

Appendix A: Example Site Plans

The example site plan reviewed and revised to include/ incorporate carbon management strategies and actions is a BC Timber Sales block in the Coast Mountains Natural Resource District, within the Kalum Timber Supply Area.

The site plan for TEsw049 has been revised to demonstrate three silviculture systems:

- Clearcut with carbon Objective Set by Government
- Continuous Cover (Single-tree Selection) with carbon Objective Set by Government
- Group Selection with carbon Objective Set by Government

Block TEsw049 (Timber Sale Licence A90581) was chosen because it is an example of a northwest BC block with high levels of felled waste, and is an example where carbon management actions can reduce that waste, thereby retaining carbon.

From cruise:	
Gross volume (m ³ /ha)	39,156
Net volume (m³/ha)	24,503
Species distribution	70% Hemlock, 25% Balsam, 5% Spruce
Number of stems per hectare	294.5
Average tree height (m)	32.6 (28.4 m merchantable height)
Average tree size (m ³)	2.4 (gross), 1.5 (net)
Scaled volume (m ³)	16,125 (7,072 m ³ sawlog)
Waste scale volume (m³):	13,343 (6,084 m ³ sawlog)

The statistics for the block are:

The site plan revisions include wording changes in red that are specific to management of carbon at the site, or operational, level, as suggested within the Final Report for "Forest Carbon Stewardship at the Site Level". Comments in blue are also provided to give some context to the changes made for carbon management. Highlighted items show where measureable/ quantifiable descriptions of carbon benefits can be included within a site plan.

Note that in digital versions of this report, the actual revised site plans are provided under separate cover.



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BC Timber Sales' site plan for TEsw049: revised to demonstrate Clearcut with carbon Objective Set by Government



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REVISED FROM ORIGINAL (Original SP date: 2013/02/20)

1	Skee	ena		TENURE IDENTIFI	CATION			
	LICENCE #	СР	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
	A90581	-	TEsw049	BI3FE	1031079-	T Fiddler	10 km Fiddler Mainline	54 46 30 / 128 17 36
AR	AREA UNDER THE PLAN							

REA UNDER THE PLAN

GROSS AREA (TAUP)	PAS	NP	WTRA / WTP	RESERVES	OTHER	NAR
63.2	2.8	1.5	5.5	0.0	0.0	53.4

ADDITIONAL COMMENTS

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 Acces Structures (%)		
1	5.0	5%	25.0	7.0		
2	5.0	5%				
SU	CRITICAL SITE CONDITIONS THAT AFFECT THE TIMING OF OPERATIONS, AND HOW THEY AFFECT THE TIMING					
1	The 04 sites within this Standards Unit are moist so care must be taken to ensure site degradation limits are adhered to during harvest activities. Ground based harvesting should be restricted to the dry summer period or to the winter period when the ground is frozen and/or protected by a compressible snow layer.					
2	The 04 and 06 sites within this Standards Unit are moist so care must be taken to ensure site degradation limits are adhered to during harvest activities. Ground based harvesting should be restricted to the dry summer period or to the winter period when the ground is frozen and/or protected by a compressible snow layer. It will be difficult to achieve site degradation limits in all but the driest summers if skidders are used on this Standards Unit.					

RESULTS AND STRATEGIES

Biodiversity Objectives	
Result or Strategy Description	A1-TSK-KA-02S For roads that fall under BCTS' responsibility (i.e. covered by Forest Service Road, or Timber Sale Licence), BCTS will: 1a) Perform a risk assessment to determine and document an inspection frequency. Road maintenance inspections will be completed in accordance with the results of the assessment, or 1b) If a risk assessment has not been completed, a minimum inspection* frequency of once per year will apply, and, 1c) A road inspection under snow-free conditions will be conducted 2) Actions for addressing items that are identified through road inspections, based on priorities set by BCTS, will be undertaken that reflect the results of the inspections. * Inspections may be carried out by personnel appointed by BCTS, or by the TSL Holder
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The Licensee will regularly inspect, document, and prioritise for action roads that will be inactive for more than nine months. As a minimum, inactive roads will be checked annually (once per calendar year), under snow-free conditions.
Result or Strategy Description	 A1-TSK-KA-21R 1) On blocks where layout activities have not yet started**, wildlife tree retention for a harvest unit* is consistent with Table 6 of the Kalum Sustainable Resource Management Plan (April 2006) a) Where a BEC subzone that exists within a Landscape Unit (LU) is not identified for that LU in Table 6, the closest similar BEC classification identified for that LU will be used for the purposes of this result. 2) Wildlife tree retention on blocks where layout activities have started will conform to the approved FDP in effect immediately prior to approval of the FSP * Harvest unit: as defined in the Kalum SRMP (April 2006)
Applies:	YES

How Result or Strategy Applies to the Site (or Rationale if it does not apply)	TEsw049 is located within the Skeena River Kalum Landscape Unit. 8.8% of the cutblock area has been designated as WTRA which exceeds the minimum wildlife tree retention requirements of 5% (CWH) for the Skeena River Kalum Landscape Unit listed in Table 6 of the Kalum SRM P. The extra WTRA over the 5% target contributes to biodiversity and wildlife objectives as well as to Carbon Objectives an represents XXX tCO ₂ e of retained carbon storage at 2030 and 2050. In addition, 100 stems per ha of Carbon Retention Stems will be retained scattered across the block. These trees represent XXX tCO ₂ e of retained carbon storage at 2030 and 2050. The Carbon Retention Stems also contribute to biodiversity and wildlife objectives. In addition, snags will be assessed for safety and where safe and practicable left standing. Comments: Carbon Retention Stocking Standards may require sympathetic administration of Danger Tree regulations in some regions. At a block level assessing all snags will be costly. Some form of incentive would be required to ensure buy-in from Licencees. Similar stands to this have shown that less than 50% of snags in tree class 3 to 7 will be assessed as safe for level 3
	disturbance as defined in the Wildlife/Danger Tree Assessor's Course Workbook (2017). A portion of these trees would also be in locations where they obstruct the flow of wood to roadside and must be removed for operational efficiencies. Snags a important wildlife and biodiversity anchors and some research has suggested standing snags have slower decomposition rates than snags that are on the ground (Lewis and Harley, 2005). Actions with a carbon benefit, such as additional WTRA area and Carbon Retention Stems, could be quantified in the Site Plan. A guidance document for reporting carbon numbers should be developed to aid tracking of carbon initiatives.
Result or Strategy Description	A1-TSK-KA-35R No forest harvesting by the FSP Holder of old seral stage forest within the Old Growth Management Areas (OGMAs)* other than for insect or disease control measures that are necessary to mitigate severe damage to the habitat attributes in the OGMAs, or other forest values in the landscape, or in accordance with strategy TSK-KA-36 * As shown on the FSP maps, which correspond to the OGMAs shown on Map 4 of the Kalum SRMP (April 2006).
Applies:	NO
How Result or Strategy Applies to the Site	
(or Rationale if it does not apply)	Not within an OGMA.
Result or Strategy Description	 Allow up to 10 hectares or 10% of an individual Old Growth Management Area (OGMA) *, whichever is less, to be disturbed for one or more of the following purposes: allowing road development where no practicable alternative exist; to better reflect physical features that were intended to form the actual boundaries of the OGMA; to improve harvest boundary alignment in a way that will contribute to the maintenance of the OGMA; to address a compelling forest health issue; or, to shift the location of the contiguous area of the OGMA to improve the retention of old forest attributes as identified through field assessment. Any planned alteration of spatially defined OGMAs that does not meet the criteria in (1) above will be forwarded to t Agency responsible for the Kalum SRMP. A summary will be provided to the District Manager describing the reason for the disturbance of the OGMA, and identifying an alternative OGMA(s) within the same BEC variant within a landscape unit, provided the alternative OGMA: a) is of equal or greater extent in total than the area to be disturbed; and, will result in equal or greater retention of key old forest attributes that are understood to be important for biodiversity conservation.
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not within an OGMA.
Result or Strategy Description	 A1-TSK-KA-37R Within the Skeena Islands Area**: On areas harvested or authorized by BCTS under this FSP: Harvest operations will be in accordance with guidance mutually agreed between representatives of BCTS and the MoE***, or Harvest operations will be conducted as follows: For forest types* identified as "High" conservation value**, no harvesting will occur, other than for road construction necessary to access other areas. For forest types* identified as "Medium" conservation value**, harvesting will be for deciduous trees only (other than incidental harvest of coniferous trees for road construction or safety purposes), employing small-patch harvesting (openings less than 5 ha). At least 70% of the area will be maintained at a mid-sera (or older) stage, and at least 30% of the areas will be at a mature or older seral stage. For forest types* identified as "Low" conservation value**, at least 30% of the area will be maintained at mid-seral (or older) stage. * Forest types are limited to CWHws1/07; CWHws1/08; CWHvm1/09; CWHvm1/10. ** As shown on the FSP maps. This information corresponds to the map provided with the Kalum SRMP (April 2006)
Applies:	NO
How Result or Strategy Applies to the Site	
(or Rationale if it does not apply)	Not within the Skeena Islands.

Result or Strategy Description	A1-TSK-KA-38R No harvesting or road construction within the uncommon reticulated fens in the Miligit Creek Sensitive Area* * As shown on the FSP maps
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not within the Miligit Creek Sensitive Area.
Cultural Heritage Resources	
Result or Strategy Description	 A1-TSK-KA-27S Where site specific cultural heritage resource information for an area in a Forest Development Unit is not available, BCTS will make use of the Archaeological Overview Assessments for the Kalum TSA, TFL 41, and TFL 1: a) Any blocks within a "High" archaeological potential polygon will have an Archaeological Impact Assessment (AIA) done before harvesting commences. For any potential cultural heritage resource sites identified by operational personnel (e.g. layout, road construction, or harvesting crews) which were not previously identified through cultural heritage resource information sharing as described in TSK-KA-26, and for which a process or policy that describes how to deal with that cultural heritage resource is not in place or has not been shared with the appropriate First Nation(s): a) A BCTS representative will be notified; b) A site visit will be conducted to determine the need for mitigative measures or for a Preliminary Field Reconnaissance or Archaeological Impact Assessment to be done Any new cultural heritage resource information resulting from item (2) above will be shared with the appropriate First Nation(s) in accordance with item (5) below. Any new cultural heritage resource information resulting from item (2) above and a description of any mitigative measures will be provided to the BC Timber Sales Manager in accordance with item (5) below. S) Information noted in (3) and (4) above will be shared/provided as follows: a) Where a cultural heritage resource feature is discovered after a cutting authority is issued, at or before Timber Sale Licence issuance. a) Where a cultural heritage resource feature is discovered after a cutting authority is issued, the information will be shared/provided within two weeks of a BCTS representative being notified of the cultural heritage resource features' discovery.
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	 Not within a high Archaeological Overview Assessment polygon. No CMTs or areas with high subsurface potential were identified within the area to harvest by field crews. CMTs were located within WTRA#2. The Cultural Heritage Resources pre-harvest evaluation noted the potential for several travel and resource trails within the block, despite extra attention looking for possible trails on the logical travel routes no indications of any trails were noted. In the event that operational personnel (road construction and or harvesting crews) identify a potential Cultural Heritage Resource within the block. Operations will be halted so that the site is protected from damage; A BCTS representative will be notified; A site visit will be conducted to evaluate the site and determine the need for mitigation measures or for a Preliminary Field Reconnaissance or Archaeological Impact Assessment to be done. Where a CHR site is confirmed, the resulting information and mitigation measures will be provided to the Timber Sale Manager. BCTS will share resulting information with potentially affected First Nations within 2 weeks of notification of the CHR sites discovery.
Result or Strategy Description	 TSK-KA-26S BCTS will meet regularly with local First Nation groups that have asserted claim area within the BCTS FDUs. As a minimum, meetings must occur annually. Request from both the Ministry of Forests and Range and the First Nations the opportunity to review and discuss cultural heritage resources of continuing importance (including but not limited to traditional use information, archaeological information, and traditional use studies where they are available), ideally in conjunction with first nation representatives. Where traditional use information is made available, BCTS will hold any information received in confidence. It is only with the express written consent or direction of the holder of the Traditional Use information that BCTS will release any traditional use information to any other party (Including other First Nation groups, the Government of BC, or the BC Ministry of Forests and Range). BCTS will review with respective First Nations the areas where forest development operations are planned, with the intent of describing and addressing the concerns of both parties. Specifically: Determine areas of concern that may result from forest management activities when compared with First Nation interests or activities, or that may occur between First Nations groups as a result of different forest management approaches. Attempt to resolve any conflicts through consensus. BCTS will prepare a short summary indicating whether there were any issues and how they were resolved. If conflicts cannot be resolved, BC Timber Sales will prepare a summary of the concerns and how BCTS has attempted to address the concerns. Summaries* of this process will be provided to the Skeena Business Area Timber Sales Manager (TSM), and copied to the First Nation representative. In the unlikely event that meetings have not occurred, documentation of the efforts made to meet and/or review information. surmaries will respect confidentiality

Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	BCTS consultation and information sharing for TEsw049 is consistent with strategy TSK-KA-26 in the BCTS-Kalum Forest Stewardship Plan Extension 2011-2016 as reviewed by Gail Campbell, RPF on January 7, 2013. Potential concerns raised include: Block level: Gitxsan: No block specific interests have been communicated to BCTS Kitselas: No block specific interests have been communicated to BCTS General/Landscape Level: Gitxsan: Management of large diameter cedar trees; cedar conservation; management of cultural heritage resources Kitselas: Salmon habitat; management of cultural heritage resources
Result or Strategy Description	 TSK-KA-28S For any block with Cedar or Cypress, removal of Cedar or Cypress from retention areas (including WTPs or Riparian Management Zones* (RMZs) for cultural purposes occurs as follows: No more than 5% of the co-dominant/ dominant stems within a WTP are removed, with no more than 10% of the stems within a given hectare, unless the Site Plan describes how the WTP is able to retain its function; and Removal of co-dominant/ dominant stems from within an RMZ area must be consistent with the RMZ retention described in result TSK-KA-17, unless the Site Plan describes how the RMZ is able to retain its function; and When from within an area within an active cutting authority that is held by BCTS or one of its licensees, removal is authorized through a letter of agreement between a First Nation Council and BCTS, with a copy to the District Manager of the Kalum Forest District * Removal of stems from within Riparian Reserve Zones will be as per the Forest Planning and Practices Regulation - currently, removal for cultural purposes is not an allowed activity within RRZs.
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	No more than 5% of the co-dominant/ dominant stems within a WTP are allowed to be removed, with no more than 10% of the stems being removed from within a given hectare. Removal must be authorized through a letter of agreement between a First Nation Council and BCTS, with a copy to the District Manager of the Kalum Forest District.
Soil Objectives	
Result or Strategy Description	A1-TSK-KA-AAS During the period of this FSP the TSM will undertake to comply with sections 35 and 36 of the FPPR. The TSM will notify each holder of a timber sale license or road permit to which the plan relates that FPPR sections 35 and 36 apply to the holder's primary forest activities carried out during the term of the plan.
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This Site Plan is consistent with section 35 (Soil Disturbance Limits) and section 36 (Permanent Access Structure Limits) of the FPPR. All holders of a Timber Sale or Road Permit to which the plan relates are hereby notified that FPPR sections 35 and 36 apply to the holder's primary forest activities carried out during the term of the plan. Result A1-TSK-KA-AAS applies as described in the Soil Disturbance table on page 1 of this Site Plan. Comments: Reducing Site Degradation has potential carbon benefits. Some research indicates that the rate of carbon decomposition may be increased for forest floor that is buried (i.e. like areas of site preparation or site degradation). The rate of carbon decomposition is unlikely to be increased by more than 1% on a block level but site degradation also potentially impacts carbon by reducing the productivity of the site (reducing the sites ability to sequester carbon).
Result or Strategy Description	A1-TSK-KA-ABS During the period of this FSP, roads that are not required for silviculture or access to additional harvesting opportunities and are practicable to rehabilitate will be rehabilitated and reforested to the appropriate stocking standard. <u>Comments:</u> <u>Successful uptake of this strategy will require changes to the appraisal system to allow road rehabilitation as an allowable cost or for an agency such as FESBC to fund road rehabilitation.</u>
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Stubs 2 and 4 are not required for silviculture access and do not access additional timber. Following completion of harvesting, Stubs 2 and 4 will be rehabilitated and reforested. Stubs 2 and 4 total 0.3ha, the 0.3ha of road reforested within 6 years represent approximately XXX tCO2e of additional carbon sequestration at 2030 and XXX tCO2e of additional carbon sequestration at 2050. Comments: Carbon benefits could be adapted from 'Growing More Carbon and Habitat by Rehabilitating Roads Info Sheet, July 2018.'

Recreation Resources	
Result or Strategy Description	 TSK-KA-29R On these established Recreation Trails or Sites with established objectives: Big Cedar Recreation Trail Bonney Lake Portage Recreational Trails Clearwater Lakes Recreation Site Hai Lake Recreation Trail Maroon Mountain Recreation Trail Mt. Elizabeth Recreation Trail Onion Lake Recreation Trail Sterling Mountain Recreation Trail Sterling Mountain Recreation Trail Thornhill Mountain Recreation Trail No disturbance by harvesting, road construction, or silviculture activities to natural vegetation within 10 m of trail centerline other than for a required crossing. Development activities that occur within 50 m either side of trail centerline will only occur after the planned activity has been referred to the Ministry responsible for the trail. Timber Sale Licence, Road Permit, or Forest Service Road submission indicates that development is within 50 m of the trail and describes the results of the referral to the Ministry responsible for the trail. A crossing of the trail is permitted if the crossing is required to access productive forest land that would otherwise be isolated. The trail location is re-established if the crossing disturbs it. Alternatively, the trail can be relocated away from the crossing. The timing of the trail crossing, re-establishment, or trail relocation will require consultation with the Ministry responsible for the trail.
Applies	A trail crossing is deactivated once it is no longer required.
Applies:	
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not near an established Recreation Trail or Site.
Result or Strategy Description	 TSK-KA-30R On these established Recreation Sites with established objectives: Bonney Lake Recreation Site Clearwater Lakes Recreation Site Deception Lake Recreation Site Glory Hole Recreation Site Jigsaw Lake Recreation Site Jigsaw Lake Recreation Site Pine Lake Recreation Site Red Sand Lake Interpretive Forest Site West Lake Recreation Site West Lake Recreation Site The remainder of the area within the recreation sites wither an RRZ is not in existence). The remainder of the area within the recreation site site before the disturbance other than where BCTS and the Kalum District Manager agree the disturbance will be for the improvement of the recreation experience, or where action or access is required to prevent or address potential losses due to fire, wind, or forest health factors. * from activities related to BCTS' road construction, harvesting or silviculture activities
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not near an established Recreation Site.
Result or Strategy Description	TSK-KA-33R On all established recreation sites or trails with established objectives (excepting Deception Lake, which has had access cut-off): At least four-wheel drive status is maintained for roads under the control of BCTS that are the only access to the trail or site.
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not near an established Recreation Trail or Site.

Riparian Management	
Result or Strategy Description	 A1-TSK-KA-17R 1) On all streams*, wetlands* and lakes* within or directly adjacent to blocks where layout activities have started prior to January 1, 2008*, the provisions of FPPR s. 47, 48, 49, 50, and 51 will apply, as they were at the time layout commenced. 2) On streams, wetlands and lakes identified in (4) below: for those blocks where layout activities start after January 1, 2008, maintain the forest in a hydroriparian zone ** in a mature or old state, and a) the width of the hydroriparian zone in any one location may be increased or decreased by up to 0.5 tree heights to address site specific value b) Roads are only located in the hydroriparian zone if i) The road is necessary to access timber beyond the hydroriparian zone that otherwise would be isolated from harvest, ii) The rrain conditions such as slope, gradient or terrain stability constrain road locations and dictate that sections of road enter and leave "red listed" plant communities to access timber that otherwise would be isolated from harvest, iii) The area is being accessed for mineral development, or iv) No practicable alternative exists 3) On streams, wetlands and lakes other than those identified in (4) below: for those blocks where layout activities start after January 1, 2008, a) Riparian management areas, riparian reserve zones, and riparian management zones (RMZ) will be as described in FPR s. 47, 48, and 49, and the provisions of FPR s. 50, and 51 will apply, as they were at the time layout commenced. b) restain an amount of basal area within the RMZ as follows: i) On S4 and S5 streams, retain a minimum of 20% of the basal area of the RMZ. ii) On S4 and S5 streams, retain a minimum of 20% of the basal area of the RMZ. ii) On S4 and S5 streams, netain a minimum of 20% of the basal area of the RMZ. ii) On S4 and S5 streams, netain a minimum of 20% of the basal area of the RMZ.
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The block retains greater than the minimum 0% of the basal area in the Riparian Management Zone for the S6 streams within the block, several stream reaches are protected within WTRAs. Additional basal area retention will occur via Carbon Retention Stems as defined in the FSP stocking standards.
Timber Objectives	
Result or Strategy Description	 TSK-KA-03R Harvested blocks are reforested to at least the minimum stocking with the species identified in the stocking standards that apply to this FSP; and meet the regeneration delay, free growing heights, and free growing dates as described in the stocking standards that apply to this FSP
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Stocking standards will be consistent with the approved FSP. Stocking Standard ID#. SU1 - 2004723; SU2 – 2004726. These are Carbon Stocking Standards as noted in the FSP.

Carbon Objectives	6.1 The objectives set by government for carbon are, without unduly reducing the supply of timber from British Columbia's
	forests, to (a) enhance carbon retention or sequestration on British Columbia's forests, and (b) develop, promote, or take advantage of opportunities for utilization of cut trees into products that provide carbon retention, sequestration or substitution benefits.
Result or Strategy Description	TSK-KA-AC(R) For each cutblock harvested within the FSP Holder's Forest Development Unit by the FSP Holder or its contractors, the FSP Holder will offer fibre that does not meet current utilization levels to local consumers of fibre. This offer will occur prior to the FSP Holder scheduling the fibre for disposal. (For the purposes of this Result, "local" means within XX hours haul time from the cutblock.)
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is expected to result in significant logs and woody material that do not meet current utilization levels and under previous management regimes would have been left on site. This material has been offered for sale to the local pellet mill. No agreement to sell this material has been reached at this point, the block is approximately 45km from the facility and cycl time would be 2.9 hours. In anticipation of utilizing residual materials, non-merchantable logs will be decked roadside and only limbs, tops and material unsuitable for pellets will be piled. <i>Comments:</i>
	The block is on the edge of where it would be economical to transport material to a biofuel/pellet facility. Programs to encourage utilization of this material by subsidizing transportation of residuals to facilities will expand the area where it is economic to utilized residual materials.
Result or Strategy Description	TSK-KA-AD(S) When developing a cutblock, stems that are known to have limited timber value may be retained for carbon storage purposes. Carbon Retention Stems are to be preferentially located in WTRAs, in RMAs, in visual retention areas, and where safe to do so, may be dispersed throughout the stand. Site Plans will describe Carbon Retention Stem characteristics.
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	 Information attached to this site plan will describe Carbon Retention Stem characteristics and location Stocking standards in the approved FSP include criteria for carbon retention and will be adhered to. Stocking Standard ID#. SU1 - 2004723; SU2 – 2004726. The prescription calls for 100 stems per ha of Carbon Retention Stems. A range of 50 to 150 Carbon Retention Stems is considered acceptable. Retention of 100 Carbon
Visual Objectives	Retention Stems per ha will result in approximately XXX tCO ₂ e of additional carbon storage at 2030 and 2050.
Result or Strategy Description	 A1-TSK-KA-23S A visual impact assessment (VIA) will be carried out and attached or referred to in the Site Plan for blocks that are located within known scenic areas and that are identified with a Visual Quality Objective (VQO) of Preservation (P), Retention (R), Partial Retention (PR), or Modification (M), or a Visual Sensitivity Class (VSC) of 1, 2, 3, or 4. Visual Sensitivity Class will be treated as having VQOs as follows: VSC 1 = Retention VSC 2 = Partial Retention VSC 3 and 4 = Modification VSC 5 = Maximum Modification VSC 5 = Maximum Modification The visual impact assessment will review the visual landscape from selected viewpoints (see below for viewpoint selection and criteria) describe how the visual design is consistent with the VQO. The block configuration in the signed Site Plan will reflect the visual design as described in the visual assessment Viewpoints are identified as follows: As shown on the FSP maps (as amended from time to time), or if no viewpoints area identified on the FSP maps, through selection of points in the field that meet the viewpoint criteria* * Viewpoint criteria: for a visual landscape, a viewpoint must be: At a point along a travel corridor that allows for an extended viewing experience**, or At a place that persons can stop for an extended viewing experience***
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	A VIA was completed by Rick Brouwer of Northwest Timberlands on Nov.22, 2012 titled, 'Visual Impact Assessment for Blocks laid out under Contract SD13TIF200: Skeena West - Fiddler Creek Area: Blocks TEsw022, TEsw025, TEsw030, TEsw049, and TEsw050,' the VIA showed the block was consistent with the Visual Quality Objective for the area.

