

Site Plan

Gitxsan Forest License Inc.

TERRACE

X Original	30-May-2018	Amendment #
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TENURE IDENTIFICATION

Region	District	TSA	TSB	Licence No.	Timbermark (s)	Cutting Permit	Block	Mapsheet/Opening No.
RSK	DSS			A16831	EP1432	432	SWB004	093M052 /
Area Under Tenure	Location				UTM East	UTM North	UTM Zone	Licensee
	Shewiliba Creek				586600	6161600	9	
17.3 (ha)	Admin Zone:		Latitude: 55.35.33		Longitude: 127.37.37			Gitxsan Forest License Inc.

FSP IDENTIFICATION

ID	Plan Name	Term Years	Commencement Date
GFI FSP	GFI FSP	5	02/08/2013
Applicable FDU(s)		Kispiox	

This Site Plan is consistent with the above noted FSP, section 10 of the FRPA and the prescribed requirements of section 34(1) of the FPPR.

SAFETY

Radio Frequency	Emergency Rendezvous	Steep Slopes	Weather Station
	As per Prime Contractors ERP		Hazleton Temlehan

Other Safety Comments

Ensure adequate signage posted during harvesting activities where Spur A joins the Babine Slide FSR when block is an active work site.

Roads:

- Remove danger trees within 1.5 tree lengths of road edge. Install hazard signage for public.

Harvesting:

- Remove danger trees within 1.5 tree lengths of block edge. This includes trees located within WTRAs.

Post Harvest:

- Remove danger trees within 1.5 tree lengths of block edge and within 1.5 tree lengths of road edge.
- Ensure all ditches are free flowing.

AREA SUMMARY

AREA OF NO PLANNED REFORESTATION (ha) (NPR)

Perm. Access	Rock	Water	Swamp	Other NP	NC > 4 HA.	IMM	Reserves * see details below	Other	Total NPR Area
0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30	0.00	1.30

NET AREA TO BE REFORESTED INCLUDING RESERVES WITH MODIFICATIONS (ha)

SU	SU Area Description	Net Area To Be Reforested
1	SU1 features a BI dominated overstory and understory with minor components of Sx and Hw in both. Soils are morainal in origin and are predominantly SiL textured with some clay components at depth. SU1 is a combination of the wet, rich 05 and 06 sites and comprises the entire block. The 05 series is more prominent along the northern boundary as there is a large slope beyond the ribbon line and the ground is much wetter at the toe of this slope. Brush hazard is considered to be moderate-high and with a deep snowpack, snow-press of planted seedlings may become an issue.	16.0

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TOTAL NET AREA TO BE REFORESTED : 16.0

TOTAL AREA : 17.3

ECOLOGICAL INFORMATION AND SITE CHARACTERISTICS**ECOLOGY AND CRITICAL SITE CONDITIONS**

SU	AREA	BEC	ELEVATION (m)			SLOPE (%)			SITE SERIES Dominant ----- Related	ASPECT	SITE TYPE
			Low	High	Avg	Min	Max	Avg			
1	16.0	ESSF wv	1010	1090	1050	0	0	0	05		

SU	Critical site conditions that affect the timing of operations, and how they affect the timing
1	Wet weather shutdown guidelines apply for all harvest systems. No harvesting constraints are noted. There are gentle slopes throughout the block and no sensitive soils have been noted.

OBJECTIVES - MANAGEMENT STRATEGIES**Biodiversity - Seral Stage and Old Growth Management Areas**

The objective for seral stage conditions in the Kispiox FDU and the Cranberry FDU is to maintain a distribution of old, mature and early seral stage forest reflective of the natural disturbance regime, while maintaining the structural and functional features of old forest ecosystems.

R/S/M ID	R/S/M Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
	Seral Stage	Yes	This site is composed of land designated as an LU within lands governed by the Kispiox Land and Resource Management Plan.
How is this SP consistent with the Results, Strategies or Measures?		This site is within the Middle Skeena South LU and is consistent with the seral stage distribution targets (updated April 1, 2014) for the LU. The target for Mature+Old and Early seral stage have been met in this LU at 85.1%, and 11.9% respectively. The addition of this block, given its small patch size will contribute to the small patch distribution target. There is no old seral stage target for the LU.	

R/S/M ID	R/S/M Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
	Old Growth Management	Yes	The area under this site plan does not contain Old Growth Management Area.
How is this SP consistent with the Results, Strategies or Measures?		This site does not infringe on any OGMA's.	

