat	57	No	
WATERSHEDS			
Protecting Water Quality	59	No	
Licensed Waterworks	60	No	
Excavated or Bladed Trails	61	No	
Roads in a Community Watershed	62	No	
BIODIVERSITY			
Maximum Cutblock Size	64	No	
Harvesting Adjacent to Another Cutblock	65	No	
Wildlife Tree Retention	66	Yes	This Site Plan is consistent with the Forest Stewardship Plan.
Restriction on Harvesting	67	No	
Coarse Woody Debris	68	Yes	The Site Plan meets the requirements for coarse woody debris contained in the Forest Stewardship Plan.

GENERAL WILDLIFE MEASURES AND RESOURCE FEATURES			
General Wildlife Measures	69	No	
Ungulate Winter Ranges	GAR	No	
Wildlife Habitat Features	GAR	No	
Migratory Birds	MBA	Yes	The block is within a polygon rated as high probability for supporting migratory birds based on the VRI. No harvesting should occur between May 27 and July 28.
DUE DILIGENCE			
Terrain Hazard	FRPA 46(1) FPPR 47	No	
Surface Erosion Potential	FRPA 46(1) FPPR 61	No	
Archaeological Impact Assessment	HCA*13	Yes	An Archaeological Impact Assessment has been completed on the block. This Site Plan is consistent with the AIA. See the Logging Plan for further details regarding this assessment.
Forest Health	FRPA 26 & 27	Yes	A forest health assessment has been completed for this block. The Site Plan is consistent with this assessment.

SOIL DESCRIPTION								
SU	SURFACE 0-15 cm		SUBSOIL 16-60cm		DEPTH TO UNFAVOURABLE SUBSTRATE		HUMUS FORM	
	TEXTURE	C.F. (%)	TEXTURE	C.F. (%)	DEPTH (cm)	TYPE	DEPTH (cm)	TYPE
1	SiL	30-40	L	40-50	26	Carbonates	1-3	Mor
The most limiting soil characteristics have been used to derive soil hazard ratings.								

SITE DISTURBANCE			
HAZARD RATINGS			
(if logging methods other than cable or aerial are proposed)			
SU	SOIL COMPACTION	SOIL DISPLACEMENT	SURFACE SOIL EROSION
1	High	Moderate	High
SLOPE INSTABILITY INDICATORS:			
SOIL DISTURBANCE LIMITS(as per section 35 of the <i>Forest Planning and Practices Regulation</i>)			
SU	MAXIMUM ALLOWABLE SOIL DISTURBANCE WITHIN THE NET AREA TO REFOREST (%)	MAXIMUM EXTENT SOIL DISTURBANCE LIMITS MAY BE TEMPORARILY EXCEEDED TO CONSTRUCT TEMPORARY ACCESS STRUCTURES (%)	
1	10.0	5.0	
Operations must be conducted to minimize soil disturbance.			

REHABILITATION TIME FOR TEMPORARY ACCESS STRUCTURESMAXIMUM ALLOWABLE TIME TO COMPLETE REHAB (MEASURED FROM COMPLETION OF HARVEST): ONE YEAR.**PROPORTION OF THE TOTAL AREA OCCUPIED BY PERMANENT ACCESS(%)**

TOTAL	COMMENTS
8.3	PAS as per map.

RIPARIAN MANAGEMENT STRATEGIES

SU	WATERBODY NAME / TYPE	RIPARIAN CLASSIFICATION			
		RIPARIAN CLASSIFICATION	RIPARIAN RESERVE ZONE RRZ (M)	RIPARIAN MANAGEMENT ZONE RMZ (M)	RIPARIAN MANAGEMENT AREA RMA (M)
1	Quinn Creek	S2	30	20	50
1	Non-Classified Drainage	NCD	0	0	0

Quinn Creek is located northeast of the block. Approximately 0.13ha of the block is within the RMZ of this stream. The area of the block within the RMA will be treated the same as the remainder of the block. Basal area retention within the RMZ is estimated at 0.0% of the pre-harvest basal area. Understory stems will be retained along the portion of the boundary that is adjacent to Quinn Creek.

There is a mapped stream located outside the southern boundary. Field reconnaissance indicates that this does not meet the definition of a stream and is better classified as Non-Classified Drainages (NCD).