Water Management Objectives	
Result or Strategy Description	 A1-TSK-KA-18R Within Identified Watersheds* where ECA thresholds*** have been established: before harvesting commences within an Identified Watershed under authority of this FSP: Clear-cut equivalency is calculated** for the Identified Watershed as a whole, and for individual sub-basins larger than 250 ha; or An assessment** is conducted, and if a) the threshold for clear-cut equivalency that is determined as appropriate as a measure of maintenance of natural flow regimes is more than the ECA threshold for the Identified Watershed, then that threshold is used in 3) below b) a threshold for a parameter different from clear-cut equivalency is determined to be more appropriate as a measure of maintenance of natural flow regimes, then that parameter and threshold is used in 3) below b) a threshold for a parameter and/or threshold that qualifies as described in 2(a) or 2(b) above, then that parameter and/or threshold will be used for the Identified Watersheds, and the sub-basin size identified in 3. above will not necessarily apply. * Identified watersheds are: Community watersheds as shown on the FSP maps. Community Watersheds that are within BCTS FDUs are Carlotta (Rosswood/ Clear) Creek; Deep Creek; Drake Creek; Eneeksagilaguaw Creek; (Kleanza) Singlehurst Creek; Skovens (Usk) Creek; Spring Creek; and Virginia Brook Watersheds within the Nass FDU that are identified as having ECA limits through a legally established objective ** Consistent with the Watershed Assessment Guidebook (2nd Ed, version 2.1 April 1999), or with another process determined to be acceptable by a qualified professional *** ECA Thresholds are as follows: For Community Watersheds: for sub-basins larger than 250 ha, 20%; for sub-basins smaller than 250 ha, the
	 threshold may exceed 20% only if the overall clear-cut equivalency for the community watershed basin is less than 20% For non-community watersheds identified in the Nass FDU: as per ECA limits described in a legally established objective.
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not within an Identified Watershed.
Wildlife Objectives	
Result or Strategy Description	 A1-TSK-KA-07R For harvested blocks within Grizzly Bear Watershed Units*, or outside of Grizzly Bear Watershed Units* but within Moose Ungulate Winter Range*, where a site plan identifies that this result is necessary to provide for or conserve Moose Winter Range habitat, the stocking and inter-tree spacing requirements for the site associations described in Table A2 of Appendix A (as discussed in Section 3.2 of this FSP) are met when free-growing is declared. * As shown on the FSP maps
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	TEsw049 is located within the Little Oliver-Skeena River East Grizzly Bear Identified Watershed (GBIW). The block does not contain a significant amount of identifiable and stratifiable Grizzly site series (06/11 ecosystems). Wildlife stocking standards will not apply.
Result or Strategy Description	 A1-TSK-KA-14S Areas harvested or authorised by BCTS will be of a size and distribution that emulates the historical temporal and spatial distribution of the Natural Disturbance Types (NDTs) for the forests within the FSP area. Development within an FDU will move towards the patch size and seral stage distribution targets that are in place for NDTs, and will be calculated separately for each LU that overlaps the FDU, in accordance with items 3 and 4 below. Temporal: Conduct Seral stage analysis by LU and natural disturbance type a) Determine proportional representation of the LUs within the BCTS FDUs b) Determine representation with respect to sensitive areas c) Determine need for actions to address seral stage imbalances, based on the applicable land use objective(s)* d) If necessary, prepare action plan(s) and implement 4) Spatial: Analyse patch size distribution for the BCTS FDU c) Determine target patch size distribution of the BCTS FDU d) Determine target patch size distribution of the BCTS FDU e) Determine target patch size distribution for the BCTS FDU f necessary, prepare actions to address patch size imbalances, based on the applicable land use objective(s)* d) If necessary, prepare action plan(s) and implement e) Determine target patch size distribution for the BCTS FDU c) Determine target patch size distribution for the BCTS FDU d) If necessary, prepare actions to address patch size imbalances, based on the applicable land use objective(s)* d) If necessary and the allowable patch size distribution. * In the Terrace, Kitimat Valley and Douglas Gardner FDUs, the applicable land use objective is the Kalum SRMP (April 2006). In the Nass and Kowesas FDUs, the applicable land use objective is the Old Growth Order (June 2004), unless superseded by a new land use objective.

Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The Patch and Seral report for 2010-2015 shows the Skeena River - Kalum LU (CWHws1) to be within the target ranges for early, mature + old, and old seral stages. The Skeena River Kalum LU has been red-flagged for patch distributions in the small and mid-sized range; however, the small and mid-sized patches are shown to be moving towards the target range over the next five years for areas that have been included in the analysis. The large patch size distribution is within the target range. The block is primarily part of a large-sized patch (this is due to a missed block in the 2010-2015 Patch and Seral report, see Block TEsw049 Patch and Seral report for details.)
Result or Strategy Description	 A1-TSK-KA-15R The sizes of harvest openings under this FSP are within the limitations as described in an allowable patch size distribution. If there are areas that are outside of target* levels for temporal and spatial distribution: a) Starting in 2007, by April 30 of each year a report summarizing the changes in the seral and patch distribution in those areas is provided to the District Manager. This report includes changes that have occurred in the previous year, plus projected changes (i.e. planned harvest) for at least the current year. Where this report indicates movement away from the target* levels, a rationale is provided that describes management strategies for moving towards the target* levels. b) Within a specified period after the approval of this FSP, harvest activities under this FSP are shown to be static or moving toward the target* levels for these areas. This specified period shall be five (5) years for each Landscape Unit, unless otherwise determined by mutual agreement between the BC Timber Sales Manager and the District Manager. * Target levels for Landscape Units and Special Resource Management Zones are from the Kalum SRMP; Target levels for FDUs are as determined through the Strategy TSK-KA-14
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The Patch and Seral report for 2010-2015 shows the Skeena River - Kalum LU (CWHws1) to be within the target ranges for early, mature + old, and old seral stages. The Skeena River Kalum LU has been red-flagged for patch distributions in the small and mid-sized range; however, the small and mid-sized patches are shown to be moving towards the target range over the next five years for areas that have been included in the analysis. The large patch size distribution is within the target range. The block is primarily part of a large-sized patch (this is due to a missed block in the 2010-2015 Patch and Seral report, see Block TEsw049 Patch and Seral report for details.)
Result or Strategy Description	 A1-TSK-KA-12S 1) For areas within FDUs under this FSP, where Moose Ungulate Winter Range (UWR) areas have been designated through an Order under the Land Act, no further action is required. 2) Subject to (1) above, for areas within FDUs under this FSP, where Moose Ungulate Winter Range areas have not been designated through an Order under the Land Act, a) a) Harvesting operations within Proposed Moose UWR* may occur during a period other than between May 1 and November 30 (inclusive), if: i) A qualified professional (QP) evaluates the Moose UWR and determines that (1) all or a portion of the UWR is not suitable as UWR, or (2) the population of moose using the UWR will not be unduly disturbed or affected by operations, or (3) there are mitigative actions that can be taken to ensure that operations that will not unduly disturb ungulates within their winter range; ii) A report is prepared by a QP to indicate mitigative actions or a different timing for operations that will not unduly disturb actions in the report. * As shown on the FSP maps, which correlate with (1) the maps provided in support to the Moose Ungulate Winter Range notices for TFL 1; TFL 41; and the Kalum TSA (Dec 2004); and (2) the habitat amount in the FPPR s. 7 Notices for Moose.
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not within Moose UWR.
Result or Strategy Description	 A1-TSK-KA-13R 1) For areas within FDUs under this FSP, where Moose Ungulate Winter Range (UWR) areas have been designated through an Order under the Land Act, no further action is required. 2) 2) Subject to (1) above, for areas within FDUs under this FSP, where Moose Ungulate Winter Range areas have not been designated through an Order under the Land Act, harvesting operations within Proposed Moose Ungulate Winter Range (UWR)* a) occur i) between May 1 and November 30 (inclusive), or ii) are consistent with a report prepared by a qualified professional that meets the requirements of strategy TSK-KA-12. b) include wildlife tree retention trees or patches that are no more than the distance prescribed in (3) below from other standing mature or old-growth trees. 3) The distance in (2)(b) above is a) 250 meters, horizontal distance * As shown on the FSP maps, which correlates with the (1) maps provided in support to the Moose Ungulate Winter Range notices for TFL 1; TFL 41; and the Kalum TSA (Dec 2004); and (2) the habitat amount in the FPPR s. 7 Notices for Moose
Applies:	NO

STOCKING REQUIREMENTS

SU	NAR	STANDARDS ID #	OTHER PERFORMANCE STANDARDS
1	29.3	2004723	 (SS56); SS-Kalum forest district - spruce content restricted to < 20% well spaced and FG trees on a standards unit due to leader weevil. (99): Carbon Stocking Standard, Carbon Retention Stems can contribute a maximum of 200 stems per ha of preferred and acceptable trees. The target in this site plan is 60 stems per ha.
			MITD will be reduced to 1.6m on hygric, sub-hydric or mechanically prepared areas (other than mechanically mounded); 1.0m on mechanically mounded sites, 1.0m on colluvial sites as identified in the Site Plan.
2	23.8	2004726	 (SXS56); SXS-Kalum forest district - spruce content restricted to < 20% well spaced and FG trees on a standards unit due to leader weevil. (99): Carbon Stocking Standard, Carbon Retention Stems can contribute a maximum of 200 stems per ha of preferred and acceptable trees. The target in this site plan is 60 stems per ha. MITD will be reduced to 1.6m on hygric, sub-hydric or mechanically prepared areas (other than mechanically mounded); 1.0m on mechanically mounded sites, 1.0m on colluvial sites as identified in the Site Plan.

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map	o Required?	
ORIGINAL	2013 02 20		YES	
RPF PR	INTED NAME	RPF'S SIG	NATURE and SEAL	
RICO	JORIMANN			
DAT	E SIGNED			
20	13/02/20			
l certify l personal described herein.	ly completed the work			

Map attached forms an integral part of the site plan.

SUPPORT DOCUMENT

ORIGINAL LATITUDE / LONGITUDE LICENCE # BLOCK UBI OPENING FDU LOCATION СР NUMBER A90581 TEsw049 **BI3FE** 1031079-T Fiddler 10 km Fiddler 54 46 30 / 128 17 36 _ Mainline **ASSESSMENTS** VISUAL IMPACT ASSESSMENT INFORMATION A VIA was completed by Rick Brouwer of Northwest Timberlands on Nov.22, 2012 titled, 'Visual Impact Assessment for Blocks laid out under Contract SD13TIF200: Skeena West - Fiddler Creek Area: Blocks TEsw022, TEsw025, TEsw030, TEsw049, and TEsw050,' the VIA showed the block was consistent with the Visual Quality Objective for the area. PEST INCIDENCE SURVEY INFORMATION **Pest Specific Comments Forest Health Comments** No Forest Health survey is required. Dwarf mistletoe is present in the stand. Slashing of all hemlock regen above 2.0 metres will reduce the threat of losses to this pathogen. Hw with obvious signs of mistletoe infection should not be selected as Carbon Retention Stems. There was significant damage from porcupine near the road in the adjacent stand. Managing the block to a mix of species will reduce the risk from this pest. The section of the boundary from FC27 to FC38 has a moderate windthrow hazard, the boundary is located in the logical location. No edge modification treatments are prescribed. Selection of Carbon Retention Stems should consider windthrow hazard. Preferentially select Carbon Retention Stems growing on well drained microsites and hat have good live crown and height to diameter ratios (trees with lots of taper). ARCHAEOLOGICAL IMPACT ASSESSMENT INFORMATION Not within a high Archaeological potential polygon. No CMTs observed within the area to harvest, no areas of subsurface potential identified. No AIA required. TERRAIN STABILITY FIELD AND GULLY ASSESSMENTS INFORMATION **Terrain Stability Comments** This block is not located within Class IV or V Terrain or on flat over steep terrain. No signs of slope instability were observed within the block (or road) boundary. A terrain stability assessment is not required for this block. **Gully Comments** No gullies within the block. VEGETATION RIPARIAN ASSESSMENTS **Management Strategies** Streams 1, 3, 4, 6, 7, 8 and 9 are small S6 streams. No basal area retention is required along these small S6 streams. Fall and yard away. These streams require a 5m Machine Free Zone with machine crossings only at designated skid bridges. Skid bridges must be constructed with appropriate materials such as puncheon to minimize channel disturbance and maintain stream bank integrity. Wherever safe and practical non-merchantable trees less than 17.5cm, understory deciduous trees, shrubs, and herbaceous vegetation within 10m of the stream channel will be retained. Streams 2 and 5 are slightly larger S6 streams that may have the potential to mobilize debris. No basal area retention is required along these S6 streams. Fall and yard away. These streams require a 5m Machine Free Zone with machine crossings only at designated skid bridges. Skid bridges must be constructed with appropriate materials such as puncheon to minimize channel disturbance and maintain stream bank integrity. Wherever safe and practical non-merchantable trees less than 17.5cm, understory deciduous trees, shrubs, and herbaceous vegetation within 10m of the stream channel will be retained. Accumulations of slash or debris that do enter streams 2 or 5 above must be cleaned out concurrent with harvesting activities WIDTH Comments (Indicate if in a Community Watershed) Riparian **RMA** SU BA or SPH I.D. and (m) Retained Class Stream 1, MFZ 5.0 2,3,4,5,6,7, 8 &9 S6 RMZ 20.0

SOIL ASSESSMENT

	HAZARI	D RATINGS			SOIL CHARACTERISTICS						
SU	Soil	Soil	Soil Disp	Depth to Unfav	ourable Subsoil	Type of Unfavourable	Sediment Delivery Risk (Community				
	Comp	Erosion Min(cm)		Min(cm)	Max(cm)	Subsoil	Watersheds)				
1	VH	Н	М	20.0	80.0	R					
2	VH	Н	Н	20.0	80.0	SEEP					

COMMENTS

In order to achieve the 5% soil disturbance limits for Standards Unit 1 and 2 established under FPPR 35(3)(a) it is recommended that ground-based harvesting be limited to the summer period or the winter period when the soils are frozen or protected by snow. It is recommended that hoe forwarding be utilized in conjunction with conventional skidding to limit site degradation and provide a safer work environment. Shut down logging during periods of saturated soils.

RESERVE / RETENTION INFORMATION

WTRA / WTP (II	NSIDE OF	ATTRIBUTED TO THE BLOCK)	
I.D.#	Area	Description	
WTRA	5.5	HB947	

GROUP WTRA / WTP AND SITE DEG. CALCULATION (to be retained on the first block of the Permit only), CARBON BENEFIT SUMMARY

Block	Gross Cutblock Area	WTRA / WTP	%	BEC	Perm Access	%	Carbon Benefit from Carbon Results and Strategies at time of harvest 2020	Carbon Benefit from Carbon Results and Strategies 2030	Carbon Benefit from Carbon Results and Strategies 2050	Carbon Benefit from Carbon Results and Strategies at rotation 2110
TEsw049	63.2	5.5	8.8	CWH/ws/1	2.8	4.4	XXX tCO2e Note: numbers subject to information from CBM modelling outputs			
Total # of Blocks: 1	63.2	5.5	8.8		2.8	4.4	XXX tCO₂e	XXX tCO₂e	<mark>XXX tCO₂e</mark>	XXX tCO ₂ e

Comments:

Actions with a carbon benefit, such as additional WTRA area and Carbon Retention Stems, could be quantified in the Site Plan and summarized as shown in the above table. A guidance document for reporting carbon numbers should be developed to aid tracking of carbon initiatives.

SUPPORTING INFORMATION

HLP/FSP CONSIDERATIONS

Wildlife/Endangered Species Comments

This block is not located within a Moose UWR or Mountain Goat UWR.

Wildlife species at risk designated under FPPR s. 7(2) (a) found within the Kalum Forest District are: Coastal Tailed Frog, Great Blue Heron, Grizzly Bear, Marbled Murrelet, Fisher and Wolverine. Evidence of tailed frogs was noted just outside of WTRA#1 in stream 5. The majority of suitable habitat for tailed frogs is outside of the area to harvest. No evidence of any other species at risk was noted during the field phase of development although there is suitable habitat for Grizzly Bear and Wolverine within the block. Habitat for Grizzly bears is addressed through Wildlife Habitat Areas and special stocking standards within high value site series. There is a Grizzly Bear Wildlife Habitat Area along the west boundary of the block. No special measures are prescribed for Wolverine or Fisher at this time.

Range Comments

Not within a range tenure area.

Fisheries Comments

There are no fisheries values within the block. The block has 9 S6 streams. Stream 2 has potential permanent habitat but was tested and found not to be fish bearing in the 1:20,000 Reconnaissance Fish and Fish Habitat Inventory: Middle Skeena River Tributaries 400 - Skeena West Planning Area by Triton Environmental Consultants in 2001. The remaining streams either do not have permanent habitat above downstream barriers to fish passage or are greater than 20% gradient.

Watersheds/Hydro Assessments Comments

Maintain water quality and quantity by ensuring that timber harvesting operations will be designed to prevent or minimize any negative impacts on the water resource. No community watersheds have been identified in this area.

Sensitive Areas Comments

Not within a designated sensitive area.

Recreation Comments

There are no Recreation Sites, Trails, Backcountry Recreation Sites or other recreation features identified within or directly adjacent to this block.

Cultural Heritage Comments

Not within a high Archaeological Overview Assessment polygon. CMTs were identified by field crews but removed from the area to harvest and placed within WTRA#2. The Cultural Heritage Resources pre-harvest evaluation noted the potential for travel and resource trails within the block, no indications of any trails were noted. The block has some blueberry and devils club but surrounding areas contain similar habitat for these cultural species.

Biodiversity Emphasis/L.U. Comments

TEsw049 is located within the Skeena River Kalum Landscape Unit. 8.8% of the cutblock area has been designated as WTRA which exceeds the minimum wildlife tree retention requirements of 5% (CWH) for the Skeena River Kalum Landscape Unit listed in the Table 6 of the Kalum SRMP. The extra WTRA over the 5% target contributes to biodiversity and wildlife objectives as well as to Carbon Objectives and represents XXX tCO₂e of additional carbon storage in 2030 and 2050. In addition, 100 stems per ha of Carbon Retention Stems will be retained scattered across the block. These trees represent XXX tCO₂e of additional carbon storage in 2030 and 2050. The Carbon Retention Stems also contribute to biodiversity and wildlife objectives. TEsw049 is located within the Little Oliver-Skeena River East Grizzly Bear Identified Watershed (GBIW). The block does not contain a significant amount of identifiable and stratifiable Grizzly site series (06/11 ecosystems).

Carbon Management Comments

Carbon Strategies employed on TEsw049 include additional WTRA, retention of 100 Carbon Retention Stems per ha, rehabilitation and reforestation of 0.3ha of road not required for future access, additional retention of non-merchantable understory stems within the RMA of streams and processing and piling residual material such that it can be utilized if a future market occurs.

Other Resources Comments

To address invasive plants:

1. Use certified seed only in erosion control and grass-seeding activities

2. In the course of their duties, BCTS field team personnel will make note of occurrences of invasive plants, and will report these occurrences to the Terrace Planning Forester within ten (10) working days of noting the occurrence. The Terrace Planning Forester will then collate and pass this information to a representative of the North West Invasive Plant Council within ten (10) working days of receiving a report from a BCTS field team member.

ADDITIONAL COMMENTS:

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2013 02 20	YES

HARVEST PLAN

ORIGINAL

LICENCE	LICENCE # CP BLOCK UBI		UBI		OPENING NUMBER	FDU	LOCATION	LATI	TUDE / LONGITUDE				
A90581	L	-	TEsw049		BI3FE		v049 BI3FE		1031079-	T Fiddler	10 km Fiddler Mainline		54 46 30 / 128 17 36
SILVICULTU	RE SYST	TEMS											
SU		SYSTE	м	VAR	IANT		PHASE	RESERVE	Min BA (m2/ha)		Min Residual Density (sph)		
1,2		CCRES						G					
Current Stan	d Structu	ure/Site	Conditions	;		Тур	ical old growth HB age	class 9.					
Silviculture Systems SU Comments						Stra loca blo blo bee Rett exco fro sho dra tap deg res pro SU- Stra loca son pre sele Ste Fret cra cor mic 04 are sun cor cor cor sol cor sol cor sol cor sho sho sho sho sho sho sho sho sho sho	ategies for more inform ation of slopes >40%. ' wdown in the block as en prescribed Carbon S en selected. A range of ention Stems must be he Free Growing Dama ept as noted. A maxim st cracks, rotten brancl uld consider windthro ined microsites and th er). The 04 sites within gradation limits are add tricted to the dry sum tected by a compressil 2: Clear cut with Resent ategies for more inform attion of slopes >40%. ' he edge blowdown as scribed Carbon Stockin ected. A range of 50 to ms must be Layer 1 or e Growing Damage Cri ed. A maximum of on cks, rotten branches, for isider windthrow hazai rorsites and that have g sites within this Standa adhered to during har more period or to the w inpressible snow layer.	nation. Terrain is gener Workers should be awa well as dispersed reter tocking Standards. A ti ⁵ 50 to 150 Carbon Rete Layer 1 or Layer 2 trees age Criteria for Multi-La toum of one Porodaedal nes, forks and crooks ar w hazard. Preferential at have good live crown in this Standards Unit ar hered to during harvest mer period or to the wir oble snow layer. Twes. There are a sever mation. Terrain is gener Workers should be awa well as dispersed reten to 150 Carbon Retention Layer 2 trees and must teria for Multi-Layered e Porodaedalea pini co orks and crooks are allo d. Preferentially select good live crown and he	ally gentle, see Harves are that there is scatten thion via Carbon Reten arget of 100 stems/ha ention Stems is conside s and must not exceed ayered Stands in Britisi lea pini conk per tree i re allowed. Selection of ly select Carbon Reten n and height to diamet re moist so care must l activities. Ground ba nter period when the p al creeks within the ble ally gentle, see Harves are there is scattered b tion via Carbon Retent of 100 stems/ha of Ca s tems is considered a stands in British Colur nk per tree is allowed bwed. Selection of Car t Carbon Retention Ste ight to diameter ratios are must be taken to e l based harvesting sho e ground is frozen and,	st Plan red blution S of Carred a l the d h Colu of Carred s allow of Carr tion S ter rat be tak sed ha ground ock, see t Plan olowdot tion S troor Ft age crit mbia (to on lay cbon R ems gr s (tree ensure uld be (or proc	owdown and some edge tems. This block has bon Retention Stems has cceptable. Carbon amage criteria of Table A mbia (February 2007), ved on layer 1 trees and bon Retention Stems tems growing on well ios (trees with lots of en to ensure site arvesting should be d is frozen and/or er Riparian Management map for a general own within the block and ems. This block has been Retention Stems has been able. Carbon Retention reria of Table A of the February 2007, except as er 1 trees and frost etention Stems should owing on well drained s with lots of taper). The e site degradation limits restricted to the dry otected by a		
Min. Characteristics of Leave Trees (Form, Health, Vigour)				adv mis A ta Ret and Lay Por and Pre live	ranced regeneration gr tletoe in the stand. arget of 100 stems/ha ention Stems is consid I must not exceed the ered Stands in British (odaedalea pini conk pi I crooks are allowed. S ferentially select Carbo crown and height to c	eater than 2m is not co of Carbon Retention St ered acceptable. Carbo damage criteria of Tabl Columbia (February 200 er tree is allowed on lav election of Carbon Ret	ems has been selected on Retention Stems mu le A of the Free Growin O7), except as noted. / yer 1 trees and frost or ention Stems should o bwing on well drained vith lots of taper).	due to d. A ra ust be ng Dan A maxi racks, r conside micros	the presence of Hw inge of 50 to 150 Carbon Layer 1 or Layer 2 trees nage Criteria for Multi- imum of one rotten branches, forks er windthrow hazard. sites and that have good				

Additional Comments

SOIL ASSESS	MENT												
	HAZAR	D RATIN	GS		SOIL DIST	URBANCE			SOIL CHARACTERISTICS				
					Max Allow Max Amount TAS may exceed		MASD for Roadside	Dept Unfavorable					
SU	Soil Comp.	Soil Erosion	Soil Disp.	Max Allow Soil Dist %	MASD prior	Structures %	work areas %	Min (cm)	Max (cm)	Type of Unfavorable Subsoil	Sediment Delivery Risk (Comm. Watershed)		
1	VH	Н	Μ	5.0		7.0	25.0	20.0	80.0	Bedrock			
2	VH	Н	Н	5.0				20.0	80.0	Seepage			
SU	Critical	site cond	itions th	at affect the	e timing of ope	rations and	how they aff	fect the timi	ing				
1	activities	. Ground	based ha		uld be restricted					adhered to during harve hen the ground is frozen			
2	harvest a frozen ar	activities. nd/or prot	Ground l ected by	based harvest	ing should be resole snow layer. It	stricted to th	e dry summer j	period or to t	he winter p	nits are adhered to durin period when the ground n all but the driest summ	is		
SU MANAGE	EMENT CO	OMMEN	TS										
SU	SU Desc	ription											
1				nated by the with ICHmc2		but has a sig	nificant amoun	t of 04 sites.	The Stand	ards Unit is transitional b	between the		
2					CWHws1 04 site nd has ICHmc2 in		significant amo	ount of 01 on	drier sites	and some 06 on seepag	e		

SOIL MANAGEMENT COMMENTS

Soil Conservation

In order to achieve the 5% soil disturbance limits for Standards Unit 1 and 2 established under FPPR 35(3)(a) it is recommended that groundbased harvesting be limited to the summer period or the winter period when the soils are frozen or protected by snow. It is recommended that hoe forwarding be utilized in conjunction with conventional skidding to limit site degradation and provide a safer work environment. Shut down logging during periods of saturated soils.