Biodiversity - Patch Size Distribution

The objective for patch size distribution in the Kispiox FDU and the Cranberry FDU is to attain a landscape pattern of patchiness that, over the long term, reflects the natural disturbance pattern.

R/S/M ID	R/S/M Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
	Patch Size Distribution	Yes	This site is composed of land designated as an LU within lands governed by the Kispiox Land and Resource Management Plan.
How is this SP consistent with the Results, Strategies or Measures?		This site is within the Middle Skeena South LU and is consistent with the patch size distribution targets (updated January 1, 2014) for the natural disturbance type of the LU. This block does not combine with any proposed or logged blocks and contributes to the small patch size within NDT 2 of the Middle Skeena South LU. Within the Middle Skeena South LU, the small patch size is below the target range, logging this block will move the LU towards the target.	

Biodiversity - Wildlife Tree Retention

The objective for wildlife tree retention in the Kispiox FDU and the West Babine FDU is to maintain the range of structural attributes of old forest ecosystems within forest stands throughout the rotation.

R/S/M ID	R/S/M Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
	Wildlife Tree Retention	Yes	Wildlife tree retention is consistent with Table 4 of the Forest Stewardship Plan.
How is this SP consistent with the Results, Strategies or Measures?		This site is located within the Middle Skeena South LU and is within the ESSFwv biogeoclimatic ecosystem variant. The Wildlife Tree Retention Area (WTRA) target is 2%. The WTRA associated with this site represents 7.5% of the TAUP.	

Botanical Forest Products - Wild Berries

The objective for wild berries in the Kispiox FDU and the Cranberry FDU is to maintain habitat suitable for the growth of wild berry species.

R/S/M ID	R/S/M Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
	Wild Berries	Yes	This site contains habitat suitable for the growth of wild berry species.
How is this SP consistent with the Results, Strategies or Measures?		Seral Stage Strategy (2.2.1.1) as contributes to the maintenance of wild berry production in the Kispiox FDU. During brushing and spacing treatments carried out in the achievement of free growing obligations, avoid cutting berry plants that are not directly impeding the survival or growth of commercial trees included as well-spaced crop trees.	

Timber

The KLRMP objective for timber is to maintain the health and productivity of forest resources by providing protection from fire, insects and diseases, and through reforestation.

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Timber	Yes	This site supplies economically valuable timber to the FSP holder and execution of the silviculture treatment regime associated with this plan will maintain or enhance the health and productivity of forest resources.
How is this SP consistent with the Results, Strategies or Measures?		The standards units designated for reforestation through this site plan will be reforested in accordance with the stocking standards specified below.

Wildlife - Moose

Within moose winter range in the Kispiox FDU, the West Babine FDU and the Cranberry FDU as indicated in Appendix V - FSP Maps, the objectives for moose are to: 1. ensure moose forage is retained and available; and, 2. maintain cover for security, visual screening, thermal cover and snow interception needs.			
R/S/M ID	R/S/M Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
	Moose	Yes	This site is located in identified Moose Winter Range.
How is this SP consistent with the Results, Strategies or Measures?		According to GFI's 2013 FSP map (2 and 4), this site is located within identified Moose Winter Range. As per the FSP, brush cover and deciduous species will be retained within 10 m of roads (unless there is an adverse impact to crop trees) and temporary access structures will be deactivated within 1 year after the Free Growing date. In addition, Indicators and Thresholds/Measures for Biodiversity in Table 2 (refer to 2.2.1.1 - Strategy for Seral Stage Conditions) will be adopted to ensure availability of moose range.	