OBJECTIVES FOR WILDLIFE TREE RETENTION

SU	BEC	BEO	APPLICABLE PERFORMANCE STANDARD FOR WILDLIFE TREE RETENTION (%)	AREA OF WTP's IN AND ADJACENT TO THE CUTBLOCK (ha)	PERCENTAGE OF CUTBLOCK AREA IN WTP'S (%)	PERCENTAGE OF LEAVE TREES CONTRIBUTING TO WILDLIFE TREE RETENTION OBJECTIVES	TOTAL PERCENTAGE OF WILDLIFE TREES IN OR ADJACENT TO THE CUTBLOCK
1	ESSFdk2	intermediate	3.5	0.8	16.7	0.0	16.7

There is 1 in-block WTRA. It has been established in the RMA of Quinn Creek. This area, along with other WTRA's within the Cutting Permit area, equates to 11.0% WTRA retention. The target WTRA retention target within the ESSFdk2 in LU C27 is 7%.

OBJECTIVES FOR COARSE WOODY DEBRIS

Coarse woody debris objectives will be met with existing on-site levels of downed material. Recruitment of coarse woody debris will also be provided from mortality of reserve stems over the rotation. Anticipate a range of piece sizes greater than 10cm in diameter, including stumps greater than 10cm tall, including, at a minimum, 4 logs per hectare, each being a minimum of 2m in length and 30cm in diameter at one end. Anticipate a volume range of 5-15m³/ha. Some localized areas may have greater or lesser amounts of CWD, depending on its amount pre-harvest, and operational considerations such as the amount of stem breakage, skidtrail location, etc.

Coarse woody debris objectives will be met using current utilization standards.

FOREST HEALTH MANAGEMENT STRATEGIES

MANAGEMENT STRATEGIES TO REDUCE FOREST HEALTH RISKS

Armillaria root disease is suspect but not confirmed within the block.

Establishing a mixed species stand will minimize the impact of these insects/diseases on the next rotation.

MANAGEMENT STRATEGIES FOR ARCHAEOLOGICAL SITES

MANAGEMENT STRATEGIES TO MANAGE AND CONSERVE ARCHAEOLOGICAL SITES

An Archaeological Impact Assessment was completed on the block. See the Logging Plan for constraints relating to this assessment.

PREVIOUS STAND INFORMATION								
PREVIOUS STAND TYPE	TIMBER TYPE		CLASSES			Crown Closure	Site Index	Src Code
	Spp 1	Spp 2	Age	Height	Stocking			
IMMAT	Se	Bl	9	3	0	5	10	H

ECOLOGICAL DESCRIPTION						
EU	SU	NDT	BEC ZONE	SUBZONE VARIANT	SITE SERIES (% composition)	GRID LOCATION (SMR / SNR)
1	1	3	ESSF	dk1	101	(3)4/C-D

TERRAIN DESCRIPTION								
SU	SLOPE (%) DOMINANT (RANGE)	L/U	ASPECT	SLOPE POSITION	GULLIED (Y/N)	DRAINAGE	ELEVATION (m)	
							MIN	MAX
1	5 (0-15)	L/U	Variable	Level	N	Moderately Well	1415	1420

MANAGEMENT STRATEGIES FOR TEMPORARY ACCESS STRUCTURES
Bladed trails may be required to harvest this opening. The maximum amount of bladed trail must be consistent with the soil disturbance limits and the Logging Plan for this block. Bladed trails must not be constructed within the P polygon located in the Northwest portion of the block. (See Logging Plan for location and constraints).

SILVICULTURAL SYSTEM for SU 1		
CATEGORY	SYSTEM VARIANT	CUT PHASE
Clearcut		

STAND STRUCTURAL OBJECTIVES
CHARACTERISTICS OF LEAVE TREES: <ul style="list-style-type: none"> No Reserves Retain good quality spruce and balsam understory, where operationally feasible, adjacent to Quinn Creek.
FUNCTION OF LEAVE TREES: <ol style="list-style-type: none"> To provide seed and shelter for natural regeneration. To provide for recruitment of wildlife trees and coarse woody debris over time.

STANDARD HARVESTING CONDITIONS
DANGER TREES: Where practicable, danger trees will be felled: <ol style="list-style-type: none"> progressively with the felling of other timber, and before felling adjacent live trees, and into open areas. Danger trees outside a cutblock, within wildlife tree patches or within riparian reserve zones that are required to be felled for compliance with the Occupational Health and Safety Regulation may be felled at the discretion of the contractor and a Galloway Lumber Co. Ltd. representative.

SITE PREPARATION METHOD/CONSTRAINTS					
SU	OBJECTIVES	TYPE	METHOD	% of SU	Comments
1	Create mineral soil exposure to promote natural conifer regeneration.	Mechanical	Achieve through harvest.	100	

CONSTRAINTS