Temporary Access N/A

Slope Instability

This block is not located within Class IV or V Terrain or on flat over steep terrain. No signs of slope instability were observed within the block (or road) boundary. A terrain stability assessment is not required for this block.

RIPARIAN ASSESSMENTS

Management Strategies

Streams 1, 3, 4, 6, 7, 8 and 9 are small S6 streams. No basal area retention is required along these small S6 streams. Fall and yard away. These streams require a 5m Machine Free Zone with machine crossings only at designated skid bridges. Skid bridges must be constructed with appropriate materials such as puncheon to minimize channel disturbance and maintain stream bank integrity. Wherever safe and practical non-merchantable trees less than 17.5cm, understory deciduous trees, shrubs, and herbaceous vegetation within 10m of the stream channel will be retained.

Streams 2 and 5 are slightly larger S6 streams that may have the potential to mobilize debris. No basal area retention is required along these S6 streams. Fall and yard away. These streams require a 5m Machine Free Zone with machine crossings only at designated skid bridges. Skid bridges must be constructed with appropriate materials such as puncheon to minimize channel disturbance and maintain stream bank integrity. Wherever safe and practical non-merchantable trees less than 17.5cm, understory deciduous trees, shrubs, and herbaceous vegetation within 10m of the stream channel will be retained. Accumulations of slash or debris that do enter streams 2 or 5 above must be cleaned out concurrent with harvesting activities

2 01 3 00010										
Riparian I.D. and Class	RMA	SU	WIDTH (m)	BA or SPH Retained	Comments (Indicate if in a Community Watershed)					
Stream 1, 2,3,4,5,6,7 , 8 &9 S6	MFZ		5.0							
	RMZ		20.0							
COARSE W/	COARSE WOODY DERRIS MANAGEMENT STRATEGY INFORMATION									

COARSE WOODY DEBRIS MANAGEMENT STRATEGY INFORMATION

This block consists of a mature stand exhibiting high levels of decay, which will contribute an amount of coarse woody debris (CWD) that meets the objective stated in FPPR section 68 (1)(a). The nature of these forests means that a high level of non-merchantable material is typically left on site. During harvesting, additional breakage of trees occurs and is often left on a site, as most is non-merchantable. This block has Carbon Stocking Standards with a target of 100 Carbon Retention Stems per ha. These trees will provide additional CWD over time. Where site occupancy and fire hazard are not significant concerns, BCTS will attempt to avoid practices such as piling and burning (except for landings and roadside), and will not conduct broadcast burning within the FSP area. The block is located in an area that may allow economic utilization of some of this residual volume. To maximize the likelihood of this occurring, non-merchantable logs at roadside will be decked and only limbs, tops and logs unsuitable for pellets piled. Even with the removal of roadside residual volumes these actions will maintain high amounts of CWD on blocks following harvest, providing essential habitat for those organisms that are dependent on CWD.

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

DEFINITIONS

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2013 02 20	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
RICO JORIMANN	
DATE SIGNED	
2013/02/20	
I certify I personally completed the work described herein.	

SILVICULTURE PLAN

								5				_/ \/ \						ORIGINAL
	LICENCE #	1	СР	I	BLOCK	(UBI		PENING JMBER			FDU		LOCATION	LATITU	DE / LO	NGITUDE
A90581 - TEsw049				BI3FE 1031079-			T Fiddle	r	10 km Fiddler Mainline	54 4	6 30 /	128 17 36						
ECOLO	DGICAL I	NFOR	MAT	TION														
SU	Ecology Unit	Area	Zo	one Su	bzone		iant / nase	Site Series (series - S	%)	Elevati Avg (n		Slope Avg (%)	Aspect	Slope Positio	n Roo Depth	•	Soil Texture
1	Α	29.8	3 CV	ΝН	ws		1	01-80	04-20		460)	30	V	Middle Slop	e 8	0	
2 B 24.0 CWH ws			1	04-60 02	1-30 06	-10	445	5	25	V	Lower Slop	e 8	0					
STOC	STOCKING REQUIREMENTS																	
ASSES	ASSESSMENT DATES																	
St	andard Un	iit	Sta	andards I		Regen D (yrs	-	Freegrow Ea	rly (yrs)	Freegr	row Lat	e (yrs)						
	1		2	2004723		6					20							
	2		2	2004726		3					20							
Min/M	Min/Max Elevation Regime: 370 / 520																	
SU: 1				REGEN	ERAT	TION L	AYER											
	PI	REFRER	REDS	SPECIES				ACCEPTABLE SPECIES			POST SP	POST SPACING DENSITY (sph) MA		MAX CONIF	MAX CONIFEROUS (sph)			
				Min Ht.						Min H	t.		Min		Max			
	Specie	es		(m)	Foo	tnotes		Species		(m)	Foo	tnotes			WELL SPACE	D TREES (sph)		
Ва	Amabilis F			1.4	_			a x Unknown	hybrid	2.0		56, <mark>99</mark>						n Horizontal
Hw	Western H			2.0		99 99		pruce odgepole Pine	2 -	2.0		99	Terret		Minimum	Minimum	Dis	t. Pref/Acc (m)
Cw	Western F	Red Ced	dar	1.4		99		oastal					Target F	00	Pref/Acc 500	Pref 400		2.0
																Height Comp		
																	150)
															e to leader wee			
99: 0 SU: 2	arbon Sto	cking S	tanda	REGEN				an contribute	a maxim	ium of 2	200 stei	ms per	ha of pref	erred and	l acceptable tree	es		
50.2				REGEN														
	PI	REFRER	REDS	SPECIES				ACCEPTAB	LE SPECI	ES		POST SPACING DEM				MAX CONIF	EROUS	S (sph)
				Min Ht. (m)						Min H ⁱ (m)	t.		Min		Max			
D.a	Specie					tnotes	Cue Citle	Species a x Unknown	ام بام ما ما			tnotes			WELL SPACE	D TREES (sph)		. He de stal
Ba Hw	Amabilis F	ern Hem	alock	1.4 2.0		99 99		a x Onknown pruce	пурпа	2.0	:	56, <mark>99</mark>			Minimum	Minimum		n Horizontal t. Pref/Acc (m)
Cw	Westerr			1.4			Act	Black Cotto	onwood	1.4	9	99	Target F	Pref/Acc	Pref/Acc	Pref		,
														00	500	400		2.0
																Height Comp		
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															e to leader wee			
								an contribute	a maxim	ium of 2	200 stei	ms per	na of pref	erred and	l acceptable tree	es		
OTHE	OTHER REQUIRED STOCKING INFORMATION																	

SILVICULTURE ACTIVITY COMMENTS	
ACTIVITY	COMMENT
Brushing	Establishment brushing is not expected to be required on Standards 1. Portions of Standards Unit 2 may require establishment brushing if fill planting is required. The anticipated brush complex is fireweed and mixed fern. Deciduous removal brushing is not expected to be required on this block.
Site Preparation	Mechanical site preparation is not expected to be required for this block provided acceptable harvesting practices are followed.
Planting	This block has two standards units both of which are complexes. Standards Unit 1 is dominated by the 01 site series and Standards Unit 2 is dominated by the 04 site series. Both Standards Units have a significant amount of advanced regeneration and have good chances for achieving natural regeneration, however both standards units are also likely to have high brush competition and if stocking is not achieved fill plants will likely require establishment brushing. The preferred reforestation method for SU1 is naturals but the retention of Carbon Retention Stems that are potentially infected with mistletoe makes the acceptability of Hw risky. An alternate reforestation method for Standards Unit 1 is planting at H+1 or H+2. Suggested species mix is 60%Ba, 20%Cw and 20%Sxs. Suitable stock would be PSB410 1+0 or bigger planted to a target of 1000 stems per ha. Because of higher brush hazard and the retention of Carbon Retention Stems that de retention of SU2 is planting at H+1 or H+2. Suggested species mix is 40%Ba, 30%Cw and 30%Sxs. Suitable stock would be PSB410 1+0 or bigger planted to a target of 1000 stems per ha. The rehabilitated road sections of Spurs 2 and 4 will likely require planting to achieve stocking within the required timeframes. Suggested species mix is 50%Cw, 30%Hw and 20%Sxs planted to a target of 1000 stems per ha.
Surveys	Walkthrus should be conducted on Standards Unit 2 at H+1 and H+2 to assess brush and conifer regeneration. A regeneration delay/brushing survey should be conducted at H+3 on Standards Unit 1 and 2. This survey should make recommendations on the need for fill planting, brushing and the need for any additional treatments including additional surveys. A Free Growing survey should be scheduled for both Standards Units at H+11 unless the regeneration delay survey recommends rescheduling the survey.
COARSE WOODY DEBRIS MANAGEMENT S	TRATEGY INFORMATION
FPPR section 68 (1)(a). The nature of these forests me trees occurs and is often left on a site, as most is non- trees will provide additional CWD over time. Where s	evels of decay, which will contribute an amount of coarse woody debris (CWD) that meets the objective stated in eans that a high level of non-merchantable material is typically left on site. During harvesting, additional breakage of merchantable. This block has Carbon Stocking Standards with a target of 100 Carbon Retention Stems per ha. These ite occupancy and fire hazard are not significant concerns, BCTS will attempt to avoid practices such as piling and the conduct hard dect hursing within a target of locar bon the mercenter is used.

trees will provide additional CWD over time. Where site occupancy and fire hazard are not significant concerns, BCTS will attempt to avoid practices such as piling and burning (except for landings and roadside), and will not conduct broadcast burning within the FSP area. The block is located in an area that may allow economic utilization of some of this residual volume. To maximize the likelihood of this occurring non-merchantable logs at roadside will be decked and only limbs, tops and logs unsuitable for pellets piled. Even with the removal of roadside residual volumes these actions will maintain high amounts of CWD on blocks following harvest, providing essential habitat for those organisms that are dependent on CWD.

Performance Std. (%):

Block Target (%):

Coarse Woody Debris (m3/ha):

ADMINISTRATION

AmendmentDate Typed (YrnumberMo Dy)		Ma	Required?	
ORIGINAL	ORIGINAL 2013 02 20		YES	
RPF PR	INTED NAME		RPF'S SIG	NATURE and SEAL
RICO	JORIMANN			
DAT	E SIGNED			
20:	13/02/20			
l certify l personal described herein.				



BC Timber Sales' site plan for TEsw049: revised to demonstrate Continuous Cover (Single-tree Selection) with carbon Objective Set by Government



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SITE PLAN

BCTS SINGLE TREE SELECTION, with CARBON OSBG

REVISED FROM ORIGINAL (Original SP date: 2013/02/20)

Skee	ena	Т	ENURE IDENTIFI	CATION			
LICENCE #	СР	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
A90581	-	TEsw049	BI3FE	1031079-	T Fiddler	10 km Fiddler Mainline	54 46 30 / 128 17 36

AREA UNDER THE PLAN

GROSS AREA (TAUP)	PAS	NP	WTRA / WTP	RESERVES	OTHER	NAR
63.2	3.1	1.5	5.5	0.0	0.0	53.1

ADDITIONAL COMMENTS

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 Acces Structures (%)	
1	5.0		25.0	7.0	
2	5.0				
SU	CRITICAL SITE CONDITIONS THAT AFFECT THE TIMING OF OPERATIONS, AND HOW THEY AFFECT THE TIMING				
1	The 04 sites within this Standards Unit are moist so care must be taken to ensure site degradation limits are adhered to during harvest activities. Ground based harvesting should be restricted to the dry summer period or to the winter period when the ground is frozen and/or protected by a compressible snow layer. The tenure holder has elected to utilize a single tree selection system for the creation of an uneven aged-stand structure, thereby allowing for management of a suite of other resource uses (including carbon).				
	,	e ,	-		

RESULTS AND STRATEGIES

Biodiversity Objectives	
Result or Strategy Description	A1-TSK-KA-02S For roads that fall under BCTS' responsibility (i.e. covered by Forest Service Road, or Timber Sale Licence), BCTS will: 1a) Perform a risk assessment to determine and document an inspection frequency. Road maintenance inspections will be completed in accordance with the results of the assessment, or 1b) If a risk assessment has not been completed, a minimum inspection* frequency of once per year will apply, and, 1c) A road inspection under snow-free conditions will be conducted 2) Actions for addressing items that are identified through road inspections, based on priorities set by BCTS, will be undertaken that reflect the results of the inspections. * Inspections may be carried out by personnel appointed by BCTS, or by the TSL Holder
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The Licensee will regularly inspect, document, and prioritize for action roads that will be inactive for more than nine months. As a minimum, inactive roads will be checked annually (once per calendar year), under snow-free conditions.
Result or Strategy Description	 A1-TSK-KA-21R On blocks where layout activities have not yet started**, wildlife tree retention for a harvest unit* is consistent with Table 6 of the Kalum Sustainable Resource Management Plan (April 2006) a) Where a BEC subzone that exists within a Landscape Unit (LU) is not identified for that LU in Table 6, the closest similar BEC classification identified for that LU will be used for the purposes of this result. 2) Wildlife tree retention on blocks where layout activities have started will conform to the approved FDP in effect immediately prior to approval of the FSP * Harvest unit: as defined in the Kalum SRMP (April 2006)

	** As listed in Table B7 of Appendix B to this FSP
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	TEsw049 is located within the Skeena River Kalum Landscape Unit. Although the majority of the block will not be impacted by harvesting, 8.8% of the cutblock area has been designated as WTRA which exceeds the minimum wildlife tree retention requirements of 5% (CWH) for the Skeena River Kalum Landscape Unit listed in Table 6 of the Kalum SRMP. The extra WTRA over the 5% target contributes biodiversity and wildlife objectives as well as to Carbon Objectives and represents XXX tCO ₂ e of additional carbon storage at 2030 and 2050. In addition, 60 stems per ha of Carbon Retention Stems will be retained scattered across the area to harvest of the block. These trees represent XXX tCO ₂ e of additional carbon storage at 2030 and 2050. The Carbon Retention Stems also contribute to biodiversity and wildlife objectives. In addition, snags will be assessed for safety and where safe and practicable left standing. <u>Comments:</u> Carbon Retention Stocking Standards may require close review of Danger Tree regulations in some regions. At a block level assessing all snags will be costly. Some form of incentive would be required to ensure buy-in from Licencees. Similar stands to this have shown that less than 50% of snags in tree class 3 to 7 will be assessed as safe for level 3 disturbance as defined in the Wildlife/Danger Tree Assessor's Course Workbook (2017). A portion of these trees would also be in locations where they obstruct the flow of wood to roadside and must be removed for operational efficiencies. Snags are important wildlife and biodiversity anchors and some research has suggested standing snags have slower decomposition rates than snags that are on the ground (Lewis and Harley, 2005). Actions with a carbon benefit, such as additional WTRA area and Carbon Retention Stems, could be quantified in the Site Plan. A guidance document for reporting carbon numbers should be developed to aid tracking of carbon initiatives.
Result or Strategy Description	A1-TSK-KA-35R No forest harvesting by the FSP Holder of old seral stage forest within the Old Growth Management Areas (OGMAs)* other than for insect or disease control measures that are necessary to mitigate severe damage to the habitat attributes in the OGMAs, or other forest values in the landscape, or in accordance with strategy TSK-KA-36 * As shown on the FSP maps, which correspond to the OGMAs shown on Map 4 of the Kalum SRMP (April 2006).
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not within an OGMA.
Result or Strategy Description	 A1-TSK-KA-36S 1) Allow up to 10 hectares or 10% of an individual Old Growth Management Area (OGMA) *, whichever is less, to be disturbed for one or more of the following purposes: allowing road development where no practicable alternative exist; to better reflect physical features that were intended to form the actual boundaries of the OGMA; to improve harvest boundary alignment in a way that will contribute to the maintenance of the OGMA; to address a compelling forest health issue; or, to shift the location of the contiguous area of the OGMA to improve the retention of old forest attributes as identified through field assessment. Any planned alteration of spatially defined OGMAs that does not meet the criteria in (1) above will be forwarded to the Agency responsible for the Kalum SRMP. A summary will be provided to the District Manager describing the reason for the disturbance of the OGMA, and identifying an alternative OGMA(s) within the same BEC variant within a landscape unit, provided the alternative OGMA: is of equal or greater extent in total than the area to be disturbed; and, will result in equal or greater retention of key old forest attributes that are understood to be important for biodiversity conservation.
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not within an OGMA.
Result or Strategy Description	 A1-TSK-KA-37R Within the Skeena Islands Area**: 1) On areas harvested or authorized by BCTS under this FSP: a) Harvest operations will be in accordance with guidance mutually agreed between representatives of BCTS and the MoE***, or b) Harvest operations will be conducted as follows: i) For forest types* identified as "High" conservation value**, no harvesting will occur, other than for road construction necessary to access other areas. ii) For forest types* identified as "Medium" conservation value**, harvesting will be for deciduous trees only (other than incidental harvest of coniferous trees for road construction or safety purposes), employing small-patch harvesting (openings less than 5 ha). At least 70% of the area will be maintained at a mid-seral (or older) stage, and at least 30% of the areas will be at a mature or older seral stage. iii) For forest types* identified as "Low" conservation value**, at least 30% of the area will be maintained at a mid-seral (or older) stage.
	 * Forest types are limited to CWHws1/07; CWHws1/08; CWHvm1/09; CWHvm1/10. ** As shown on the FSP maps. This information corresponds to the map provided with the Kalum SRMP (April 2006) *** MoE representative = Ecosystem Specialist or Ecosystem Biologist

Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not within the Skeena Islands.
Result or Strategy Description	A1-TSK-KA-38R No harvesting or road construction within the uncommon reticulated fens in the Miligit Creek Sensitive Area* * As shown on the FSP maps
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not within the Miligit Creek Sensitive Area.
Cultural Heritage Resources	
Result or Strategy Description	 A1-TSK-KA-27S Where site specific cultural heritage resource information for an area in a Forest Development Unit is not available, BCTS will make use of the Archaeological Overview Assessments for the Kalum TSA, TFL 41, and TFL 1: a) Any blocks within a "High" archaeological potential polygon will have an Archaeological Impact Assessment (AIA) done before harvesting commences. For any potential cultural heritage resource sites identified by operational personnel (e.g. layout, road construction, or harvesting crews) which were not previously identified through cultural heritage resource information sharing as described in TSK-KA-26, and for which a process or policy that describes how to deal with that cultural heritage resource is not in place or has not been shared with the appropriate First Nation(s): a) A BCTS representative will be notified; b) A site visit will be conducted to determine the need for mitigative measures or for a Preliminary Field Reconnaissance or Archaeological Impact Assessment to be done Any new cultural heritage resource information resulting from item (2) above will be shared with the appropriate First Nation(s) in accordance with item (5) below. Any new cultural heritage resource information resulting from item (2) above and a description of any mitigative measures will be provided to the BC Timber Sales Manager in accordance with item (5) below. Information noted in (3) and (4) above will be shared/provided as follows: Where a cultural heritage resource feature is discovered before a cutting authority is issued, at or before Timber Sale Licence issuance. Where a cultural heritage resource feature is discovered after a cutting authority is issued, the information will be shared/provided within two weeks of a BCTS representative being notified of the cultural heritage resource features' discovery.
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	 Not within a high Archaeological Overview Assessment polygon. No CMTs or areas with high subsurface potential were identified within the area to harvest by field crews. CMTs were located within WTRA#2. The Cultural Heritage Resources pre-harvest evaluation noted the potential for several travel and resource trails within the block, despite extra attention looking for possible trails on the logical travel routes no indications of any trails were noted. In the event that operational personnel (road construction and or harvesting crews) identify a potential Cultural Heritage Resource within the block. Operations will be halted so that the site is protected from damage; A BCTS representative will be notified; A site visit will be conducted to evaluate the site and determine the need for mitigation measures or for a Preliminary Field Reconnaissance or Archaeological Impact Assessment to be done. Where a CHR site is confirmed, the resulting information and mitigation measures will be provided to the Timber Sale Manager. BCTS will share resulting information with potentially affected First Nations within 2 weeks of notification of the CHR sites discovery.