Water and Riparian

The objectives for water in the Kispiox FDU, the West Babine FDU and the Cranberry FDU are: 1. to maintain water quality and quantity for domestic, recreational, agricultural and industrial use, and for wildlife and fisheries; and, 2. to protect the hydrological integrity of watersheds. The objectives for riparian areas in the Kispiox FDU, the West Babine FDU and the Cranberry FDU are: 1. to protect rivers, streams, and wetlands, and associated recreation, cultural heritage, aboriginal, tourism and wildlife values; 2. to protect sources of large organic debris; 3. to ensure bank stability; 4. to protect water quality; and, 5. to maintain important fish and wildlife habitat. For fisheries values the following objectives from the KLRMP related to fish habitat have been deemed 'applicable' to the Kispiox FDU, the West Babine FDU and the Cranberry FDU: 1. to protect the following sensitive fish habitat: a. lakes with small populations of large rainbow trout; b. stream reaches with identified populations of bull trout; c. important spawning and rearing areas; and, d. Class I and II angling waters, and their tributaries. The applicable objective from the West Babine SRMP for water quality in the West Babine FDU is to maintain water quality within the range of natural variability. Additional water quality and fisheries related objectives are captured in objectives for Landscape Riparian Corridors, Access Management Objectives for Babine River Corridor and the Babine River Valley SMZ and other biodiversity objectives.			
R/S/M ID	R/S/M Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
	Sensitive Fish Habitat	Yes	There are no classified fish streams within this site.
How is this SP consistent with the Results, Strategies or Measures?		A site specific plan and mitigation measures have been developed to limit the potential for adverse impacts to sensitive fish habitat. Cutblock and/or road designs are consistent with this plan.	
R/S/M ID	R/S/M Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
	Hydrologic Integrity of Watersheds	Yes	This site is located within a Watershed identified in the Watershed Integrity Matrix.
How is this SP consistent with the Results, Strategies or Measures?		A qualified person has undertaken the watershed assessment activities for the corresponding Watershed of the Watershed Integrity Matrix.	
R/S/M ID	R/S/M Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
	Retention of Wildlife Trees in Riparian Mgmt	Yes	There is 1 classified stream and 1 non-classified drainage within this site.
How is this SP consistent with the Results, Strategies or Measures?		The percentage of total basal area retention within the riparian management zone as specified in Table 12 for each riparian class is left as standing trees.	
R/S/M ID	R/S/M Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
	Water and Riparian Areas	Yes	There is 1 classified streams and 1 non-classified drainage within this site.

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How is this SP consistent with the Results, Strategies or Measures?

The widths of the riparian management area, riparian reserve zone and riparian management zone are as specified in Table 12.

Other than at a crossing, no roads will be constructed within a riparian management area.

RIPARIAN MANAGEMENT

Riparian I.D.	Riparian Class	Harvesting	SU	# Within Block	# Adjacent to Block	RRZ Width (m)	RMZ Width (m)	Description and strategy for Riparian Zone including purpose and extent of removal or modification of trees and res. basal area or density.
14	S6	Yes	1	1			20	<p>There is no prescribed retention within the portion of the RMZ of these streams located outside of WTRAs and they are not marked in the field. Trees should be felled and yarded away from the stream channel wherever there it is safe to do so. Cross-stream falling and yarding, slash management and stream cleaning will be conducted in accordance with the Prescribed Sites Conditions (listed below). All non-merchantable trees, advanced coniferous regeneration, understorey deciduous trees, shrubs and herbs should be retained within 5m of the wetted perimeter of streams wherever it is safe to do so.</p> <p>Prescribed Site Conditions: Conditions for cross-stream falling: Ensure the stem will span the stream and can be lifted without damaging stream banks or dislodging stable large woody debris. Conditions for cross-stream yarding: any stems spanning the stream which are expected to damage the stream bank or dislodge stable large woody debris when yarded are to be bucked off, leaving any sections of the stem spanning the channel, provided they do not obstruct stream flow. Slash management/stream cleaning: slash or debris capable of damaging fish habitat or reducing water quality must not be deposited into any of the following: i) any lake, wetland, fish stream, fisheries sensitive zone, or marine sensitive zone; ii) any stream capable of transporting the slash or debris into any features listed in (i), or iii) any stream which may be destabilized by the accumulated slash and debris, resulting in increased sediment deposition in features listed in (i)</p> <p>Accumulations of slash or debris that do enter any of the above must be cleared out concurrent with harvesting activities. Fueling and maintenance of equipment must take place well away from all riparian features.</p>
15	NCD	Yes	1	1				No RRZ/RMZ required on a non-classified drainage. Avoid skidding up or down feature.
16	S6	No	1		1		20	There is no proposed harvesting within the RMA of this stream, which is located outside of the block boundary.
13	S4	Yes	1		1		30	The 10% Basal Area retention target for the RMA of this stream is met via establishment of the block boundary to exclude a 10m RRZ from stream 13. There is no retention required within the NAR of the block; 67% of the RMA has been excluded from logging.

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First Nations Cultural Heritage Resources

The Cultural Heritage Objectives for the Kispiox FDU, the West Babine FDU and the Cranberry FDU, as stated in the Amended KLRMP (2001) and Kispiox HLPO Clarification letter on February 20, 2006, are:

1. to maintain Cultural Heritage Resources including archaeological sites, traditional use sites and trails, and structural features. A specific objective is to protect features at Kispiox, Hazelton/Hagwilget, Kitwancool (addressed in the Cranberry FDU), Cedarvale, Kitseguecla, Kisgegas and Kuldo;
2. to recognize the significance of house territories and associated resources to First Nations; and,
3. for botanical forest products, to maintain sites that are important for production of traditional medicinal plants (eg lily roots, devil's club).