 TSK-KA-26S BCTS will meet regularly with local First Nation groups that have asserted claim area within the BCTS FDUS. As a minimum, meetings must occur annually. Request from both the Ministry of Forests and Range and the First Nations the opportunity to review and discuss cultural heritage resources of continuing importance (including but not limited to traditional use information, archaeological information, and traditional use studies where they are available), ideally in conjunction with first nation representatives. Where traditional use information is made available, BCTS will hold any information received in confidence. It is only with the express written consent or direction of the holder of the Traditional Use information that BCTS will release any traditional use information to any other party (Including other First Nation groups, the Government of BC, or the BC Ministry of Forests and Range). BCTS will review with respective First Nations the areas where forest development operations are planned, with the intent of describing and addressing the concerns of both parties. Specifically: Determine areas of concern that may result from forest management activities when compared with First Nation interests or activities, or that may occur between First Nations groups as a result of different forest management approaches. Attempt to resolve any conflicts through consensus. BCTS will prepare a short summary indicating whether there were any issues and how they were resolved. If conflicts cannot be resolved, BC Timber Sales will prepare a summary of the concerns and how BCTS has attempted to address the concerns. Summaries* of this process will be provided to the Skeena Business Area Timber Sales Manager (TSM), and copied to the First Nation representative. In the unlikely event that meetings have not occurred, documentation of the efforts made to meet and/or review information with First Nations will be provided to the TSM by B
YES
BCTS consultation and information sharing for TEsw049 is consistent with strategy TSK-KA-26 in the BCTS-Kalum Forest Stewardship Plan Extension 2011-2016 as reviewed by Gail Campbell, RPF on January 7, 2013. Potential concerns raised include: Block level: Gitxsan: No block specific interests have been communicated to BCTS Kitselas: No block specific interests have been communicated to BCTS General/Landscape Level: Gitxsan: Management of large diameter cedar trees; cedar conservation; management of cultural heritage resources Kitselas: Salmon habitat; management of cultural heritage resources
 TSK-KA-28S For any block with Cedar or Cypress, removal of Cedar or Cypress from retention areas (including WTPs or Riparian Management Zones* (RMZs) for cultural purposes occurs as follows: No more than 5% of the co-dominant/ dominant stems within a WTP are removed, with no more than 10% of the stems within a given hectare, unless the Site Plan describes how the WTP is able to retain its function; and Removal of co-dominant/ dominant stems from within an RMZ area must be consistent with the RMZ retention described in result TSK-KA-17, unless the Site Plan describes how the RMZ is able to retain its function; and When from within an area within an active cutting authority that is held by BCTS or one of its licensees, removal is authorized through a letter of agreement between a First Nation Council and BCTS, with a copy to the District Manager of the Kalum Forest District * Removal of stems from within Riparian Reserve Zones will be as per the Forest Planning and Practices Regulation - currently, removal for cultural purposes is not an allowed activity within RRZs.
YES
No more than 5% of the co-dominant/ dominant stems within a WTP are allowed to be removed, with no more than 10% of the stems being removed from within a given hectare. Removal must be authorized through a letter of agreement between a First Nation Council and BCTS, with a copy to the District Manager of the Kalum Forest District.
A1-TSK-KA-AAS During the period of this FSP the TSM will undertake to comply with sections 35 and 36 of the FPPR. The TSM will notify each holder of a timber sale license or road permit to which the plan relates that FPPR sections 35 and 36 apply to the holder's primary forest activities carried out during the term of the plan.
YES
This Site Plan is consistent with section 35 (Soil Disturbance Limits) and section 36 (Permanent Access Structure Limits) of the FPPR. All holders of a Timber Sale or Road Permit to which the plan relates are hereby notified that FPPR sections 35 and 36 apply to the holder's primary forest activities carried out during the term of the plan. Result A1-TSK-KA-AAS applies as described in the Soil Disturbance table on page 1 of this Site Plan. Comments: Reducing Site Degradation has potential carbon benefits. Some research indicates that the rate of carbon decomposition may be increased for forest floor that is buried (i.e. like areas of site preparation or site degradation). The rate of carbon decomposition is unlikely to be increased by more than 1% on a block level but site degradation also potentially impacts carbon by reducing the productivity of the site (reducing the sites ability to sequester carbon).

Desult or Strategy Description	A1-TSK-KA-ABS During the period of this FSP roads that are not required for silviculture or access to additional harvesting
Result or Strategy Description	A1-ISK-KA-ABS During the period of this FSP roads that are not required for silviculture or access to additional narvesting opportunities and are practicable to rehabilitate will be rehabilitated and reforested to the appropriate stocking standard.
	<u>Comments:</u> Successful uptake of this strategy will require changes to the appraisal system to allow road rehabilitation as an allowable cost or for an agency such as FESBC to fund road rehabilitation.
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	All roads are required for future harvesting opportunities and will not be rehabilitated.
Recreation Resources	
Result or Strategy Description	TSK-KA-29R On these established Recreation Trails or Sites with established objectives:
	- Big Cedar Recreation Trail
	Bonney Lake Portage Recreational Trails Clearwater Lakes Recreation Site
	- Hai Lake Recreation Trail
	- Maroon Mountain Recreation Trail
	- Mt. Elizabeth Recreation Trail
	Onion Lake Recreation Trail Onion Lake Recreation Ski Trails
	- Pine Lake Recreation Trail
	- Robinson Ridge Recreation Trail
	Sterling Mountain Recreation Trail Thornhill Mountain Recreation Trail
	No disturbance by harvesting, road construction, or silviculture activities to natural vegetation within 10 m of trail
	centerline other than for a required crossing.
	Development activities that occur within 50 m either side of trail centerline will only occur after the planned activity has
	been referred to the Ministry responsible for the trail. Timber Sale Licence, Road Permit, or Forest Service Road submission indicates that development is within 50 m of the
	trail and describes the results of the referral to the Ministry responsible for the trail.
	A crossing of the trail is permitted if the crossing is required to access productive forest land that would otherwise be
	isolated. The trail location is re-established if the crossing disturbs it. Alternatively, the trail can be relocated away from the
	crossing. The timing of the trail crossing, re-establishment, or trail relocation will require consultation with the Ministry responsible for the trail.
Applies:	A trail crossing is deactivated once it is no longer required. NO
Applies.	
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not near an established Recreation Trail or Site.
Result or Strategy Description	TSK-KA-30R On these established Recreation Sites with established objectives:
	Bonney Lake Recreation Site Clearwater Lakes Recreation Site
	- Deception Lake Recreation Site
	- Glory Hole Recreation Site
	- Jigsaw Lake Recreation Site
	 Pine Lake Recreation Site Red Sand Lake Interpretive Forest Site
	- West Lake Recreation Site
	No disturbance* to areas within 10 m of lake shorelines, river-, stream-, or creek-banks, or marine foreshore. (This only
	applies to sites where an RRZ is not in existence). The remainder of the area within the recreation sites will be reserved from disturbance other than where BCTS and the Kalum District Manager agree the disturbance will be for the
	improvement of the recreation experience, or where action or access is required to prevent or address potential losses due
	to fire, wind, or forest health factors.
Applies:	* from activities related to BCTS' road construction, harvesting or silviculture activities NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not near an established Recreation Site.
Result or Strategy Description	TSK-KA-33R On all established recreation sites or trails with established objectives (excepting Deception Lake, which has had access cut-off):
	At least four-wheel drive status is maintained for roads under the control of BCTS that are the only access to the trail or site.
Applies:	NO
How Result or Strategy Applies to the Site	Not near an established Recreation Trail or Site.
(or Rationale if it does not apply)	
	I

Riparian Management	
Result or Strategy Description	 A1-TSK-KA-17R 1) On all streams*, wetlands* and lakes* within or directly adjacent to blocks where layout activities have started prior to January 1, 2008*, the provisions of FPPR s. 47, 48, 49, 50, and 51 will apply, as they were at the time layout commenced. 2) On streams, wetlands and lakes identified in (4) below: for those blocks where layout activities start after January 1, 2008, maintain the forest in a hydroriparian zone** in a mature or old state, and a) the width of the hydroriparian zone in any one location may be increased or decreased by up to 0.5 tree heights to address site specific value b) Roads are only located in the hydroriparian zone if i) The road is necessary to access timber beyond the hydroriparian zone that otherwise would be isolated from harvest, ii) Terrain conditions such as slope, gradient or terrain stability constrain road locations and dictate that sections of road enter and leave "red listed" plant communities to access timber that otherwise would be isolated from harvest, iii) The areal is being accessed for mineral development, or iv) iv) No practicable alternative exists 3) On streams, wetlands and lakes other than those identified in (4) below: for those blocks where layout activities start after January 1, 2008, a) Riparian management areas, riparian reserve zones, and riparian management zones (RMZ) will be as described in FPPR s. 47, 48, and 49, and the provisions of FPPR s. 50, and 51 will apply, as they were at the time layout commenced. b) retain an amount of basal area within the RMZ as follows: ii) On S4 streams, no basal area retention is necessary. iv) On all Wetlands and Lakes, a minimum of 10% of the basal area of the RMZ. ii) On S4 streams, no basal area retention is necessary. iv) On S4 and S5 streams, no basal area retention is necessary. iv) On S4 and S5 streams, no basal area retention is necessary.
Applies:	established, as per the established SRMP. YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The block retains greater than the minimum 0% of the basal area in the Riparian Management Zone for the S6 streams within the block, several stream reaches are protected within WTRAs. The planned single tree selection silviculture system will result in significant basal area retention within the Riparian Management Zones of all streams.
Timber Objectives	
Result or Strategy Description	 TSK-KA-03R Harvested blocks are reforested to at least the minimum stocking with the species identified in the stocking standards that apply to this FSP; and meet the regeneration delay, free growing heights, and free growing dates as described in the stocking standards that apply to this FSP
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Stocking standards will be consistent with the approved FSP. Stocking Standard ID#. SU1 - 2004879; SU2 – 2004879. These are Carbon Stocking Standards as noted in the FSP.

Carbon Objectives	6.1 The objectives set by government for carbon are, without unduly reducing the supply of timber from British Columbia's
	forests, to (a) enhance carbon retention or sequestration on British Columbia's forests, and (b) develop, promote, or take advantage of opportunities for utilization of cut trees into products that provide carbon
	retention, sequestration or substitution benefits.
Result or Strategy Description	TSK-KA-AC(R) For each cutblock harvested within the FSP Holder's Forest Development Unit by the FSP Holder or its contractors, the FSP Holder will offer fibre that does not meet current utilization levels to local consumers of fibre. This offer will occur prior to the FSP Holder scheduling the fibre for disposal. (For the purposes of this Result, "local" means within 5 hours haul time from the cutblock.)
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is expected to result in significant logs and woody material that do not meet current utilization levels and under previous management regimes would have been left on site. This material has been offered for sale to the local pellet mill. No agreement to sell this material has been reached at this point, the block is approximately 45km from the facility and cycle time would be 2.9 hours. In anticipation of utilizing residual materials, non-merchantable logs will be decked roadside and only limbs, tops and material unsuitable for pellets will be piled. <u>Comments:</u> The block is on the edge of where it would be economical to transport material to a biofuel/pellet facility. Programs to encourage utilization of this material by subsidizing transportation of residuals to facilities will expand the area where it is
	economic to utilized residual materials.
Result or Strategy Description	TSK-KA-AD(S) When developing a cutblock, stems that are known to have limited timber value may be retained for carbon storage purposes. Carbon retention stems are to be preferentially located in WTRAs, in RMAs, in visual retention areas, and where safe to do so, may be dispersed throughout the stand. Site Plans will describe Carbon Retention Stem characteristics.
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	 Information attached to this site plan will describe Carbon Retention Stem characteristics and location Stocking standards in the approved FSP include criteria for carbon retention and will be adhered to. Stocking Standard ID#. SU1 - 2004879; SU2 - 2004879. The prescription calls for 60 stems per ha of Carbon Retention Stems across the area to harvest. A range of 50 to 100 Carbon Retention Stems is considered acceptable. Retention of 60 Carbon Retention Stems per ha on the area to be harvested will result in approximately XXX tCO₂e of additional carbon storage at 2030 and 2050.
Visual Objectives	
Result or Strategy Description	 A1-TSK-KA-23S A visual impact assessment (VIA) will be carried out and attached or referred to in the Site Plan for blocks that are located within known scenic areas and that are identified with a Visual Quality Objective (VQO) of Preservation (P), Retention (R), Partial Retention (PR), or Modification (M), or a Visual Sensitivity Class (VSC) of 1, 2, 3, or 4. Visual Sensitivity Class will be treated as having VQOs as follows: VSC 1 = Retention VSC 2 = Partial Retention VSC 2 = Partial Retention VSC 3 and 4 = Modification VSC 5 = Maximum Modification Ste Plan the visual inductor from selected viewpoints (see below for viewpoint selection and criteria) describe how the visual design is consistent with the VQO. The visual inductor from selected viewpoints (see below for viewpoint selection and criteria) describe how the visual design is consistent with the VQO. The block configuration in the signed Site Plan will reflect the visual design as described in the visual assessment Viewpoints are identified as follows: a) As shown on the FSP maps (as amended from time to time), or if no viewpoints area identified on the FSP maps, through selection of points in the field that meet the viewpoint criteria* * Viewpoint criteria: for a visual landscape, a viewpoint must be: i) At a point along a travel corridor that allows for an extended viewing experience*** ** Extended viewing experience = greater than 60 seconds uninterrupted view (at the posted/ normal speed limit)
Applies:	YES
How Result or Strategy Applies to the Site	A VIA was completed by Rick Brouwer of Northwest Timberlands on Nov.22, 2012 titled, 'Visual Impact
(or Rationale if it does not apply)	Assessment for Blocks laid out under Contract SD13TIF200: Skeena West - Fiddler Creek Area: Blocks TEsw022, TEsw025, TEsw030, TEsw049, and TEsw050,' the VIA showed the block was consistent with the Visual Quality Objective for the area. The choice of a single tree silviculture system means the block is very difficult to see from the selected viewpoints.

Water Management Objectives					
Result or Strategy Description	 A1-TSK-KA-18R Within Identified Watersheds* where ECA thresholds*** have been established: before harvesting commences within an Identified Watershed under authority of this FSP: Clear-cut equivalency is calculated** for the Identified Watershed as a whole, and for individual sub-basins larger than 250 ha; or An assessment** is conducted, and if a) the threshold for clear-cut equivalency that is determined as appropriate as a measure of maintenance of natural flow regimes is more than the ECA threshold for the Identified Watershed, then that threshold is used in 3) below b) a threshold for a parameter different from clear-cut equivalency is determined to be more appropriate as a measure of maintenance of natural flow regimes, then that parameter and threshold is used in 3) below then 3) If there is a parameter and/or threshold that qualifies as described in 2(a) or 2(b) above, then that parameter and/or threshold will be used for the Identified Watershed, and the sub-basin size identified in 3. above will not necessarily apply. * Identified watersheds are:				
	 Community watersheds as shown on the FSP maps. Community Watersheds that are within BCTS FDUs are Carlotta (Rosswood/ Clear) Creek; Deep Creek; Drake Creek; Eneeksagilaguaw Creek; (Kleanza) Singlehurst Creek; Skovens (Usk) Creek; Spring Creek; and Virginia Brook Watersheds within the Nass FDU that are identified as having ECA limits through a legally established objective ** Consistent with the Watershed Assessment Guidebook (2nd Ed, version 2.1 April 1999), or with another process determined to be acceptable by a qualified professional *** ECA Thresholds are as follows: For Community Watersheds: for sub-basins larger than 250 ha, 20%; for sub-basins smaller than 250 ha, the threshold may exceed 20% only if the overall clear-cut equivalency for the community watershed basin is less than 20% For non-community watersheds identified in the Nass FDU: as per ECA limits described in a legally established objective. 				
Applies:	NO				
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not within an Identified Watershed.				
Wildlife Objectives					
Result or Strategy Description	 A1-TSK-KA-07R For harvested blocks within Grizzly Bear Watershed Units*, or outside of Grizzly Bear Watershed Units* but within Moose Ungulate Winter Range*, where a site plan identifies that this result is necessary to provide for or conserve Moose Winter Range habitat, the stocking and inter-tree spacing requirements for the site associations described in Table A2 of Appendix A (as discussed in Section 3.2 of this FSP) are met when free-growing is declared. * As shown on the FSP maps 				
Applies:	YES				
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	TEsw049 is not located within Moose Ungulate Winter Range. It is located within the Little Oliver-Skeena River East Grizzly Bear Identified Watershed (GBIW). The block does not contain a significant amount of identifiable and stratifiable Grizzly site series (06/11 ecosystems). Wildlife stocking standards will not apply.				
Result or Strategy Description	 A1-TSK-KA-14S Areas harvested or authorised by BCTS will be of a size and distribution that emulates the historical temporal and spatial distribution of the Natural Disturbance Types (NDTs) for the forests within the FSP area. Development within an FDU will move towards the patch size and seral stage distribution targets that are in place for NDTs, and will be calculated separately for each LU that overlaps the FDU, in accordance with items 3 and 4 below. Temporal: Conduct Seral stage analysis by LU and natural disturbance type a) Determine proportional representation of the LUs within the BCTS FDUs b) Determine need for actions to address seral stage imbalances, based on the applicable land use objective(s)* d) If necessary, prepare action plan(s) and implement 4) Spatial: Analyse patch size distribution for the BCTS FDU b) Determine need for actions to address patch size imbalances, based on the applicable land use objective(s)* d) If necessary, prepare action plan(s) and implement 4) Spatial: Analyse patch size distribution for the BCTS FDU c) Determine need for actions to address patch size imbalances, based on the applicable land use objective(s)* d) If necessary, prepare action plan(s) and implement e) Prepare a summary of the allowable patch size distribution. * In the Terrace, Kitimat Valley and Douglas Gardner FDUs, the applicable land use objective is the Kalum SRMP (April 2006). In the Nass and Kowesas FDUs, the applicable land use objective is the Old Growth Order (June 2004), unless and summary of the applicable land use objective is the Old Growth Order (June 2004), unless and summary of the applicable land use objective is the Old Growth Order (June 2004), unless and summary of the applicable land use objective is the Old Growth Order (June 2004), unless and summary of the applicable land use objective is the Old Growth Order (June 2004), u				
	superseded by a new land use objective.				

How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The single tree silviculture system within the planned harvest area means that this block does not impact the historical and spatial distribution of the NDTs for the forests within the FSP area.
Result or Strategy Description	A1-TSK-KA-15R
	 The sizes of harvest openings under this FSP are within the limitations as described in an allowable patch size distribution. If there are areas that are outside of target* levels for temporal and spatial distribution: a) Starting in 2007, by April 30 of each year a report summarizing the changes in the seral and patch distribution in those areas is provided to the District Manager. This report includes changes that have occurred in the previous year, plus projected changes (i.e. planned harvest) for at least the current year. Where this report indicates moving towards the target* levels, a rationale is provided that describes management strategies for moving towards the target* levels. b) Within a specified period after the approval of this FSP. harvest activities under this FSP are shown to be static or moving toward the target* levels for these areas. This specified period shall be five (5) years for each Landscape Unit, unless otherwise determined by mutual agreement between the BC Timber Sales Manager and the District Manager. * Target levels for Landscape Units and Special Resource Management Zones are from the Kalum SRMP; Target levels for
	FDUs are as determined through the Strategy TSK-KA-14
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The single tree silviculture system within the planned harvest area means that this block does not impact the historical and spatial distribution of the NDTs for the forests within the FSP area.
Result or Strategy Description	 A1-TSK-KA-12S 1) For areas within FDUs under this FSP, where Moose Ungulate Winter Range (UWR) areas have been designated through an Order under the Land Act, no further action is required. 2) Subject to (1) above, for areas within FDUs under this FSP, where Moose Ungulate Winter Range areas have not been designated through an Order under the Land Act, a) a) Harvesting operations within Proposed Moose UWR* may occur during a period other than between May 1 and November 30 (inclusive), if: i) A qualified professional (QP) evaluates the Moose UWR and determines that
	 all or a portion of the UWR is not suitable as UWR, or the population of moose using the UWR will not be unduly disturbed or affected by operations, or there are mitigative actions that can be taken to ensure that operations that will not unduly disturb ungulates within their winter range; A report is prepared by a QP to indicate mitigative actions or a different timing for operations that will not unduly disturb ungulates within their winter range; iii) BCTS implements the mitigative actions in the report. * As shown on the FSP maps, which correlate with (1) the maps provided in support to the Moose Ungulate Winter Range notices for TFL 1; TFL 41; and the Kalum TSA (Dec 2004); and (2) the habitat amount in the FPPR s. 7 Notices for Moose.
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not within Moose UWR.
Result or Strategy Description	 A1-TSK-KA-13R For areas within FDUs under this FSP, where Moose Ungulate Winter Range (UWR) areas have been designated through an Order under the Land Act, no further action is required. 2) Subject to (1) above, for areas within FDUs under this FSP, where Moose Ungulate Winter Range areas have not been designated through an Order under the Land Act, harvesting operations within Proposed Moose Ungulate Winter Range (UWR)* a) occur i) between May 1 and November 30 (inclusive), or
	 ii) are consistent with a report prepared by a qualified professional that meets the requirements of strategy TSK-KA-12. b) include wildlife tree retention trees or patches that are no more than the distance prescribed in (3) below from other standing mature or old-growth trees. 3) The distance in (2)(b) above is a) 250 meters, horizontal distance * As shown on the FSP maps, which correlates with the (1) maps provided in support to the Moose Ungulate Winter Range
Applies:	notices for TFL 1; TFL 41; and the Kalum TSA (Dec 2004); and (2) the habitat amount in the FPPR s. 7 Notices for Moose NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not within Moose UWR.

STOCKING REQUIREMENTS

SU	NAR	STANDARDS ID #	OTHER PERFORMANCE STANDARDS
1	29.3	2004879	 (SS56): SS-Kalum forest district - spruce content restricted to < 20% well spaced and FG trees on a standards unit due to leader weevil. (99): Carbon Stocking Standard, Carbon Retention Stems can contribute a maximum of 200 stems per ha of preferred and acceptable trees. The target in this site plan is 60 stems per ha. MITD will be reduced to 1.6m on hygric, sub-hydric or mechanically prepared areas (other than mechanically mounded); 1.0 metres for Layer 4 of multi-layer stands where planting has occurred to allow stump planting; 1.0m on mechanically mounded sites; 1.0m on colluvial sites; 0.0m between Layer 1 trees in multi-storey stands.
2	23.8	2004879	(SXS56): SXS-Kalum forest district - spruce content restricted to < 20% well spaced and FG trees on a standards unit due to leader weevil. (99): Carbon Stocking Standard, Carbon Retention Stems can contribute a maximum of 200 stems per ha of preferred and acceptable trees. The target in this site plan is 60 stems per ha. MITD will be reduced to 1.6m on hygric, sub-hydric or mechanically prepared areas (other than mechanically mounded); 1.0 metres for Layer 4 of multi-layer stands where planting has occurred to allow stump planting; 1.0m on mechanically mounded sites; 1.0m on colluvial sites; 0.0m between Layer 1 trees in multi-storey stands.

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Ma	o Required?	
ORIGINAL	2013 02 20		YES	
RPF PR	INTED NAME	RPF'S SIG	NATURE and SEAL	
RICO	JORIMANN			
DAT	E SIGNED			
20	13/02/20			
l certify l personal described herein.	ly completed the work			

Map attached forms an integral part of the site plan.

SUPPORT DOCUMENT

ORIGINA											
LICENCE #	СР		BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE			
A90581	-	Т	Esw049	BI3FE	1031079-	T Fiddler	10 km Fiddler Mainline	54 46 30 / 128 17 36			
ASSESSMENTS	SSESSMENTS										
VISUAL IMPACT ASSESSMENT INFORMATION											
	na West	- Fiddler Cı			n Nov.22, 2012 titled, 'Visi sw025, TEsw030, TEsw04			Contract consistent with the Visual			
PEST INCIDENCE	PEST INCIDENCE SURVEY INFORMATION										
Pest Specific Con	nments										
Forest Health Co	mments										
pathogen. Hw with the adjacent stand	<mark>th obviou</mark> d. Mana	us signs of r ging the blo	mi <mark>stletoe infe</mark> ock to a mix c	ection should not of species will rec	luce the risk from this pest	tention Stems. There was	significant damage fro	threat of losses to this om porcupine near the road in nazard risk and low windthrow			
ARCHAEOLOGIC	AL IMPA	CT ASSESSI	MENT INFORI	MATION							
Not within a high #2), no areas of su					rved within the area to ha	rvest (CMTs were remove	d from the area to ha	rvest and placed within WTRA			
TERRAIN STABIL	ITY FIELD	AND GULI	LY ASSESSME	NTS INFORMATIO	N						
Terrain Stability	Commen	its									
This block is not lo stability assessme				n or on flat over	steep terrain. No signs of	slope instability were obse	erved within the block	(or road) boundary. A terrain			
Gully Comments											
No gullies within t	he block										
VEGETATION											
RIPARIAN ASSESS	MENTS			_							
Management Str											
Streams 1, 3, 4, 6, 7, 8 and 9 are small S6 streams. No basal area retention is required along these small S6 streams but the planned single tree selection silviculture system will result in significant basal area retention within the Riparian Management Zones of all streams. Fall and yard away. These streams require a 5m Machine Free Zone with machine crossings only at designated skid bridges. Skid bridges must be constructed with appropriate materials such as puncheon to minimize channel disturbance and maintain stream bank integrity. Wherever safe and practical non-merchantable trees less than 17.5cm, understory deciduous trees, shrubs, and herbaceous vegetation within 5m of the stream channel will be retained. Streams 2 and 5 are slightly larger S6 streams that may have the potential to mobilize debris. No basal area retention is required along these S6 streams but the planned single tree selection silviculture system will result in significant basal area retention within the Riparian Management Zones of all streams. Fall and yard away. These streams 2 and 5 are slightly larger S6 streams that may have the potential to mobilize debris. No basal area retention is required along these S6 streams but the planned single tree selection silviculture system will result in significant basal area retention within the Riparian Management Zones of all streams. Fall and yard away. These streams require a 5m Machine Free Zone with machine crossings only at designated skid bridges. Skid bridges must be constructed with appropriate materials such as puncheon to minimize channel disturbance and maintain stream bank integrity. Wherever safe and practical non-merchantable trees less than 17.5cm, understory deciduous trees, shrubs, and herbaceous vegetation within 5m of the stream channel will be retained. Accumulations of slash or debris that do enter streams 2 or 5 above must be cleaned out concurrent with harvesting activities											
Riparian I I.D. and Class	RMA	SU	WIDTH (m)	BA or SPH Retained	Comments (Indicat	e if in a Community Wate	rshed)				
M	FZ		5.0								

Stream 1, 2,3,4,5,6,7 8 &9 S6			20.	0								
SOIL ASSES	SSMENT											
	HAZARI	O RATINGS					SOIL C	HARACTERISTICS				
SU Soil		Soil	Soil Disp	Depth To Unfavourable Subsoil			Type of Unfavoural		Sediment Delivery Risk (Community			
	Comp	Erosion		Min((cm)		Max(cm)	Subsoil	Wa	Watersheds)		
1	VH	Н	М	20).0		80.0	R				
2	VH	Н	Н	20).0		80.0	SEEP				
COMMENTS												
conventio	onal skiddi	ng to limit s		ion and provide			ed by snow. It is recom nment. Shut down logg		varding be utilized in con aturated soils.	njunction with		
				,								
I.D. WTR		Area 5.5	Descrip HB947	tion								
						uh - C h l						
GROUP W	IRA / WIP	AND SHE D	EG. CALCUL	ATION (to be re	tained on t	the first bi	ock of the Permit only),	CARBON BENEFIT SU				
Block	Gross Cutbloc Area	WTRA k / WTP	%	BEC	Perm Access	%	Carbon Benefit from Carbon Results and Strategies at harvest 2020	Carbon Benefit from Carbon Results and Strategies 2030	Carbon Benefit from Carbon Results and Strategies 2050	Carbon Benefit from Carbon Results and Strategies 2110		
TEsw049	63.2	5.5	8.8	CWH/ws/1	3.1	4.8	XXX tCO₂e Note: numbers subject to information from CBM modelling outputs	XXX tCO2e Note: numbers subject to information from CBM modelling outputs	XXX tCO2e Note: numbers subject to information from CBM modelling outputs	XXX tCO2e Note: numbers subject to information from CBM modelling outputs		
Total # of Blocks: 1		5.5	8.8		3.1	4.8	<mark>XXX tCO₂e</mark>	XXX tCO ₂ e	<mark>XXX tCO₂e</mark>	XXX tCO ₂ e		

Comments:

Actions with a carbon benefit, such as additional WTRA area and Carbon Retention Stems, could be quantified in the Site Plan and summarized as shown in the above table. A guidance document for reporting carbon numbers should be developed to aid tracking of carbon initiatives.

SUPPORTING INFORMATION

HLP/FSP CONSIDERATIONS

Wildlife/Endangered Species Comments

This block is not located within a Moose UWR or Mountain Goat UWR.

Wildlife species at risk designated under FPPR s. 7(2) (a) found within the Kalum Forest District are: Coastal Tailed Frog, Great Blue Heron, Grizzly Bear, Marbled Murrelet, Fisher and Wolverine. Evidence of tailed frogs was noted just outside of WTRA#1 in stream 5. The majority of suitable habitat for tailed frogs is outside of the area to harvest. No evidence of any other species at risk was noted during the field phase of development although there is suitable habitat for Grizzly Bear and Wolverine within the block. Habitat for Grizzly bears is addressed through Wildlife Habitat Areas and special stocking standards within high value site series. There is a Grizzly Bear Wildlife Habitat Area along the west boundary of the block. No special measures are prescribed for Wolverine or Fisher at this time.

Range Comments

Not within a range tenure area.

Fisheries Comments

There are no fisheries values within the block. The block has 9 S6 streams. Stream 2 has potential permanent habitat but was tested and found not to be fish bearing in the 1:20,000 Reconnaissance Fish and Fish Habitat Inventory: Middle Skeena River Tributaries 400 - Skeena West Planning Area by Triton Environmental Consultants in 2001. The remaining streams either do not have permanent habitat above downstream barriers to fish passage or are greater than 20% gradient.

Watersheds/Hydro Assessments Comments

Maintain water quality and quantity by ensuring that timber harvesting operations will be designed to prevent or minimize any negative impacts on the water resource. No community watersheds have been identified in this area.

Sensitive Areas Comments

Not within a designated sensitive area.

Recreation Comments

There are no Recreation Sites, Trails, Backcountry Recreation Sites or other recreation features identified within or directly adjacent to this block.

Cultural Heritage Comments

Not within a high Archaeological Overview Assessment polygon. CMTs were identified by field crews but removed from the area to harvest and placed within WTRA#2. The Cultural Heritage Resources pre-harvest evaluation noted the potential for travel and resource trails within the block, no indications of any trails were noted. The block has some blueberry and devils club but surrounding areas contain similar habitat for these cultural species.

Biodiversity Emphasis/L.U. Comments

TEsw049 is located within the Skeena River Kalum Landscape Unit. 8.8% of the cutblock area has been designated as WTRA which exceeds the minimum wildlife tree retention requirements of 5% (CWH) for the Skeena River Kalum Landscape Unit listed in the Table 6 of the Kalum SRMP. The extra WTRA over the 5% target contributes to biodiversity and wildlife objectives as well as to Carbon Objectives and represents XXX tCO₂e of additional carbon storage in 2030 and 2050. In addition, 60 stems per ha of Carbon Retention Stems will be retained scattered across the block. These trees represent XXX tCO₂e of additional carbon storage in 2030 and 2050. In addition, 2050. The Carbon Retention Stems also contribute to biodiversity and wildlife objectives. TEsw049 is located within the Little Oliver-Skeena River East Grizzly Bear Identified Watershed (GBIW). The block does not contain a significant amount of identifiable and stratifiable Grizzly site series (06/11 ecosystems).

Carbon Management Comments

Carbon Strategies employed on TEsw049 include additional WTRA, retention of 60 Carbon Retention Stems per ha, use of a single tree silviculture system resulting in less requirement for piling and burning, additional retention of non-merchantable understory stems within the RMA of streams and processing and piling residual material such that it can be utilized if a future market occurs.

Other Resources Comments

To address invasive plants:

- 1) Use certified seed only in erosion control and grass-seeding activities
- 2) In the course of their duties, BCTS field team personnel will make note of occurrences of invasive plants, and will report these occurrences to the Terrace Planning Forester within ten (10) working days of noting the occurrence. The Terrace Planning Forester will then collate and pass this information to a representative of the North West Invasive Plant Council within ten (10) working days of receiving a report from a BCTS field team member.

ADDITIONAL COMMENTS:

Amendment number	Date Typed (Yr Mo Dy)	Map Required?		
ORIGINAL	2013 02 20	YES		

HARVEST PLAN

	(-	IN	

									ORIGINAL					
LICENO	ЭЕ #	СР	BI	LOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE					
A9058	31	-	TEs	w049	BI3FE	1031079-	T Fiddler	10 km Fiddler Mainline	54 46 30 / 128 17 36					
SILVICULTU	JRE SYS	TEMS												
SU	(SYSTEM		VAF	RIANT	PHASE	RESERVE	Min BA (m2/ha)	Min Residual Density (sph)					
1,2		ngle Tre					G							
Current Sta	nd Struct	ure/Site	Condition	ns		Typical old growth HB age	class 9.							
Silviculture				orm, Health, \	b a a n C a T T S S a c ((1 1 S S b b a a T T T T S S b b a T T T S S b b a T T T S S b d T T T T T S S d t S S S C C T T S S S S S S S S S S S S S	e 65% across all diameter cceptable due to the long- nultiple regular entries. Denings will not be any wid II Cw of good form and vig here are a several creeks werrain is generally gentle, se e aware that there is scatthis block has been prescrit tems in the harvest area has cceptable. Carbon Retenti riteria of Table A of the F February 2007), except as r trees and frost cracks, ro- tems should consider win- rained microsites and that the 04 sites within this Star re adhered to during harve eriod or to the winter perior U-2: Single Tree Selection. e 65% across all diameter cceptable due to the long- nultiple regular entries. Depenings will not be any wid II Cw of good form and vig here are a several creeks we errain is generally gentle, se e aware that there is scatthis block has been prescrit tems in the harvest area has cceptable. Carbon Storage riteria of Table A of the F February 2007), except as r trees and frost cracks, ro- trees should consider win- rained microsites and that he 04 sites within this Star re adhered to during harve eriod or to the winter perio- etain preferred and acception.	classes, however this term management obj der than two tree-lengt our within harvest units within the block, see Rij see Harvest Plan map for tered blowdown as well bed Carbon Stocking Sta as been selected. A ran on Stems must be Laye ree Growing Damage throw hazard. Prefer have good live crown a ddhrow hazard. Prefer have good live crown a ddhrow hazard. Prefer have good live crown a datads Unit are moist so st activities. Ground ba od when the ground is f A single tree selection classes, however this term management obj der than two tree-lengt our within harvest units within the block, see Rij see Harvest Plan map for tered blowdown as well bed Carbon Stocking Sta as been selected. A ran e Trees must be Layer i ree Growing Damage O noted. A maximum of o tten branches, forks an dthrow hazard. Prefer have good live crown a datads Unit are moist so st activities. Ground ba od when the ground is f table conifers of good fo ater than 2m is not cons	is a guideline and ret ective of creating a m hs. Opening size will n s wherever safe and p parian Management S or a general location of a dispersed retenti undards. A target of 6 ge of 50 to 100 Carbo r 1 or Layer 2 trees ar Criteria for Multi-Laye ne Porodaedalea pini d crooks are allowed. entially select Carbon nd height to diameter o care must be taken to sed harvesting method w is a guideline and ret ective of creating a m hs. Opening size will n s wherever safe and p parian Management S or a general location of a dispersed retenti undards. A target of 6 ge of 50 to 100 Carbo 1 or Layer 2 trees an Criteria for Multi-Laye ne Porodaedalea pini d crooks are allowed. entially select Carbon nd height to diameter o care must be taken to sed harvesting should rozen and/or protecter orm and vigour as per	Strategies for more information. of slopes >40%. Workers should ion via Carbon Retention Stems. i0 stems/ha of Carbon Retention in Retention Stems is considered and must not exceed the damage ered Stands in British Columbia conk per tree is allowed on layer. . Selection of Carbon Retention in Storage Trees growing on well r ratios (trees with lots of taper). to ensure site degradation limits l be restricted to the dry summer ed by a compressible snow layer. vill be used. Target retention will cention between 50-75% will be nulti-age/ multi-story stand with ot be greater than 0.2ha. Retain racticable. Strategies for more information. of slopes >40%. Workers should ion via Carbon Retention Stems. 0 stems/ha of Carbon Retention in Retention Stems is considered d must not exceed the damage ered Stands in British Columbia conk per tree is allowed on layer . Selection of Carbon Retention in Storage Trees growing on well r ratios (trees with lots of taper). to ensure site degradation limits l be restricted to the dry summer ead by a compressible snow layer.					
					c c c a P c c	A target of 60 stems/ha of Carbon Retention Stems for the area to harvest has been selected. A range of 50 to 100 Carbon Retention Stems is considered acceptable. Carbon Retention Stems must be Layer 1 or Layer 2 trees and must not exceed the damage criteria of Table A of the Free Growing Damage Criteria for Multi-Layered Stands in British Columbia (February 2007), except as noted. A maximum of one Porodaedalea pini conk per tree is allowed on layer 1 trees and frost cracks, rotten branches, forks and crooks are allowed. Selection of Carbon Retention Stems should consider windthrow hazard. Preferentially select Carbon Storage Trees growing on well drained microsites and that have good live crown and height to diameter ratios (trees with lots of taper). Retain all trees within the WTRAs except when leaving those trees presents a safety hazard.								

			Stems per ha		Basal Area (m2/	ha)	
	dbh class (cm)	Original	Cut*	Leave*	Original	Cut*	Leave*
SU 1	20	56	20	36	1.5	0.5	1.0
and 2	25	23	8	15	1.5	0.5	1.0
	30	17	6	11	0.8	0.3	0.5
	35	21	7	14	2.3	0.8	1.5
	40	30	11	19	6.1	2.1	4.0
	45	33	12	21	3.8	1.3	2.5
	50	19	7	12	2.3	0.8	1.5
	55	33	12	21	5.3	1.9	3.4
	60	5	2	3	2.3	0.8	1.5
	65	16	6	10	5.3	1.9	3.4
	70	13	5	8	4.6	1.6	3.0
	75	8	3	5	3.0	1.1	1.9
	80	6	2	4	2.3	0.8	1.5
	85	7	2	5	5.3	1.9	3.4
	90	2	1	1	1.5	0.5	1.0
	95	3	1	2	2.3	0.8	1.5
	>100	10	3	7	10.6	3.7	6.9
	All	299	105	194	63.4	22.2	41.2
			35%	65%		35%	65%

Additional Comments

It may not be possible or feasible to achieve absolute compliance by diameter limit class. Some diameter classes will have greater percentages of unacceptable or danger trees. Compliance will be determined by total basal area retained.

SOIL ASSESS	MENT										
	HAZAR	D RATIN	GS		SOIL DIST	URBANCE			S	OIL CHARACTERISTIC	S
					Max Amount TAS may exceed	Max Allow Perm Access	MASD for Roadside	Depth to Unfavorable Subsoil			
SU	Soil Comp.	Soil Erosion	Soil Disp.	Max Allow Soil Dist %	MASD prior	Structures %	work areas %	Min (cm)	Max (cm)	Type of Unfavorable Subsoil	Sediment Delivery Risk (Comm. Watershed)
1	VH	Н	Μ	5.0		7.0	25.0	20.0	80.0	Bedrock	
2	VH	Н	Н	5.0				20.0	80.0	Seepage	
SU	Critical	site cond	litions th	at affect th	e timing of ope	rations and	how they aff	ect the tim	ning	•	
2	activities and/or p an uneve The 04 a harvest a frozen au skidders uneven a	s. Ground rotected I en aged-st nd 06 site activities. and/or prot are used o aged-stand	based ha by a comp and struct s within t Ground I sected by on this St d structur	rvesting shou pressible snov cture, thereby his Standards pased harvest a compressib andards Unit	uld be restricted i w layer. The tenu y allowing for ma s Unit are moist s ting should be resole snow layer. It	to the dry sur re holder has nagement of o care must h stricted to the swill be diffic ler has electe	mmer period o s elected to util a suite of othe be taken to ens e dry summer p ult to achieve s d to utilise a si	r to the wint lise a single t or resource u sure site deg period or to site degrada ngle tree ha	ter period w tree harvest uses. gradation lim the winter p tion limits in rvest system	adhered to during harve hen the ground is frozen system for the creation its are adhered to durin eriod when the ground all but the driest summ of or the creation of an	of g is
SU MANAGE	1		TS								
SU	SU Desc	ription									
1	CWHws1	This Standards Unit is dominated by the CWHws1 01 site but has a significant amount of 04 sites. The Standards Unit is transitional between the CWHws1 and the CWHws2 with ICHmc2 influences. This Standards Unit will be managed using a single tree harvesting system managed to multi-layer stocking standards.									
2	sites. It	is transitic	nal to th		nd has ICHmc2 in					and some 06 on seepag a single tree harvesting	

Soil Conservation

In order to achieve the 5% soil disturbance limits for Standards Unit 1 and 2 established under FPPR 35(3)(a) it is recommended that groundbased harvesting be limited to the summer period or the winter period when the soils are frozen or protected by snow. It is recommended that hoe forwarding be utilized in conjunction with conventional skidding to limit site degradation and provide a safer work environment. Shut down logging during periods of saturated soils.

Temporary Access

N/A

Slope Instability

This block is not located within Class IV or V Terrain or on flat over steep terrain. No signs of slope instability were observed within the block (or road) boundary. A terrain stability assessment is not required for this block.

RIPARIAN ASSESSMENTS

Management Strategies

Streams 1, 3, 4, 6, 7, 8 and 9 are small S6 streams. No basal area retention is required along these small S6 streams but the planned single tree silviculture system will result in significant basal area retention within the Riparian Management Zones of all streams. Fall and yard away. These streams require a 5m Machine Free Zone with machine crossings only at designated skid bridges. Skid bridges must be constructed with appropriate materials such as puncheon to minimize channel disturbance and maintain stream bank integrity. Wherever safe and practical non-merchantable trees less than 17.5cm, understory deciduous trees, shrubs, and herbaceous vegetation within 5m of the stream channel will be retained.

Streams 2 and 5 are slightly larger S6 streams that may have the potential to mobilize debris. No basal area retention is required along these small S6 streams but the planned single tree silviculture system will result in significant basal area retention within the Riparian Management Zones of all streams. Fall and yard away. These streams require a 5m Machine Free Zone with machine crossings only at designated skid bridges. Skid bridges must be constructed with appropriate materials such as puncheon to minimize channel disturbance and maintain stream bank integrity. Wherever safe and practical non-merchantable trees less than 17.5cm, understory deciduous trees, shrubs, and herbaceous vegetation within 5m of the stream channel will be retained. Accumulations of slash or debris that do enter streams 2 or 5 above must be cleaned out concurrent with harvesting activities.

Riparian I.D. and Class	RMA	SU	WIDTH (m)	BA or SPH Retained	Comments (Indicate if in a Community Watershed)
Stream 1, 2,3,4,5,6,7 , 8 &9 S6	MFZ		5.0		
	RMZ		20.0		

COARSE WOODY DEBRIS MANAGEMENT STRATEGY INFORMATION

This block consists of a mature stand exhibiting high levels of decay, which will contribute an amount of coarse woody debris (CWD) that meets the objective stated in FPPR section 68 (1)(a). The nature of these forests means that a high level of non-merchantable material is typically left on site. During harvesting, additional breakage of trees occurs and is often left on a site, as most is non-merchantable. This block has Carbon Stocking Standards with a target of 60 Carbon Retention Stems per ha. These trees will provide additional CWD over time. Where site occupancy and fire hazard are not significant concerns, BCTS will attempt to avoid practices such as piling and burning (except for landings and roadside), and will not conduct broadcast burning within the FSP area. The block is located in an area that may allow economic utilization of some of this residual volume. To maximize the likelihood of this occurring, non-merchantable logs at roadside will be decked and only limbs, tops and logs unsuitable for pellets piled. Even with the removal of roadside residual volumes these actions will maintain high amounts of CWD on blocks following harvest, providing essential habitat for those organisms that are dependent on CWD. Block Target (%): Coarse Woody Debris (m3/ha):

Performance Std. (%):

DEFINITIONS

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2013 02 20	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
RICO JORIMANN	
DATE SIGNED	
2013/02/20	
I certify I personally completed the work described herein.	

SILVICULTURE PLAN

ORIGINAL

																		ORIGINAL	
	LICENCE #	2	СР		BLOCK		UE	31	OPEN NUM				FDU		LOCATIC	N	LATITUDE / LONGITUDE		
	A90581		-	Т	Esw049		BI3	FE	1031	079-			T Fiddler		10 km Fidd Mainlin		54 46 30 / 128 17 36		
ECOL	OGICAL I	INFOR	MAT	ΓΙΟΝ															
SU	Ecology Unit	Area	Zo	one	Subzone	,	/ariant / Phase	Site Ser	Site Series (series - %		%) Elevation Slo Avg (m)		Slope Avg (%)	Aspect	Slope Po	osition	Rooting Depth (ci		
1	А	29.6	5 CV	NН	WS		1	01	80 04-20		4	60	30	V	Middle	Slope	80		
2	В	23.9) CV	NН	WS		1	04-60	01-30 06	-10	4	45	25	V	Lower	Slope	80		
STO	CKING RI	EQUIR	EME	INTS								I							
ASS	ESSMEN [®]	T DAT	ES																
St	Standard Unit Standards ID Reg					-	n Delay (yrs)		ow Early yrs)	Freegr	ow L	ate (yrs)						
	1			20048	79		7				20)							
	2			20048	79		7				20)							
Min/I	Max Elevat	ion Reg	gime:	370 / 52	20														
SU: 1				Μ	ATURE	LAYER													
		PREFR	ERRED	O SPECIE	S			ACCEPT	ABLE SPECI	ES			POST	SPACING I	DENSITY (sph)	MAX CONIFEROUS (sph)		
												Min							
	Species		C	haracter	ristic Foo	otnotes	-	Species		racteris	stic	Footno			WELL SF	PACEDT	REES (sph)		
Ba Hw	Amabilis Western	Hemlo		=12.5 cm (all)	n DBH	99 99 99	hy	a x Unknov vbrid Spruc vdgepole P	ce >=12	2.5 cm [(all)	ЪВН	56, 9 99	Та	arget ef/Acc	Minimu Pref/A		Minimum Pref	Min Horizontal Dist. Pref/Acc (m)	
Cw	Western R	eu Ceu	ar				- (Coastal						400	200		200	0	
																	•	elative to ition (%)	
50.	Dullia fa						1 + 200/				~ ***					il		150	
															to leader w acceptable t				
SU: 1				[POLE LA	YER													
		PREFR	ERRED) SPECIE	S			ACCEPT	ABLE SPECI	ES			POST	SPACING I	DENSITY (sph)	MAX CONIFE	ROUS (sph)	
													Min		Max				
	Species	S	C	haracter	ristic Fo	otnotes	5	Species	Cha	racteris	stic	Footno	tes		WELL SP	PACED T	REES (sph)		
Ba Hw Cw	Amabilis Western Western R	Fir Hemlo		=7.5 to cm DBH		99 99 99	hy Plc Lo	a x Unknov brid Sprud dgepole P Coastal	wn ce >=7	.5 to 12 m DBH	2.4	56, 9 99	Та	arget ef/Acc	Minimu Pref/Ad		Minimum Pref	Min Horizontal Dist. Pref/Acc (m)	
							-(500	300		250	2.0	
																	0	elative to ition (%)	
															150				
															to leader w cceptable t				
SU: 1				SA	PLING	LAYER													
		PREFR	ERREF) SPECIE	S			ACCEPTABLE SPECIES				POST	POST SPACING DENSITY (sph) MAX CONIFE			ROUS (sph)			
				_0.2									Min		Max			····/	
	Species	s	C	haracter	ristic Fo	otnote		Species	Cha	racteri	stic	Footno				PACED T	REES (sph)		
	opecie.			aracter	.500 10	Strifte.		-pecies									\op/		