The Draft Cranberry SRMP adds the following objective specific to cedar: Maintain a sustainable source of cedar for Gitanyow traditional, cultural and subsistence use

R/S/M ID	R/S/M Title	Applicable	How Results, Strategies or Measures Apply to the Site (Include Rationale if No)
	First Nations Cultural Heritage Resources	Yes	No cultural heritage resources were identified during development of this site.
How is this SP consistent with the Results, Strategies or Measures?		If a previously unidentified cultural heritage resource is encountered during harvesting, road construction, or mechanical site preparation activities: a. stop the activity to the extent necessary to protect the cultural heritage resource until a Cultural Heritage Resource Evaluation is carried out; and, b. continue in a manner that is consistent with recommendations given in the Cultural Heritage Resource Evaluation above that are practicable and are required to conserve or, if necessary, protect a cultural heritage resource if it is valuable and scarce, to the extent of its historical use.	

FOREST HEALTH MANAGEMENT STRATEGIES

None were identified during development of this site.

COARSE WOODY DEBRIS MANAGEMENT STRATEGIES

No Coarse Woody Debris Requirement

There is no anticipated risk to post harvest CWD distribution, this block is scheduled for clearcutting and there are sufficient non-merchantable trees to maintain adequate levels of CWD throughout the block. CWD should be maintained on site in a piece size distribution of the pre-harvest conditions.

MANAGEMENT STRATEGIES FOR ARCHAEOLOGICAL SITES

None were identified during development of this site.

VEGETATION MANAGEMENT STRATEGIES

Livestock to be used for vegetation management: No

Leave Tree Comments**CRITICAL SITE CONDITIONS**

Critical Site Condition	Applicable?	Comments

SOIL CONSERVATION

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SITE DISTURBANCE

HAZARD RATING (if logging methods other than cable or aerial are proposed)				SOIL CHARACTERISTICS (if temporary access structures are proposed)		SOIL DISTURBANCE LIMITS	
Soil				UNFAVORABLE SUBSOIL		Max. allowable within the NAR (%)	Max. limits may be temporarily exceeded for Temp Access Structures (%)
SU(s)	Compaction	Displacement	Surface Erosion	Depth to (cm - cm)	Type		
1	H	L	H	30-46	Colluvial	10.0	0.0

Roadside Soil Disturbance 25.0 %

Max Proportion of total area under the prescription allowed for perm access

7.0 %

Permanent Access Comments

N/a - there are no roads associated with this site.

SLOPE INSTABILITY INDICATORS:

Measures required to address terrain instability: No

Bladed trails restricted: No

No indicators of slope instability were observed during development of this block.

REHABILITATION TIME FOR TEMPORARY ACCESS STRUCTURES**Maximum Allowable Time To Complete Rehabilitation (measured from completion of harvest):**

1.0 yrs.

Temp Access Strategies

This prescription is not in conflict with the prohibition, under section 26 (2), (3) and (4) of the Timber Harvesting and Silviculture Practices Regulation, against constructing excavated or bladed trails.

SILVICULTURAL SYSTEMS

SU(s)	System / Variant / Phase	Other Notes	Group Selection Opening Size Criteria			Residual Stand Structure (other than Single Tree Selection)		Natural Regen?
			Min. (ha)	Max. (ha)	Avg. (ha)	BA (m2/ha)	Density (stems/ha)	
1	CCRES//REMOV							No

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STOCKING REQUIREMENTS**FREE GROWING STOCKING REQUIREMENTS FOR SILVICULTURAL SYSTEMS - Check Footnotes for Restrictions**

SU	LAYER NAME	Preferred Species/ Free Growing Ht. (cm)	Acceptable Species/ Free Growing Ht. (cm)	Post Spacing Density (sph)		Max. Coniferous (sph)	Regen Date (years)	Free Growing (years)	
				Min	Max			Early	Late
1		Bl/80 Se/80	Hm/80 Hw/80 Pli/160			10000	7		20