Ва	Amabilis Fir		99	Sxs Sitka x Unknown		56, <mark>99</mark>				Min Horizontal
Hw	Western Hemlock	>=1.3 m height	99	hybrid Spruce	>=1.3 m height		Target	Minimum	Minimum	Dist. Pref/Acc
Cw	Western Red Cedar	to 7.4 cm DBH	99	Act Black Cottonwood	to 7.4 cm DBH	99	Pref/Acc	Pref/Acc	Pref	(m)
		(all)			(all)		700	400	300	2.0
									•	Relative to
									Compe	tition (%)
										150
				to <20% well-spaced an						
				ms can contribute a ma	ximum of 200 ster	ns per ha of	preferred and a	cceptable trees		
SU:	1	REGENERA	TION LAY	ER						
	PREFRER	RED SPECIES		ACCEPTABLE	SPECIES		POST SPACING E	DENSITY (sph)	MAX CONIFE	ROUS (sph)
							Min	Max		
	Species	Characteristic	Footnotes	Species	Characteristic	Footnotes		WELL SPACED	D TREES (sph)	
Ва	Amabilis Fir		99	Sxs Sitka x Unknown		56, <mark>99</mark>				Min Horizontal
Hw	Western Hemlock	<1.3 m height	99	hybrid Spruce	<1.3 m height		Target	Minimum	Minimum	Dist. Pref/Acc
Cw	Western Red Cedar	(all)	99	Plc Lodgepole Pine - Coastal	(all)	99	Pref/Acc	Pref/Acc	Pref	(m)
				oodotai			900	500	400	2.0
									0	Relative to tition (%)
									Compe	150
										150
				to <20% well-spaced an ms can contribute a ma:						
5.	. carbon stocking sta				Annum of 200 Ster					
SU:	2	MATU	RE LAYER							
	PREFRER	RED SPECIES		ACCEPTABLE	SPECIES	1	POST SPACING E		MAX CONIFE	ROUS (spn)
							Min	Max		
	Species	Characteristic	Footnotes	Species	Characteristic	Footnotes		WELL SPACED	D TREES (sph)	
Ва	Amabilis Fir	12 5 0011	99	Sxs Sitka x Unknown		56, <mark>99</mark>				Min Horizontal
Hw	Western Hemlock	>=12.5 cm DBH (all)	99 99	hybrid Spruce Act Black Cottonwood	>=12.5 cm DBH (all)	99	Target	Minimum	Minimum	Dist. Pref/Acc (m)
Cw	Western Red Cedar	(all)			(any		Pref/Acc 400	Pref/Acc 200	Pref 200	0
							400	200		Relative to
										tition (%)
										150
				to <20% well-spaced an						
_				ms can contribute a ma	ximum of 200 ster	ns per ha of	preferred and a	cceptable trees		
SU:	2	POLE	LAYER							
	PREFRER	RED SPECIES		ACCEPTABLE	SPECIES		POST SPACING	DENSITY (sph)	MAX CONIFE	ROUS (sph)
							Min	Max		,
		.	-							
D.a.	Species Amabilis Fir	Characteristic	Footnotes 99	Species Sxs Sitka x Unknown	Characteristic	Footnotes		WELL SPACED	J TREES (spn)	Min Horizontal
Ва		>=7.5 to 12.4	99	hybrid Spruce	>=7.5 to 12.4	56, <mark>99</mark>	T			Dist. Pref/Acc
Hw	Western Hemlock Western Red Cedar	cm DBH (all)	99	Plc Lodgepole Pine	cm DBH (all)	99	Target Pref/Acc	Minimum Pref/Acc	Minimum Pref	(m)
Cw	western keu ceuar			- Coastal	. ,		500	300	250	2.0
									Height F	Relative to
									Compe	tition (%)
										150
56	5: Bulkley forest distric	ct - spruce conter	t restricted	to <20% well-spaced an	d free growing tre	es on a stan	dards unit due t	to leader weevil		
_	<u> </u>	ndard, Carbon Re	tention Ster	ms can contribute a ma	ximum of 200 ster	ns per ha of	preferred and a	cceptable trees		
SU:	2	SAPLIN	IG LAYER							
—										
	PREFRER	RED SPECIES		ACCEPTABLE	SPECIES		POST SPACING D	DENSITY (sph)	MAX CONIFE	ROUS (sph)
	PREFRER	RED SPECIES		ACCEPTABLE	SPECIES		-		MAX CONIFE	ROUS (sph)
	PREFRER	RED SPECIES Characteristic	F	ACCEPTABLE Species	SPECIES Characteristic	Footnotes	POST SPACING E	DENSITY (sph) Max WELL SPACEE		ROUS (sph)

Ba Amabilis Fir Hw Western Hemlock	>=1.3 m height to 7.4 cm DBH		Sxs Sitka x Unknown hybrid Spruce Act Black Cottonwood	>=1.3 m height to 7.4 cm DBH	56, 99 99	Target	Minimum	Minimum	Min Horizontal Dist. Pref/Acc (m)
Cw Western Red Cedar	(all)	33		(all)	33	Pref/Acc 700	Pref/Acc 400	Pref 300	2.0
						700	400	Height F	2.0 Relative to tition (%) 150
56: Bulkley forest distrie 99: Carbon Stocking Sta	•								
SU: 2	REGENERA	ATION LAY	′ER						
PREFRER	RED SPECIES		ACCEPTABLE	SPECIES		POST SPACING	DENSITY (sph)	MAX CONIFE	ROUS (sph)
						Min	Max		
Species	Characteristic	Footnotes	Species	Characteristic	Footnotes	-	WELL SPACED	D TREES (sph)	
Ba Amabilis Fir Hw Western Hemlock Cw Western Red Cedar	(all)	99 99 99	Sxs Sitka x Unknown hybrid Spruce Act Black Cottonwood	<1.3 m height (all)	56, 99 99	Target Pref/Acc	Minimum Pref/Acc	Minimum Pref	Min Horizontal Dist. Pref/Acc (m)
						900	500	400	2.0
								U	Relative to tition (%)
									150
56: Bulkley forest district 99: Carbon Stocking Sta									
OTHER REQUIRED ST	OCKING INFO	RMATION	1						

ACTIVITIES

SILVICULTURE ACTIVITY COMMENTS	
ACTIVITY	COMMENT
Brushing	Establishment brushing is not expected to be required on Standards 1. Portions of Standards Unit 2 may require establishment brushing if fill planting is required. The anticipated brush complex is fireweed and mixed fern. Deciduous removal brushing is not expected to be required on this block.
Site Preparation	Mechanical site preparation is not expected to be required for this block provided acceptable harvesting practices are followed.
Planting	This block has two standards units both of which are complexes. Standards Unit 1 is dominated by the 01 site series and Standards Unit 2 is dominated by the 04 site series. Both Standards Units have a significant amount of advanced regeneration and have good chances for achieving natural regeneration, however both standards units are also likely to have high brush competition and if stocking is not achieved fill plants will likely require establishment brushing. In addition, the small size of the planned harvest openings combined with Carbon Retention Stems means that significant portions of the harvested openings are potentially exposed to Hw mistletoe from the surrounding stand. The preferred reforestation method is planting at H+1 or H+2 with resistant species. Suggested species mix is 60%Ba, 20%Cw and 20%Sxs. Suitable stock would be PSB410 1+0 or bigger planted to a target of 1000 stems per ha away from the driplines of layer 1, 2 and 3 trees.
Surveys	Walkthrus should be conducted on Standards Unit 2 at H+1 and H+2 to assess brush and conifer regeneration. A regeneration delay/brushing survey should be conducted at H+3 on Standards Unit 1 and 2. This survey should make recommendations on the need for fill planting, brushing and the need for any additional treatments including additional surveys. A Free Growing survey should be scheduled for both Standards Units at H+11 unless the regeneration delay survey recommends rescheduling the survey.

COARSE WOODY DEBRIS MANAGEMENT STRATEGY INFORMATION

This block consists of a mature stand exhibiting high levels of decay, which will contribute an amount of coarse woody debris (CWD) that meets the objective stated in FPPR section 68 (1)(a). The nature of these forests means that a high level of non-merchantable material is typically left on site. During harvesting, additional breakage of trees occurs and is often left on a site, as most is non-merchantable. This block has Carbon Stocking Standards with a target of 60 Carbon Retention Stems per ha. These trees will provide additional CWD over time. Where site occupancy and fire hazard are not significant concerns, BCTS will attempt to avoid practices such as piling and burning (except for landings and roadside), and will not conduct broadcast burning within the FSP area. The block is located in an area that may allow economic utilization of some of this residual volume. To maximize the likelihood of this occurring, non-merchantable logs at roadside will be decked and only limbs, tops and logs unsuitable for pellets piled. Even with the removal of roadside residual volumes these actions will maintain high amounts of CWD on blocks following harvest, providing essential habitat for those organisms that are dependent on CWD.

Performance Std. (%):

Block Target (%):

Coarse Woody Debris (m3/ha):

Amendment number	Date Typed (Yr Mo Dy)	Maj	o Required?	
ORIGINAL	2013 02 20	YES		
RPF PRINTED NAME		RPF'S SIG	NATURE and SEAL	
RICO	JORIMANN			
DAT	E SIGNED			
20:	2013/02/20			
I certify I personally completed the work described herein.				



BC Timber Sales' site plan for TEsw049: revised to demonstrate Group Selection with carbon Objective Set by Government



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REVISED FROM ORIGINAL (Original SP date: 2013/02/20)

Skee	ena	Т	ENURE IDENTIFI	CATION			
LICENCE #	СР	BLOCK	UBI	OPENING NUMBER	FDU	LOCATION	LATITUDE / LONGITUDE
A90581	-	TEsw049	BI3FE	1031079-	T Fiddler	10 km Fiddler Mainline	54 46 30 / 128 17 36

AREA UNDER THE PLAN

GROSS AREA (TAUP)	PAS	NP	WTRA / WTP	RESERVES	OTHER	NAR
63.2	3.1	1.5	5.5	0.0	0.0	53.1

ADDITIONAL COMMENTS

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 Acces Structures (%)
1	5.0		25.0	7.0
2	5.0			
SU	CRITICAL SITE CONDITIONS THAT AFFEC	T THE TIMING OF OPERATIONS, AND HO	OW THEY AFFECT THE TIMING	
1	The 04 sites within this Standards Unit a based harvesting should be restricted to snow layer. The tenure holder has elect for management of a suite of other reso	o the dry summer period or to the winte ed to utilize a group selection harvest sy	er period when the ground is frozen a	nd/or protected by a compressible

RESULTS AND STRATEGIES

Biodiversity Objectives	
Result or Strategy Description	 A1-TSK-KA-02S For roads that fall under BCTS' responsibility (i.e. covered by Forest Service Road, or Timber Sale Licence), BCTS will: 1a) Perform a risk assessment to determine and document an inspection frequency. Road maintenance inspections will be completed in accordance with the results of the assessment, or 1b) If a risk assessment has not been completed, a minimum inspection* frequency of once per year will apply, and, 1c) A road inspection under snow-free conditions will be conducted 2) Actions for addressing items that are identified through road inspections, based on priorities set by BCTS, will be undertaken that reflect the results of the inspections. * Inspections may be carried out by personnel appointed by BCTS, or by the TSL Holder
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The Licensee will regularly inspect, document, and prioritize for action roads that will be inactive for more than nine months. As a minimum, inactive roads will be checked annually (once per calendar year), under snow-free conditions.
Result or Strategy Description	 A1-TSK-KA-21R On blocks where layout activities have not yet started**, wildlife tree retention for a harvest unit* is consistent with Table 6 of the Kalum Sustainable Resource Management Plan (April 2006) a) Where a BEC subzone that exists within a Landscape Unit (LU) is not identified for that LU in Table 6, the closest similar BEC classification identified for that LU will be used for the purposes of this result. 2) Wildlife tree retention on blocks where layout activities have started will conform to the approved FDP in effect immediately prior to approval of the FSP * Harvest unit: as defined in the Kalum SRMP (April 2006)

	** As listed in Table B7 of Appendix B to this FSP
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	TEsw049 is located within the Skeena River Kalum Landscape Unit. Although the majority of the block will not be impacted by harvesting, 8.8% of the cutblock area has been designated as WTRA which exceeds the minimum wildlife tree retention requirements of 5% (CWH) for the Skeena River Kalum Landscape Unit listed in Table 6 of the Kalum SRMP. The extra WTRA over the 5% target contributes to biodiversity and wildlife objectives as well as to Carbon Objectives and represents XXX tCOse of additional carbon storage at 2030 and 2050. In addition, 100 stems per ha of Carbon Retention Stems will be retained scattered across the area to harvest of the block. These trees represent XXX tCOse of additional carbon storage at 2030 and 2050. The Carbon Retention Stems also contribute to biodiversity and wildlife objectives. In addition, snags will be assessed for safety and where safe and practicable left standing. In addition, snags will be assessed for safety and where safe and practicable left standing. <i>Comments:</i> <i>Carbon Retention Stocking Standards may require sympathetic administration of Danger Tree regulations in some regions.</i> At a block level assessing all snags will be costly. Some form of incentive would be required to ensure buy-in from Licencees. <i>Similar stands to this have shown that less than 50% of snags in tree class 3 to 7 will be assessed as safe for level 3</i> disturbance as defined in the Wildlife/Danger Tree Assessor's Course Workbook (2017). A portion of these trees would also be in locations where they obstruct the flow of wood to roadside and must be removed for operational efficiencies. Snags are important wildlife and biodiversity and some research has suggested standing snags have slower decomposition rates than snags that are on the ground (Lewis and Harley, 2005). Actions with a carbon benefit, such as additional WTRA area and Carbon Retention Stems, could be quantified in the Site Plan. A guidance document for reporting carbon numbers should be developed to aid tracking of carbon initiatives.
Result or Strategy Description	A1-TSK-KA-35R No forest harvesting by the FSP Holder of old seral stage forest within the Old Growth Management Areas (OGMAs)* other than for insect or disease control measures that are necessary to mitigate severe damage to the habitat attributes in the OGMAs, or other forest values in the landscape, or in accordance with strategy TSK-KA-36 * As shown on the FSP maps, which correspond to the OGMAs shown on Map 4 of the Kalum SRMP (April 2006).
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not within an OGMA.
Result or Strategy Description	 A1-TSK-KA-36S Allow up to 10 hectares or 10% of an individual Old Growth Management Area (OGMA) *, whichever is less, to be disturbed for one or more of the following purposes: allowing road development where no practicable alternative exist; to better reflect physical features that were intended to form the actual boundaries of the OGMA; to improve harvest boundary alignment in a way that will contribute to the maintenance of the OGMA; to address a compelling forest health issue; or, to shift the location of the contiguous area of the OGMA to improve the retention of old forest attributes as identified through field assessment. Any planned alteration of spatially defined OGMAs that does not meet the criteria in (1) above will be forwarded to the Agency responsible for the Kalum SRMP. A summary will be provided to the District Manager describing the reason for the disturbance of the OGMA, and identifying an alternative OGMA(s) within the same BEC variant within a landscape unit, provided the alternative OGMA: is of equal or greater extent in total than the area to be disturbed; and, will result in equal or greater retention of key old forest attributes that are understood to be important for biodiversity conservation. * As shown on the FSP maps, which correspond to the OGMAs shown on Map 4 of the Kalum SRMP.
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not within an OGMA.

Result or Strategy Description	 A1-TSK-KA-37R Within the Skeena Islands Area**: On areas harvested or authorized by BCTS under this FSP: Harvest operations will be in accordance with guidance mutually agreed between representatives of BCTS and the MoE***, or Harvest operations will be conducted as follows: For forest types* identified as "High" conservation value**, no harvesting will occur, other than for road construction necessary to access other areas. For forest types* identified as "Medium" conservation value**, harvesting will be for deciduous trees only (other than incidental harvest of coniferous trees for road construction or safety purposes), employing small-patch harvesting (openings less than 5 ha). At least 70% of the area will be maintained at a mid-seral (or older) stage, and at least 30% of the areas will be at a mature or older seral stage. For forest types* identified as "Low" conservation value**, at least 30% of the area will be maintained at a mid-seral (or older) stage. * Forest types are limited to CWHws1/07; CWHws1/08; CWHvm1/09; CWHvm1/10. ** As shown on the FSP maps. This information corresponds to the map provided with the Kalum SRMP (April 2006)
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not within the Skeena Islands.
Result or Strategy Description	A1-TSK-KA-38R No harvesting or road construction within the uncommon reticulated fens in the Miligit Creek Sensitive Area* * As shown on the FSP maps
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not within the Miligit Creek Sensitive Area.
Cultural Heritage Resources	
Result or Strategy Description	 A1-TSK-KA-27S Where site specific cultural heritage resource information for an area in a Forest Development Unit is not available, BCTS will make use of the Archaeological Overview Assessments for the Kalum TSA, TFL 41, and TFL 1: a) Any blocks within a "High" archaeological potential polygon will have an Archaeological Impact Assessment (AIA) done before harvesting commences. For any potential cultural heritage resource sites identified by operational personnel (e.g. layout, road construction, or harvesting crews) which were not previously identified through cultural heritage resource information sharing as described in TSK-KA-26, and for which a process or policy that describes how to deal with that cultural heritage resource is not in place or has not been shared with the appropriate First Nation(s): a) A BCTS representative will be notified; b) A site visit will be conducted to determine the need for mitigative measures or for a Preliminary Field Reconnaissance or Archaeological Impact Assessment to be done Any new cultural heritage resource information resulting from item (2) above will be shared with the appropriate First Nation(s) in accordance with item (5) below. Any new cultural heritage resource feature is discovered before a cutting authority is issued, at or before Timber Sale Licence issuance. Where a cultural heritage resource feature is discovered after a cutting authority is issued, the information will be shared/provided within two weeks of a BCTS representative being notified of the cultural heritage resource features' discovery.
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	 Not within a high Archaeological Overview Assessment polygon. No CMTs or areas with high subsurface potential were identified within the area to harvest by field crews. CMTs were located within WTRA#2. The Cultural Heritage Resources pre-harvest evaluation noted the potential for several travel and resource trails within the block, despite extra attention looking for possible trails on the logical travel routes no indications of any trails were noted. In the event that operational personnel (road construction and or harvesting crews) identify a potential Cultural Heritage Resource within the block. Operations will be halted so that the site is protected from damage; A BCTS representative will be notified; A site visit will be conducted to evaluate the site and determine the need for mitigation measures or for a Preliminary Field Reconnaissance or Archaeological Impact Assessment to be done. Where a CHR site is confirmed, the resulting information and mitigation measures will be provided to the Timber Sale Manager. BCTS will share resulting information with potentially affected First Nations within 2 weeks of notification of the CHR sites discovery.

 TSK-KA-26S BCTS will meet regularly with local First Nation groups that have asserted claim area within the BCTS FDUS. As a minimum, meetings must occur annually. Request from both the Ministry of Forests and Range and the First Nations the opportunity to review and discuss cultural heritage resources of continuing importance (including but not limited to traditional use information, archaeological information, and traditional use studies where they are available), ideally in conjunction with first nation representatives. Where traditional use information is made available, BCTS will hold any information received in confidence. It is only with the express written consent or direction of the holder of the Traditional Use information that BCTS will release any traditional use information to any other party (Including other First Nation groups, the Government of BC, or the BC Ministry of Forests and Range). BCTS will review with respective First Nations the areas where forest development operations are planned, with the intent of describing and addressing the concerns of both parties. Specifically: Determine areas of concern that may result from forest management activities when compared with First Nation interests or activities, or that may occur between First Nations groups as a result of different forest management approaches. Attempt to resolve any conflicts through consensus. BCTS will prepare a short summary indicating whether there were any issues and how they were resolved. If conflicts cannot be resolved, BC Timber Sales Will prepare a summary of the concerns and how BCTS has attempted to address the concerns. Summaries* of this process will be provided to the Skeena Business Area Timber Sales Manager (TSM), and copied to the First Nation representative. In the unlikely event that meetings have not occurred, documentation of the efforts made to meet and/or review information with First Nations will be provided to the TSM by B
YES
BCTS consultation and information sharing for TEsw049 is consistent with strategy TSK-KA-26 in the BCTS-Kalum Forest Stewardship Plan Extension 2011-2016 as reviewed by Gail Campbell, RPF on January 7, 2013. Potential concerns raised include: Block level: Gitxsan: No block specific interests have been communicated to BCTS Kitselas: No block specific interests have been communicated to BCTS General/Landscape Level: Gitxsan: Management of large diameter cedar trees; cedar conservation; management of cultural heritage resources Kitselas: Salmon habitat; management of cultural heritage resources
 TSK-KA-28S For any block with Cedar or Cypress, removal of Cedar or Cypress from retention areas (including WTPs or Riparian Management Zones* (RMZs) for cultural purposes occurs as follows: No more than 5% of the co-dominant/ dominant stems within a WTP are removed, with no more than 10% of the stems within a given hectare, unless the Site Plan describes how the WTP is able to retain its function; and Removal of co-dominant/ dominant stems from within an RMZ area must be consistent with the RMZ retention described in result TSK-KA-17, unless the Site Plan describes how the RMZ is able to retain its function; and When from within an area within an active cutting authority that is held by BCTS or one of its licensees, removal is authorized through a letter of agreement between a First Nation Council and BCTS, with a copy to the District Manager of the Kalum Forest District * Removal of stems from within Riparian Reserve Zones will be as per the Forest Planning and Practices Regulation - currently, removal for cultural purposes is not an allowed activity within RRZs.
YES
No more than 5% of the co-dominant/ dominant stems within a WTP are allowed to be removed, with no more than 10% of the stems being removed from within a given hectare. Removal must be authorized through a letter of agreement between a First Nation Council and BCTS, with a copy to the District Manager of the Kalum Forest District.
A1-TSK-KA-AAS During the period of this FSP the TSM will undertake to comply with sections 35 and 36 of the FPPR. The TSM will notify each holder of a timber sale license or road permit to which the plan relates that FPPR sections 35 and 36 apply to the holder's primary forest activities carried out during the term of the plan.
YES
This Site Plan is consistent with section 35 (Soil Disturbance Limits) and section 36 (Permanent Access Structure Limits) of the FPPR. All holders of a Timber Sale or Road Permit to which the plan relates are hereby notified that FPPR sections 35 and 36 apply to the holder's primary forest activities carried out during the term of the plan. Result A1-TSK-KA-AAS applies as described in the Soil Disturbance table on page 1 of this Site Plan. Comments: Reducing Site Degradation has potential carbon benefits. Some research indicates that the rate of carbon decomposition may be increased for forest floor that is buried (i.e. like areas of site preparation or site degradation). The rate of carbon decomposition decomposition is unlikely to be increased by more than 1% on a block level but site degradation also potentially impacts carbon by reducing the productivity of the site (reducing the sites ability to sequester carbon).

Result or Strategy Description	A1-TSK-KA-ABS During the period of this FSP, roads that are not required for silviculture or access to additional harvesting opportunities and are practicable to rehabilitate will be rehabilitated and reforested to the appropriate stocking standard. <u>Comments:</u> <u>Successful uptake of this strategy will require changes to the appraisal system to allow road rehabilitation as an allowable cost or for an agency such as FESBC to fund road rehabilitation.</u>
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	All roads are required for future harvesting opportunities and will not be rehabilitated.
Recreation Resources	
Result or Strategy Description	TSK-KA-29R On these established Recreation Trails or Sites with established objectives: Big Cedar Recreation Trail Bonney Lake Portage Recreational Trails Clearwater Lakes Recreation Site Hai Lake Recreation Trail Marcon Mountain Recreation Trail Onion Lake Recreation Trail Robinson Ridge Recreation Trail Robinson Ridge Recreation Trail Sterling Mountain Recreation Trail Thornhill Mountain Recreation Trail Thornhill Mountain Recreation Trail No disturbance by harvesting, road construction, or silviculture activities to natural vegetation within 10 m of trail centerline other than for a required crossing. Development activities that occur within 50 m either side of trail centerline will only occur after the planned activity has been referred to the Ministry responsible for the trail. Timber Sale Licence, Road Permit, or Forest Service Road submission indicates that development is within 50 m of the trail and describes the results of the referral to the Ministry responsible for the trail. A crossing of the trail is permitted if the crossing is required to access productive forest land that would otherwise be isolated. The trail location is re-established if the crossing disturbs it. Alternatively, the trai
Applies:	A trail crossing is deactivated once it is no longer required. NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not near an established Recreation Trail or Site.
Result or Strategy Description	 TSK-KA-30R On these established Recreation Sites with established objectives: Bonney Lake Recreation Site Clearwater Lakes Recreation Site Deception Lake Recreation Site Glory Hole Recreation Site Jigsaw Lake Recreation Site Jigsaw Lake Recreation Site Pine Lake Recreation Site Red Sand Lake Interpretive Forest Site West Lake Recreation Site West Lake Recreation Site No disturbance* to areas within 10 m of lake shorelines, river-, stream-, or creek-banks, or marine foreshore. (This only applies to sites where an RRZ is not in existence). The remainder of the area within the recreation sites will be reserved from disturbance other than where BCTS and the Kalum District Manager agree the disturbance will be for the improvement of the recreation experience, or where action or access is required to prevent or address potential losses due to fire, wind, or forest health factors. * from activities related to BCTS' road construction, harvesting or silviculture activities
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not near an established Recreation Site.
Result or Strategy Description	TSK-KA-33R On all established recreation sites or trails with established objectives (excepting Deception Lake, which has had access cut-off): At least four-wheel drive status is maintained for roads under the control of BCTS that are the only access to the trail or site.
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not near an established Recreation Trail or Site.

Riparian Management	
Result or Strategy Description	 A1-TSK-KA-17R 1) On all streams*, wetlands* and lakes* within or directly adjacent to blocks where layout activities have started prior to January 1, 2008**, the provisions of FPPR s. 47, 48, 49, 50, and 51 will apply, as they were at the time layout commenced. 2) On streams, wetlands and lakes identified in (4) below: for those blocks where layout activities start after January 1, 2008, maintain the forest in a hydroriparian zone i* in a mature or old state, and a) the width of the hydroriparian zone in any one location may be increased or decreased by up to 0.5 tree heights to address site specific value b) Roads are only located in the hydroriparian zone if i) The road is necessary to access timber beyond the hydroriparian zone that otherwise would be isolated from harvest, ii) Terrain conditions such as slope, gradient or terrain stability constrain road locations and dictate that sections of orad enter and leave "red listed" plant communities to access timber that otherwise would be isolated from harvest, iii) The area is being accessed for mineral development, or iv) N/ N/ practicable alternative exists 3) On streams, wetlands and lakes other than those identified in (4) below: for those blocks where layout activities start after January 1, 2008, a) Riparian management areas, riparian reserve zones, and riparian management zones (RMZ) will be as described in FPPR s. 47, 48, and 49, and the provisions of FPPR s. 50, and 51 will apply, as they were at the time layout commenced. b) retain an amount of basal area within the RMZ as follows: i) On S4 and S5 streams, retain a minimum of 20% of the basal area of the RMZ. ii) On S4 and S5 streams, retain a a minimum of 10% of the basal area of the RMZ. ii) On S4 and S5 streams, netain a reterion is necessary. iv) On all Wetlands and lakes, a minimum of 10% of the basal area of the RMZ. ii) that have mo
Applies:	established, as per the established SRMP. YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The block retains greater than the minimum 0% of the basal area in the Riparian Management Zone for the S6 streams within the block, several stream reaches are protected within WTRAs. The planned group selection silviculture system will result in significant basal area retention within the Riparian Management Zones of all streams.
Timber Objectives	
Result or Strategy Description	 TSK-KA-03R Harvested blocks are reforested to at least the minimum stocking with the species identified in the stocking standards that apply to this FSP; and meet the regeneration delay, free growing heights, and free growing dates as described in the stocking standards that apply to this FSP
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Stocking standards will be consistent with the approved FSP. Stocking Standard ID#. SU1 - 2004723; SU2 – 2004726. These are Carbon Stocking Standards as noted in the FSP.

Carbon Objectives	6.1 The objectives set by government for carbon are, without unduly reducing the supply of timber from British Columbia's
	forests, to (a) enhance carbon retention or sequestration on British Columbia's forests, and (b) develop, promote, or take advantage of opportunities for utilization of cut trees into products that provide carbon retention, sequestration or substitution benefits.
Result or Strategy Description	TSK-KA-AC(R) For each cutblock harvested within the FSP Holder's Forest Development Unit by the FSP Holder or its contractors, the FSP Holder will offer fibre that does not meet current utilization levels to local consumers of fibre. This offer will occur prior to the FSP Holder scheduling the fibre for disposal. (For the purposes of this Result, "local" means within XX hours haul time from the cutblock.)
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	This block is expected to result in significant logs and woody material that do not meet current utilization levels and under previous management regimes would have been left on site. This material has been offered for sale to the local pellet mill. No agreement to sell this material has been reached at this point, the block is approximately 45km from the facility and cycle time would be 2.9 hours. In anticipation of utilizing residual materials, non-merchantable logs will be decked roadside and only limbs, tops and material unsuitable for pellets will be piled. <u>Comments:</u> The block is on the edge of where it would be economical to transport material to a biofuel/pellet facility. Programs to encourage utilization of this material by subsidizing transportation of residuals to facilities will expand the area where it is economic to utilized residual materials.
Result or Strategy Description	TSK-KA-AD(S) When developing a cutblock, stems that are known to have limited timber value may be retained for carbon storage purposes. Carbon Retention Stems are to be preferentially located in WTRAs, in RMAs, in visual retention areas, and where safe to do so, may be dispersed throughout the stand. Site Plans will describe Carbon Retention Stem characteristics.
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	 Information attached to this site plan will describe Carbon Retention Stem characteristics and location Stocking standards in the approved FSP include criteria for carbon retention and will be adhered to. Stocking Standard ID#. SU1 - 2004723; SU2 - 2004726. The prescription calls for 100 stems per ha of Carbon Retention Stems across the area to harvest. A range of 50 to 150 Carbon Retention Stems is considered acceptable. Retention of 100 Carbon Retention Stems per ha on the area to be harvested will result in approximately XXX tCO₂e of additional carbon storage at 2030 and 2050.
Visual Objectives	
Result or Strategy Description	 A1-TSK-KA-23S A visual impact assessment (VIA) will be carried out and attached or referred to in the Site Plan for blocks that are located within known scenic areas and that are identified with a Visual Quality Objective (VQO) of Preservation (P), Retention (R), Partial Retention (PR), or Modification (M), or a Visual Sensitivity Class (VSC) of 1, 2, 3, or 4. Visual Sensitivity Class will be treated as having VQOs as follows: VSC 1 = Retention VSC 2 = Partial Retention VSC 2 = Partial Retention VSC 5 = Maximum Modification Stee visual impact assessment will review the visual landscape from selected viewpoints (see below for viewpoint selection and criteria) describe how the visual design is consistent with the VQO. The visual impact as follows: a) As shown on the FSP maps (as amended from time to time), or if no viewpoints area identified on the FSP maps, through selection of points in the field that meet the viewpoint criteria* * Viewpoint criteria: for a visual landscape, a viewpoint must be: a) At a point along a travel corridor that allows for an extended viewing experience**, or a) At a place that persons can stop for an extended viewing experience***
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	A VIA was completed by Rick Brouwer of Northwest Timberlands on Nov.22, 2012 titled, 'Visual Impact Assessment for Blocks laid out under Contract SD13TIF200: Skeena West - Fiddler Creek Area: Blocks TEsw022, TEsw025, TEsw030, TEsw049, and TEsw050,' the VIA showed the block was consistent with the Visual Quality Objective for the area. The choice of a group selection silviculture system means the block is very difficult to see from the selected viewpoints.

Water Management Objectives	
Result or Strategy Description	 A1-TSK-KA-18R Within Identified Watersheds* where ECA thresholds*** have been established: before harvesting commences within an Identified Watershed under authority of this FSP: Clear-cut equivalency is calculated** for the Identified Watershed as a whole, and for individual sub-basins larger than 250 ha; or An assessment** is conducted, and if a) the threshold for clear-cut equivalency that is determined as appropriate as a measure of maintenance of natural flow regimes is more than the ECA threshold for the Identified Watershed, then that threshold is used in 3) below b) a threshold for a parameter different from clear-cut equivalency is determined to be more appropriate as a measure of maintenance of natural flow regimes, then that parameter and threshold is used in 3) below then 3) If there is a parameter and/or threshold that qualifies as described in 2(a) or 2(b) above, then that parameter and/or threshold will be used for the Identified Watershed instead, and the sub-basin size identified in 3. above will not necessarily apply.
	 * Identified watersheds are: Community watersheds as shown on the FSP maps. Community Watersheds that are within BCTS FDUs are Carlotta (Rosswood/ Clear) Creek; Deep Creek; Drake Creek; Eneeksagilaguaw Creek; (Kleanza) Singlehurst Creek; Skovens (Usk) Creek; Spring Creek; and Virginia Brook Watersheds within the Nass FDU that are identified as having ECA limits through a legally established objective ** Consistent with the Watershed Assessment Guidebook (2nd Ed, version 2.1 April 1999), or with another process determined to be acceptable by a qualified professional *** ECA Thresholds are as follows: For Community Watersheds: for sub-basins larger than 250 ha, 20%; for sub-basins smaller than 250 ha, the threshold may exceed 20% only if the overall clear-cut equivalency for the community watershed basin is less than 20% For non-community watersheds identified in the Nass FDU: as per ECA limits described in a legally established objective.
Applies:	NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	Not within an Identified Watershed.
Wildlife Objectives	
Result or Strategy Description	 A1-TSK-KA-07R For harvested blocks i) within Grizzly Bear Watershed Units*, or i) outside of Grizzly Bear Watershed Units* but within Moose Ungulate Winter Range*, where a site plan identifies that this result is necessary to provide for or conserve Moose Winter Range habitat, the stocking and inter-tree spacing requirements for the site associations described in Table A2 of Appendix A (as discussed in Section 3.2 of this FSP) are met when free-growing is declared. * As shown on the FSP maps
Applies:	YES
How Result or Strategy Applies to the Site (or Rationale if it does not apply)	TEsw049 is not located within Moose Ungulate Winter Range. It is located within the Little Oliver-Skeena River East Grizzly Bear Identified Watershed (GBIW). The block does not contain a significant amount of identifiable and stratifiable Grizzly site series (06/11 ecosystems). Wildlife stocking standards will not apply.
Result or Strategy Description	 A1-TSK-KA-14S 1) Areas harvested or authorised by BCTS will be of a size and distribution that emulates the historical temporal and spatial distribution of the Natural Disturbance Types (NDTs) for the forests within the FSP area. 2) Development within an FDU will move towards the patch size and seral stage distribution targets that are in place for NDTs, and will be calculated separately for each LU that overlaps the FDU, in accordance with items 3 and 4 below. 3) Temporal: Conduct Seral stage analysis by LU and natural disturbance type a) Determine proportional representation of the LUs within the BCTS FDUs b) Determine representation with respect to sensitive areas c) Determine need for actions to address seral stage imbalances, based on the applicable land use objective(s)* d) If necessary, prepare action plan(s) and implement 4) Spatial: Analyse patch size distribution by LU and natural disturbance type a) Determine proportional representation of existing patch sizes within the BCTS FDUs b) Determine proportional representation of existing patch sizes within the BCTS FDUs b) Determine proportional representation of existing patch sizes within the BCTS FDUs b) Determine target patch size distribution for the BCTS FDU c) Determine need for actions to address patch size imbalances, based on the applicable land use objective(s)* d) If necessary, prepare action plan(s) and implement e) Prepare a summary of the allowable patch size distribution. * In the Terrace, Kitimat Valley and Douglas Gardner FDUs, the applicable land use objective is the Kalum SRMP (April
	2006). In the Nass and Kowesas FDUs, the applicable land use objective is the Old Growth Order (June 2004), unless superseded by a new land use objective.

	How Result or Strategy Applies to the Site (or Rationale if it does not apply)	The group selection silviculture system within the planned harvest area means that this block does not impact the historical and spatial distribution of the NDTs for the forests within the FSP area.
1) The tises of harvest openings under this FSP are within the limitations a decombed in an allowable patch size distribution. 2) If there are areast that are outside of traget "levels for temporal and spatial distribution. 3) Starting 10207, by Addia Of each year are port summaring the changes in the serial and patch distribution in those areas is provided to the Distribution the serial and patch distribution. 4) Starting 10207, by Addia Of each year are port summaring the changes in the serial and patch distribution in those areas is provided to the Distribution. 6) Within a specified prior darget the approval of this FSP anex tactivities under the FSP are shown to be static or moving toward the target "levels for Tibes Seale Manager. * Toget levels for Indicase point, units and Special Resource Management Etones are from the Kalum SRMP, Target levels for Tibes are as determined through the Strategy TS-KA-14 Applies: YES * Toget levels for Indicase and through the Strategy TS-KA-14 Applies: YES * Toget levels for Indicase and through the Strategy TS-KA-14 Not strategy Applies to the Site (Transact within FDUs under this FSP, where Moose Ungulate Winter Range (UWR) areas have been designated through an Order under the Land Act, no further action is required. Subject to (1) Above, for areas within FDUs under this FSP, where Moose Ungulate Winter Range areas have main allowable as UWR, or (3) there are miniguider actions in the Act, no further action is required. Subject to (1) Above, for areas within FUS wither Moose Ungulate Winter Range areas have m		
Applies: No Applies: No Applies: No More Result or Strategy Applies to the Site (or Rationale if it does not apply) A1-TSK-KA-125 1 For areas within FDUs under this FSP, where Moose Ungulate Winter Range (UWR) areas have been designated through an Order under the Land Act, no further action is required. 2) Subject to (1) above, for areas within FDUs under this FSP, where Moose Ungulate Winter Range areas have not been designated through an Order under the Land Act, a) a) a) Harvesting operations within Proposed Moose UWR may occur during a period other than between May 1 and November 30 (inclusive); if: b) A qualified professional (QP) evaluates the Moose UWR and determines that (1) a) 1) A qualified professional (QP) evaluates the Moose UWR and determines that (1) a) a) 1) A qualified professional (QP) evaluates within their winter range; b) A report is prepared to a QP to indicate mitigative actions that will not unduly disturb ungulates within their winter range; b) A report is prepared to a QP to indicate mitigative actions that this prepared through an QP to indicate mitigative actions that the PPR s. 7 Notices for Moose. Applies: NO No Move Result or Strategy Applies to the Site (or Rationale if it does not apply) ArtsK-KA-13R 1) For prease within FDUs under this FSP, where Moose Ungulate Winter Range areas have n	Result or Strategy Description	 The sizes of harvest openings under this FSP are within the limitations as described in an allowable patch size distribution. If there are areas that are outside of target* levels for temporal and spatial distribution: a) Starting in 2007, by April 30 of each year a report summarizing the changes in the seral and patch distribution in those areas is provided to the District Manager. This report includes changes that have occurred in the previous year, plus projected changes (i.e. planned harvest) for at least the current year. Where this report indicates movement away from the target* levels, a rationale is provided that describes management strategies for moving towards the target* levels. b) Within a specified period after the approval of this FSP, harvest activities under this FSP are shown to be static or moving toward the target* levels for these areas. This specified period shall be five (5) years for each Landscape Unit, unless otherwise determined by mutual agreement between the BC Timber Sales Manager and the District Manager. * Target levels for Landscape Units and Special Resource Management Zones are from the Kalum SRMP; Target levels for
(or Rationale if it does not apply) historical and spatial distribution of the NDTs for the forests within the FSP area. Result or Strategy Description A1-TSK-KA-125 1 For areas within FDUs under this FSP, where Moose Ungulate Winter Range (UWR) areas have been designated through an Order under the Land Act, no further action is required. 2) Subject to (1) above, for areas within FDUs under this FSP, where Moose Ungulate Winter Range areas have not been designated through an Order under the Land Act, and a land act, and land act, and land act, and further Range order than the burse of 30 (inclusive), if: 1) A qualified professional (QP) evaluates the Moose UWR and occurring a period other than between May 1 and November 30 (inclusive), if: 1) A qualified professional (QP) evaluates the Moose UWR and occurring a period other than between May 1 and November 30 (inclusive), if: 1) A qualified professional (QP) evaluates the Moose UWR and determines that (1) and or a portion of the UWR is not suitable as UWR, or (2) the population of moose using the UWR with their winter range; 1) A report is prepared by a QP to indicate mitigative actions or a different timing for operations that will not unduly disturb ungulates within their winter range; 10 No How Result or Strategy Applies to the Site Not within Moose UWR. Result or Strategy Description A1-TSK-KA-138 1) For areas within FDUs under this FSP, where Moose Ungulate Winter Range areas have no	Applies:	YES
1) For areas within FDUs under this FSP, where Moose Ungulate Winter Range (UWR) areas have been designated through an Order under the Land Act, no further action is required. 2) Subject to (1) above, for areas within FDUs under this FSP, where Moose Ungulate Winter Range areas have not been designated through an Order under the Land Act, a) a) Harvesting operations within Proposed Moose UWR* may occur during a period other than between May 1 and November 30 (inclusive), if: a) A qualified professional (QP) evaluates the Moose UWR will not be unduly disturbed or affected by operations, or (2) the population of the UWR is not suitable as UWR, or (3) there are mitigative actions that an be taken to ensure that operations that will not unduly disturb ungulates within their winter range; (ii) A report is prepared by a QP to indicate mitigative actions or a different timing for operations that will not unduly disturb ungulates within their winter range; (ii) A report is prepared by a QP to indicate mitigative actions or a different timing for operations that will not unduly disturb ungulates within their winter range; (ii) A report is prepared by a QP to indicate mitigative actions or a different timing for operations. Applies: NO How Result or Strategy Applies to the Site (No (or Rationale if it does not apply) A1-TSK-KA-13R () For areas within FDUs under this FSP, where Moose Ungulate Winter Range (UWR) areas have been designated through an Order under the Land Act, no further action is required. (2) Subject to (1) above, for areas within FDUs under this FSP, where Moose Ungulate Winter Range areas have not been designated through an Order under the Land Act, harvesting operations within Proposed Moose Ungulate Winter R		
How Result or Strategy Applies to the Site (or Rationale if it does not apply) Not within Moose UWR. Result or Strategy Description A1-TSK-KA-13R 1) For areas within FDUs under this FSP, where Moose Ungulate Winter Range (UWR) areas have been designated through an Order under the Land Act, no further action is required. 2) 2) Subject to (1) above, for areas within FDUs under this FSP, where Moose Ungulate Winter Range areas have not been designated through an Order under the Land Act, harvesting operations within Proposed Moose Ungulate Winter Range (UWR)* a) occur ii) between May 1 and November 30 (inclusive), or iii) are consistent with a report prepared by a qualified professional that meets the requirements of strategy TSK-KA-12. b) include wildlife tree retention trees or patches that are no more than the distance prescribed in (3) below from other standing mature or old-growth trees. 3) The distance in (2)(b) above is a) 250 meters, horizontal distance * As shown on the FSP maps, which correlates with the (1) maps provided in support to the Moose Ungulate Winter Range		 For areas within FDUs under this FSP, where Moose Ungulate Winter Range (UWR) areas have been designated through an Order under the Land Act, no further action is required. Subject to (1) above, for areas within FDUs under this FSP, where Moose Ungulate Winter Range areas have not been designated through an Order under the Land Act, a) Harvesting operations within Proposed Moose UWR* may occur during a period other than between May 1 and November 30 (inclusive), if:
(or Rationale if it does not apply) Not within Moose UWR. Result or Strategy Description A1-TSK-KA-13R 1) For areas within FDUs under this FSP, where Moose Ungulate Winter Range (UWR) areas have been designated through an Order under the Land Act, no further action is required. 2) 2) Subject to (1) above, for areas within FDUs under this FSP, where Moose Ungulate Winter Range areas have not been designated through an Order under the Land Act, harvesting operations within Proposed Moose Ungulate Winter Range (UWR)* a) occur ii) between May 1 and November 30 (inclusive), or iii) are consistent with a report prepared by a qualified professional that meets the requirements of strategy TSK-KA-12. b) include wildlife tree retention trees or patches that are no more than the distance prescribed in (3) below from other standing mature or old-growth trees. 3) The distance in (2)(b) above is a) 250 meters, horizontal distance * As shown on the FSP maps, which correlates with the (1) maps provided in support to the Moose Ungulate Winter Range	Applies:	NO
 For areas within FDUs under this FSP, where Moose Ungulate Winter Range (UWR) areas have been designated through an Order under the Land Act, no further action is required. 2) Subject to (1) above, for areas within FDUs under this FSP, where Moose Ungulate Winter Range areas have not been designated through an Order under the Land Act, harvesting operations within Proposed Moose Ungulate Winter Range (UWR)* a) occur b) between May 1 and November 30 (inclusive), or are consistent with a report prepared by a qualified professional that meets the requirements of strategy TSK-KA-12. b) include wildlife tree retention trees or patches that are no more than the distance prescribed in (3) below from other standing mature or old-growth trees. The distance in (2)(b) above is a) 250 meters, horizontal distance * As shown on the FSP maps, which correlates with the (1) maps provided in support to the Moose Ungulate Winter Range 	0, 11	Not within Moose UWR.
		 For areas within FDUs under this FSP, where Moose Ungulate Winter Range (UWR) areas have been designated through an Order under the Land Act, no further action is required. 2) Subject to (1) above, for areas within FDUs under this FSP, where Moose Ungulate Winter Range areas have not been designated through an Order under the Land Act, harvesting operations within Proposed Moose Ungulate Winter Range (UWR)* a) occur between May 1 and November 30 (inclusive), or are consistent with a report prepared by a qualified professional that meets the requirements of strategy TSK-KA-12. b) include wildlife tree retention trees or patches that are no more than the distance prescribed in (3) below from other standing mature or old-growth trees. The distance in (2)(b) above is a) 250 meters, horizontal distance * As shown on the FSP maps, which correlates with the (1) maps provided in support to the Moose Ungulate Winter Range
Applies: NO	Applies:	notices for TFL 1; TFL 41; and the Kalum TSA (Dec 2004); and (2) the habitat amount in the FPPR s. 7 Notices for Moose NO
How Result or Strategy Applies to the Site (or Rationale if it does not apply) Not within Moose UWR.	How Result or Strategy Applies to the Site	

STOCKING REQUIREMENTS

SU	NAR	STANDARDS ID #	OTHER PERFORMANCE STANDARDS
1	29.3	2004723	 (SS56); SS-Kalum forest district - spruce content restricted to < 20% well spaced and FG trees on a standards unit due to leader weevil. (99): Carbon Stocking Standard, Carbon Retention Stems can contribute a maximum of 200 stems per ha of preferred and acceptable trees. The target in this site plan is 60 stems per ha. MITD will be reduced to 1.6m on hygric, sub-hydric or mechanically prepared areas (other than mechanically mounded); 1.0m on mechanically mounded sites, 1.0m on colluvial sites as identified in the Site Plan.
2	23.8	2004726	(SXS56); SXS-Kalum forest district - spruce content restricted to < 20% well spaced and FG trees on a standards unit due to leader weevil. (99): Carbon Stocking Standard, Carbon Retention Stems can contribute a maximum of 200 stems per ha of preferred and acceptable trees. The target in this site plan is 60 stems per ha. MITD will be reduced to 1.6m on hygric, sub-hydric or mechanically prepared areas (other than mechanically mounded); 1.0m on mechanically mounded sites, 1.0m on colluvial sites as identified in the Site Plan.

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?		
ORIGINAL	2013 02 20		YES	-
RPF PR	INTED NAME		RPF'S SIGI	NATURE and SEAL
RICO	JORIMANN			
DAT	E SIGNED			
20	13/02/20			
l certify l personal described herein.	ly completed the work			

Map attached forms an integral part of the site plan.