SU	Standards Id	Layer Name	Target Stocking (TSS) (wsph)	Minimum Stocking (MSSpa) (wsph)	Minimum Preferred (MSSp) (wsph)	Minimum Horiz. Distance (m)	Minimum Pruning Ht. (m)	Residual Stand Structure		Height Relative to Comp.
								BA (m2/ha)	Density (sph)	
1	1044469		1200	700	600					125 %

SU	STANDARDS ID	STANDARDS ID FOOTNOTES	OTHER REQUIRED INFORMATION
1	1044469	Pli - risk of snow damage	

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ADMINISTRATION**PREPARED BY (RPF SIGNATURE AND SEAL):****Prepared by:**

Genevieve Hetu

Name (Printed)

R.P.F.'s Approval:

Christopher Johnston

R.P.F. Name (Printed)

2018.11.14

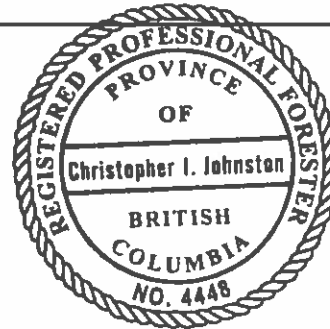
Date Signed (YMD)

4448

R.P.F. Number

SEAL

R.P.F. SIGNATURE AND SEAL

**MAJOR LICENSEE SIGNING AUTHORITY:**

Licence Holder Signing Authority Signature

2018.11.14

Date Signed (YMD)

Christopher Johnston

Forestry Manager

Licence Holder Signing Authority Name (Printed)

RPF LEGAL STATEMENTS AND COMMENTS

RPF Reviewed This Site Plan

Legal Statements and Comments

REFERRALS

REFERENCES:			
On File	Attached	On File	Attached
—	—	—	—
	Additional SP Comments		Visual Impact Assessment
<u>X</u>	—	—	—
	SP Maps		Gully Assessment
<u>X</u>	—	<u>X</u>	—
	Field Data Cards		Riparian Assessment
	eg. SP plot cards, forest health evaluations, fuel hazard assessment cards, site sensitivity field cards, plantability field cards, etc.)	—	—
		—	Forest Health/Pest Incidence Assessment
—	—	—	—
	Copies of Advertising		Stand and Stock Tables
—	—	—	—
	Copies of Referrals		Permanent Access Calculation Sheet
—	—		Other Attachments
	Comments from Advertising/Referrals	—	—
—	—	—	—
	Assessments on Actions Resulting from Comments	—	—
—	—	—	—
	Tree Acceptability Criteria for Subsequent Surveys	—	—
—	—	—	—
	Terrain Stability Field Assessment	—	—
—	—	—	—
	Archaeological Impact Assessment		

MOST RECENTLY CREATED AMENDMENT

Harvesting Plan

Gitxsan Forest License Inc.

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☒ Original
☐ Amendment #

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RS	DSS			A16831	P	EP1432	432	SWB004
Location Shewiliba Creek				Authority/Opening No. 093M052 /		Licensee Gitxsan Forest License Inc.		

HARVESTING PLAN

SEASON Any	HARVESTING METHOD Ground based.
HARVESTING CONSTRAINTS No harvesting constraints were noted. Gentle slopes and no noted sensitive soils allow for conventional harvesting methods throughout the unit.	HARVESTING PLAN COMMENTS

Silviculture Treatment Regime

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Location Shewiliba Creek				Authority/Opening No. 093M052 /		Licensee Gitxsan Forest License Inc.		

SILVICULTURE PLAN

SITE PREPARATION - Preferred Treatment

None anticipated.

SITE PREPARATION - Alternative Treatment

Mounding in areas with dense shrub cover may be required to ensure seedlings establish themselves within the first 2-3 years following planting.

RATIONALE (if required)

The brush hazard is considered to be moderate-high and the entire site is subject to a deep snowpack.

REGENERATION - Preferred Treatment

Mixed species plant Sx5Bl3Hw2.

REGENERATION - Alternative Treatment

Natural regeneration and fill plant understocked areas. Significant Hw/Bl ingress is anticipated; fill plant to complement species diversity and stocking.

RATIONALE (if required)

BRUSHING - Preferred Treatment

None anticipated.

BRUSHING - Alternative Treatment

Manual brushing may be required 3-5 years following harvest.
Thinning of Hw stems may be required 10-15 years post-harvest.

RATIONALE (if required)

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PRESCRIBED BY:


R.P.F.'s SIGNATURE


DATE SIGNED (ymd)


LICENSEE'S AUTHORIZED SIGNATURE


DATE SIGNED (ymd)