SUPPORT DOCUMENT

									OR	IGINAL
LICENCE #	СР		BLOCK	UBI	OPENI NUME		FDU	LOCATION	LATITUDE / LONGITU	IDE
A90581	-	Т	Esw049	BI3FE	10310)79-	T Fiddler	10 km Fiddler Mainline	54 46 30 / 128 17	7 36
ASSESSMENTS										
VISUAL IMPACT A	SSESS	/IENT INFO	RMATION							
	a West	- Fiddler C					Impact Assessment for I and TEsw050,' the VIA sh			ial
PEST INCIDENCE	SURVEY	' INFORMA	TION							
Pest Specific Com	ments									
Forest Health Cor	nments									
							nlock regen above 2.0 me ntion Stems. There was s			road in
the adjacent stand	. Mana	ging the bl	ock to a mix of	species will rec	luce the risk from t	this pest.				
	nto the	m. In effec	t, the entire bl	ock will be "fea	thered". Additiona		small (less than 2 tree leave velopment is located in a			
ARCHAEOLOGICA				-	<u>eu.</u>					
Not within a high A #2), no areas of sul					rved within the are	ea to harve	est (CMTs were removed	I from the area to har	rvest and placed within	WTRA
TERRAIN STABILI	TY FIELD	O AND GUL	LY ASSESSMEN	ITS INFORMATIO	N					
Terrain Stability C	ommen	nts								
This block is not loo stability assessmer				or on flat over	steep terrain. No s	signs of slo	pe instability were obser	rved within the block	(or road) boundary. A t	errain
Gully Comments										
No gullies within th	ne block									
VEGETATION										
RIPARIAN ASSESS	-									
Management Stra	ategies									
will result in signi with machine cros and maintain stre vegetation within	ficant ba ssings or am ban 5m of t	asal area re nly at desig k integrity. he stream	etention within gnated skid bri Wherever saf channel will be	the Riparian M dges. Skid bridg e and practical e retained.	lanagement Zones ges must be constr non-merchantable	of all strea ructed with trees less	nese small S6 streams bu ams. Fall and yard away n appropriate materials s than 17.5cm, understor	. These streams required as puncheon to r y deciduous trees, sh	ire a 5m Machine Free 2 minimize channel distur irubs, and herbaceous	Zone bance
	-						No basal area retention i Irian Management Zones			
require a 5m Mac	hine Fre	ee Zone wi	th machine cro	ossings only at d	esignated skid brid	dges. Skid	bridges must be constru	cted with appropriate	e materials such as pun	cheon
	iceous v	vegetation	within 5m of tl		•	•	tical non-merchantable t ations of slash or debris		•	-
	MA	SU	WIDTH (m)	BA or SPH Retained	Comments	(Indicate i	f in a Community Waters	shed)		
MF	Z		5.0							
Version: 2012-Apr-2	17© 201	12 Cengea	Solutions Inc.	Si	ite Plan: Group Sel	ection wit	n Carbon Objectives			11

Stream 1 2,3,4,5,6, 8 &9 S6	<i>.</i>	Z		20	.0						
SOIL ASSE	SSMENT				·						
	HAZA	RD RATI	NGS					SC	DIL CHARACTERISTICS		
SU	Soil	-		Soil Disp		Depth T	o Unfavo	urable Subsoil	Type of Unfavo	ourable Sedim	ent Delivery Risk (Community
	Comp	Eros	ion		I	Vin(cm)		Max(cm)	Subsoil		Watersheds)
1	VH		1	М		20.0		80.0	R		
2	VH		1	Н		20.0		80.0	SEEP		
COMMEN	ITS								•	•	
	ional skid	ding to l	imit sit	e degrada	tion and pro		•	otected by snow. It is red avironment. Shut down l		•	ed in conjunction with
WTRA / V	VTP (INSI	DE OR AT	TRIBU	TED TO TH	IE BLOCK)						
1.[D.#	A	rea	Descri	otion						
WT	RA		5.5	HB947							
GROUP W	/TRA / W	P AND S	SITE DE	G. CALCUI	ATION (to b	e retained	on the fi	rst block of the Permit o	nly), CARBON BENEFI	T SUMMARY	
Block	Gros Cutble Area	ock /	(TRA WTP	%	BEC	Perm Access	%	Carbon Benefit from Carbon Results and Strategies at time of harvest 2020	Carbon Benefit from Carbon Results and Strategies 2030	Carbon Benefit from Carbon Results and Strategies 2050	Carbon Benefit from Carbon Results and Strategies at Rotation 2110
TEsw04	9 63	2	5.5	8.8	CWHws1	3.1	4.8	XXX tCO₂e Note: numbers subject to information from CBM modelling outputs	XXX tCO2e Note: numbers subject to information from CBM modelling outputs	XXX tCO₂e Note: numbers subject to information fror CBM modelling outputs	XXX tCO2e Note: numbers subject to information from CBM modelling outputs
	_										
Total # c Blocks: 1		.2	5.5	8.8		3.1	4.8	XXX tCO ₂ e	<mark>XXX tCO₂e</mark>	<mark>XXX tCO₂e</mark>	<mark>XXX tCO₂e</mark>

Comments:

Actions with a carbon benefit, such as additional WTRA area and Carbon Retention Stems, could be quantified in the Site Plan and summarized as shown in the above table. A guidance document for reporting carbon numbers should be developed to aid tracking of carbon initiatives.

SUPPORTING INFORMATION

HLP/FSP CONSIDERATIONS

Wildlife/Endangered Species Comments

This block is not located within a Moose UWR or Mountain Goat UWR.

Wildlife species at risk designated under FPPR s. 7(2) (a) found within the Kalum Forest District are: Coastal Tailed Frog, Great Blue Heron, Grizzly Bear, Marbled Murrelet, Fisher and Wolverine. Evidence of tailed frogs was noted just outside of WTRA#1 in stream 5. The majority of suitable habitat for tailed frogs is outside of the area to harvest. No evidence of any other species at risk was noted during the field phase of development although there is suitable habitat for Grizzly Bear and Wolverine within the block. Habitat for Grizzly bears is addressed through Wildlife Habitat Areas and special stocking standards within high value site series. There is a Grizzly Bear Wildlife Habitat Area along the west boundary of the block. No special measures are prescribed for Wolverine or Fisher at this time.

Range Comments

Not within a range tenure area.

Fisheries Comments

There are no fisheries values within the block. The block has 9 S6 streams. Stream 2 has potential permanent habitat but was tested and found not to be fish bearing in the 1:20,000 Reconnaissance Fish and Fish Habitat Inventory: Middle Skeena River Tributaries 400 - Skeena West Planning Area by Triton Environmental Consultants in 2001. The remaining streams either do not have permanent habitat above downstream barriers to fish passage or are greater than 20% gradient.

Watersheds/Hydro Assessments Comments

Maintain water quality and quantity by ensuring that timber harvesting operations will be designed to prevent or minimize any negative impacts on the water resource. No community watersheds have been identified in this area.

Sensitive Areas Comments

Not within a designated sensitive area.

Recreation Comments

There are no Recreation Sites, Trails, Backcountry Recreation Sites or other recreation features identified within or directly adjacent to this block.

Cultural Heritage Comments

Not within a high Archaeological Overview Assessment polygon. CMTs were identified by field crews but removed from the area to harvest and placed within WTRA#2. The Cultural Heritage Resources pre-harvest evaluation noted the potential for travel and resource trails within the block, no indications of any trails were noted. The block has some blueberry and devils club but surrounding areas contain similar habitat for these cultural species.

Biodiversity Emphasis/L.U. Comments

TEsw049 is located within the Skeena River Kalum Landscape Unit. 8.8% of the cutblock area has been designated as WTRA which exceeds the minimum wildlife tree retention requirements of 5% (CWH) for the Skeena River Kalum Landscape Unit listed in the Table 6 of the Kalum SRMP. The extra WTRA over the 5% target contributes to biodiversity and wildlife objectives as well as to Carbon Objectives and represents XXX tCO₂e of additional carbon storage in 2030 and 2050. In addition, 100 stems per ha of Carbon Retention Stems will be retained scattered across the block. These trees represent XXX tCO₂e of additional carbon storage in 2030 and 2050. The Carbon Retention Stems also contribute to biodiversity and wildlife objectives. TEsw049 is located within the Little Oliver-Skeena River East Grizzly Bear Identified Watershed (GBIW). The block does not contain a significant amount of identifiable and stratifiable Grizzly site series (06/11 ecosystems).

Carbon Management Comments

Carbon Strategies employed on TEsw049 include additional WTRA, retention of 100 Carbon Retention Stems per ha, use of a group selection silviculture system resulting in less requirement for piling and burning, additional retention of non-merchantable understory stems within the RMA of streams and processing and piling residual material such that it can be utilized if a future market occurs.

Other Resources Comments

To address invasive plants:

1. Use certified seed only in erosion control and grass-seeding activities

2. In the course of their duties, BCTS field team personnel will make note of occurrences of invasive plants, and will report these occurrences to the Terrace Planning Forester within ten (10) working days of noting the occurrence. The Terrace Planning Forester will then collate and pass this information to a representative of the North West Invasive Plant Council within ten (10) working days of receiving a report from a BCTS field team member.

ADDITIONAL COMMENTS:

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2013 02 20	YES

HARVEST PLAN

ORIGINAL

											ORIGINAL
LICENC	CE #	СР	В	LOCK	UBI		OPENING NUMBER	FDU	LOCATION	LAT	ITUDE / LONGITUDE
A9058	31	-	TEs	w049	BI3FE		1031079-	T Fiddler	10 km Fiddler Mainline		54 46 30 / 128 17 36
SILVICULTU	JRE SYS	TEMS									
SU		SYSTEN	1	VAI	RIANT		PHASE	RESERVE	Min BA (m2/ha)		Min Residual Density (sph)
1,2	Grou	up Selec	tion					G			
Current Sta	nd Struct	ure/Site	e Conditio	ns		Туріс	al old growth HB age	e class 9.			
Silviculture Min. Charac				prm, Health, 1	Vigour)	however manage In varia Openin Retain practica There a Terrain be awa This blo Stems i accepta criteria (Februa 1 trees Stems s drained SU-2: C however manage In varia Openin Retain practica There a There a There a Copenin Retain practica Stems s drained there a Copenin Retain practica Stems s drained there a There a Copenin Retain be awa Retenti of Carb accepta criteria (Februa 1 trees Stems s drained There a There a Copenin Retain be awa Retenti of Carb accepta criteria (Februa 1 trees Stems s drained The o4 are adh period	er this is a guideline ement objective of c <u>ible retention (small</u> g should not be any greater than 50% able. Openings (small are a several creeks y is generally gentle, is generally gentle, is generally gentle, it the harvest area he able. Carbon Retenti of Table A of the F ary 2007), except as r and frost cracks, ro should consider wind d microsites and that sites within this Star hered to during harve or to the winter perio Group Selection. A g er this is a guideline ement objective of c <u>ible retention (small</u> g should not be any greater than 50% able. Openings (small are a several creeks y is generally gentle, are there is scattere ion Stems. This bloo on Retention Stems able. Carbon Retenti of Table A of the F ary 2007), except as r and frost cracks, ro should consider wind d microsites and that sites within this Star bered to during harve or to the winter perio preferred and accep	e and retention betwee reating a multi-age/ mul <u>patch) areas:</u> wider than two tree-len of Cw of good form ar Il patch areas) will be ma within the block, see Rip see Harvest Plan map foi tered blowdown as well bed Carbon Stocking Stan as been selected. A rang on Stems must be Layer free Growing Damage C noted. A maximum of on then branches, forks and dthrow hazard. Preferen have good live crown ar ndards Unit are moist so ast activities. Ground bas ood when the ground is fro roup selection harvesting e and retention betwee reating a multi-age/ mul patch) areas: wider than two tree-len of Cw of good form ar Il patch areas) will be ma within the block, see Rip see Harvest Plan map foi ed blowdown within th ck has been prescribed C has been selected. A rang on Stems must be Layer free Growing Damage C noted. A maximum of on then branches, forks and dthrow hazard. Preferen thave good live crown ar ndards Unit are moist so est activities. Ground bas od when the ground is fro thas been selected. A rang on Stems must be Layer free Growing Damage C noted. A maximum of on the branches, forks and dthrow hazard. Preferen thave good live crown ar ndards Unit are moist so est activities. Ground bas od when the ground is fro	n 50-75% will be acc ti-story stand with mu gths. Opening size wi na vigour within har naged to even aged s arian Management St r a general location of as dispersed retention dards. A target of 100 dards. A target of 100 e of 50 to 150 Carbon 1 or Layer 2 trees and riteria for Multi-Laye e Porodaedalea pini c crooks are allowed. tially select Carbon Re d height to diameter care must be taken to ed harvesting should I bozen and/or protected g method will be used n 50-75% will be acc ti-story stand with mu gths. Opening size wi nd vigour within har naged to even aged s arian Management St r a general location of e block as well as d arbon Stocking Stand ge of 50 to 150 Carbor 1 or Layer 2 trees and riteria for Multi-Laye e Porodaedalea pini c crooks are allowed. tially select Carbon Re d height to diameter care must be taken to e darbon Stocking Stand ge of 50 to 150 Carbor 1 or Layer 2 trees and riteria for Multi-Laye e Porodaedalea pini c crooks are allowed. tially select Carbon Re d height to diameter care must be taken to ed harvesting should I bozen and/or protected rm and vigour as per s	cepta liber vest tocki trate f slop on via on via cepta donk j Sele etent ratio o ens be read d by a d. Tai cepta disper ards. f slop on via cepta disper tocki f slop on via cepta disper ards. Sele etent ratio o ens be read d by a cepta disper ards. Sele etent ratio o ens be read d by a cepta disper ards. Sele etent ratio o ens be read d by a cepta disper ards. Sele etent ratio o ens be read d by a cepta disper ards. Sele etent ratio o ens be read d by a cepta disper ards. Sele etent rate o ens be read d by a cepta d by a cepta d by a cepta d by a cepta d by a cepta d by a cent cepta d by a cent cepta d by a cent cepta d by a cent cepta d by a cent cepta d by a cent cepta d by a cent cent cent cent cent cent cent cent	between 0.1ha and 0.6ha. units wherever safe and ing standards. gies for more information. bes >40%. Workers should a Carbon Retention Stems. ms/ha of Carbon Retention ention Stems is considered ist not exceed the damage Stands in British Columbia per tree is allowed on layer ction of Carbon Retention ion Stems growing on well s (trees with lots of taper). ure site degradation limits stricted to the dry summer a compressible snow layer. rget retention will be 65%, able due to the long-term e regular entries. between 0.1ha and 0.6ha. units wherever safe and ing standards. gies for more information. bes >40%. Workers should rsed retention via Carbon . A target of 100 stems/ha ention Stems is considered ist not exceed the damage Stands in British Columbia per tree is allowed on layer ction of Carbon Retention ion Stems growing on well s (trees with lots of taper). ure site degradation limits stricted to the dry summer a compressible snow layer.
						presend A targe of 50 to or Laye Criteria one Po and cro Prefere	ce of Hw mistletoe in t of 100 stems/ha of to 150 Carbon Retent or 2 trees and must n for Multi-Layered St rodaedalea pini con- boks are allowed. Se entially select Carbon	n the stand. Carbon Retention Stems ion Stems is considered a ot exceed the damage of tands in British Columbia	s for the area to harve acceptable. Carbon Re iteria of Table A of th (February 2007), exc ayer 1 trees and frost ion Stems should con ng on well drained mid	est ha etent e Fre ept a cracl sider	as been selected. A range ion Stems must be Layer 1 ee Growing Damage as noted. A maximum of ks, rotten branches, forks windthrow hazard.

Additional Comments

SOIL ASSESSMENT

	HAZAR	D RATIN	GS		SOIL DIST	URBANCE				SOIL CHARACTERISTIC	S	
					Max Allow Max Amount TAS may exceed		MASD for Roadside	Dept Unfavorabl				
SU	Soil Comp.	Soil Erosion	Soil Disp.	Max Allow Soil Dist %	MASD prior	Structures %	work areas %	Min (cm)	Max (cm)	Type of Unfavorable Subsoil	Sediment Delivery Risk (Comm. Watershed)	
1	VH	Н	Μ	5.0		7.0	25.0	20.0	80.0	Bedrock		
2	VH	Н	Н	5.0				20.0	80.0	Seepage		
SU	Critical site conditions that affect the timing of operations and how they affect the timing											
1 2 U MANAGE	activities and/or p creation The 04 a harvest a frozen ar skidders uneven a	Ground rotected l of an une nd 06 site activities. nd/or prof are used aged-stan	based ha by a com ven aged s within t Ground l cected by on this St d structur	arvesting sho pressible sno I-stand struct chis Standard based harves a compressil candards Unit	uld be restricted w layer. The tenu ure, thereby allow s Unit are moist s ting should be resole snow layer. It	to the dry sur re holder has wing for man o care must l stricted to the will be diffic er has electe	mmer period o s elected to util agement of a s be taken to ens e dry summer ult to achieve s d to utilize a gr	r to the wint lize a group s suite of other sure site deg period or to s site degradat roup selectio	er period w selection ha resource u radation lin the winter p tion limits in on harvest s	adhered to during harve when the ground is frozer invest system for the ses. hits are adhered to durin period when the ground an all but the driest summ ystem for the creation or	n g is ers if	
SU	SU Desc		15									
1	CWHws1	and the	CWHws2	with ICHmc2	influences. This	Standards Ur	nit will be mana	aged using a	group seled	ards Unit is transitional b tion harvesting system b vill not have stocking sta	out for ease	
2	sites. It i harvestir	is transitions system	onal to th but for e	e CWHws2 ai	nd has ICHmc2 in istration harveste	fluences. This	s Standards Un	it will be ma	naged using	and some 06 on seepag g a group selection ndards and unharvested	e	

SOIL MANAGEMENT COMMENTS

Soil Conservation

In order to achieve the 5% soil disturbance limits for Standards Unit 1 and 2 established under FPPR 35(3)(a) it is recommended that groundbased harvesting be limited to the summer period or the winter period when the soils are frozen or protected by snow. It is recommended that hoe forwarding be utilized in conjunction with conventional skidding to limit site degradation and provide a safer work environment. Shut down logging during periods of saturated soils.

Temporary Access

N/A

Slope Instability

This block is not located within Class IV or V Terrain or on flat over steep terrain. No signs of slope instability were observed within the block (or road) boundary. A terrain stability assessment is not required for this block.

RIPARIAN ASSESSMENTS

Management Strategies

Streams 1, 3, 4, 6, 7, 8 and 9 are small S6 streams. No basal area retention is required along these small S6 streams but the planned group selection silviculture system will result in significant basal area retention within the Riparian Management Zones of all streams. Fall and yard away. These streams require a 5m Machine Free Zone with machine crossings only at designated skid bridges. Skid bridges must be constructed with appropriate materials such as puncheon to minimize channel disturbance and maintain stream bank integrity. Wherever safe and practical non-merchantable trees less than 17.5cm, understory deciduous trees, shrubs, and herbaceous vegetation within 5m of the stream channel will be retained.

Streams 2 and 5 are slightly larger S6 streams that may have the potential to mobilize debris. No basal area retention is required along these small S6 streams but the planned group selection silviculture system will result in significant basal area retention within the Riparian Management Zones of all streams. Fall and yard away. These streams require a 5m Machine Free Zone with machine crossings only at designated skid bridges. Skid bridges must be constructed with appropriate materials such as puncheon to minimize channel disturbance and maintain stream bank integrity. Wherever safe and practical non-merchantable trees less than 17.5cm, understory deciduous trees, shrubs, and herbaceous vegetation within 5m of the stream channel will be retained. Accumulations of slash or debris that do enter streams 2 or 5 above must be cleaned out concurrent with harvesting activities.

indet be bled				aventiev	
Riparian I.D. and Class	RMA	SU	WIDTH (m)	BA or SPH Retained	Comments (Indicate if in a Community Watershed)
Stream 1, 2,3,4,5,6,7 , 8 &9 S6	MFZ		5.0		
	RMZ		20.0		

COARSE WOODY DEBRIS MANAGEMENT STRATEGY INFORMATION

This block consists of a mature stand exhibiting high levels of decay, which will contribute an amount of coarse woody debris (CWD) that meets the objective stated in FPPR section 68 (1)(a). The nature of these forests means that a high level of non-merchantable material is typically left on site. During harvesting, additional breakage of trees occurs and is often left on a site, as most is non-merchantable. This block has Carbon Stocking Standards with a target of 100 Carbon Retention Stems per ha. These trees will provide additional CWD over time. Where site occupancy and fire hazard are not significant concerns, BCTS will attempt to avoid practices such as piling and burning (except for landings and roadside), and will not conduct broadcast burning within the FSP area. Utilization of a Group Selection harvest system will result in a greater percentage of waste material being dispersed throughout the block. In addition, harvested group selection units located away from the road will have reduced access post harvest and this will affect the fire hazard assessment. Units with restricted access potentially reduce the need for fire hazard abatement (piling and burning). The block is located in an area that may allow economic utilization of some of this residual volume. To maximize the likelihood of this occurring, non-merchantable logs at roadside will be decked and only limbs, tops and logs unsuitable for pellets piled. Even with the removal of roadside residual volumes these actions will maintain high amounts of CWD on blocks following harvest, providing essential habitat for those organisms that are dependent on CWD.

Performance Std. (%):

Block Target (%):

Coarse Woody Debris (m3/ha):

DEFINITIONS

ADMINISTRATION

Amendment number	Date Typed (Yr Mo Dy)	Map Required?
ORIGINAL	2013 02 20	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
RICO JORIMANN	
DATE SIGNED	
2013/02/20	
l certify l personally completed the work described herein.	

SILVICULTURE PLAN

ORIGINAL

NFORM Area 29.6 23.9	MATION Zone S CWH 2 CWH		Variant / Phase 1 1	BI3FE Series (ser 01-80 0 01-3	ries - %	931079- 5)	Elevation Avg (m)	T Fiddle	r Aspect	10 km Fiddl Mainline Slope Posit	2	54 46 30	/ 128 17 36		
Area 29.6 23.9 QUIRE DATES it	Zone S CWH 0 CWH 0 EMENTS ES Standards 2004722	ws ws ID R	Phase 1 1	01-80 (5)			Aspect	Slope Posit					
29.6 23.9 QUIRE DATES it	Image: Constraint of the	ws ws ID R	Phase 1 1	01-80 (5)			Aspect	Slope Posit					
23.9 QUIRE DATES	CWH EMENTS ES Standards 200472: 200472:	ws ID R	1		04-20			(%)			tion	Rooting Depth (cm)	Soil Texture		
QUIRE DATES	EMENTS ES Standards 200472 200472	ID R		04-60 01-3	01-80 04-20		04-20 460		460	30	V	Middle Sl	оре	80	
DATES	ES Standards 200472 200472		logon Dola	_	30 06-10 445		25	V	Lower Slo	ope	80				
it	Standards 200472		logon Dela										_1		
	200472		Logon Dolaw												
on Regin	200472	,	Regen Delay (yrs)	Freegrow Early	' (yrs)	Freegr	ow Late (y	rs)							
on Regin		1 2004723					20								
on Regin		5	3		20										
	ime: 370	/ 520													
	REGE	NERATI	ION LAYEI	2											
EFRERR	RED SPECIES			ACCEPTABLE	SPECIE	S		POST SP	ACING DEN	SITY (sph)	MAX	CONIFERO	JS (sph)		
	Min H	t.				Min Ht		Min	1	Max					
es	(m)	Footr	notes	Species		(m)	Footno	tes		WELL SPAC	ED TREE	S (sph)			
ir	1.4			itka x Unknown hy	brid	2.0	56,	99					lin Horizontal		
rn Hemlo 1 Red Ceo			99Spruce99PlcLodgepole Pine -			2.0	99	Target F	Pref/Acc	Minimum Pref/Acc		nimum ^D Pref	ist. Pref/Acc (I		
neu ceu	.euai 1.4			Coastal	oastal				00	500	_	400	2.0		
												Height Relat			
												Competitio	on (%) 50		
est distri	rict - spruce	content r	restricted to	<20% well-spaced	and fre	ee grov	ving trees	on a standard	ds unit due	e to leader we	eevil				
				can contribute a n											
	REGE	NERATI	ION LAYE	8											
EFRERR	RED SPECIES			ACCEPTABLES	SPECIE	S		POST SP	ACING DEN	SITY (sph)	MAX	(CONIFEROL	JS (sph)		
	Min H	t.				Min Ht		Min	1	Max					
es	(m)	Footr	notes	Species		(m)	Footno	ites		WELL SPAC	ED TREE	S (sph)			
ir	1.4			itka x Unknown hy	brid	2.0	56,	99					lin Horizontal		
ern Hemlock 2.0				Spruce Black Cottonw	vood	1.4	99	Target	Prof/Acc	Minimum Pref/Acc		minum	ist. Pref/Acc (I		
	.edar 1.4									500			2.0		
n Red Ceo												•			
													50		
rn I		ed Cedar 1.4	ed Cedar 1.4	ed Cedar 1.4 99 Act	ed Cedar 1.4 99 Act Black Cottony	ed Cedar 1.4 99 Act Black Cottonwood	ed Cedar 1.4 99 Act Black Cottonwood 1.4	ed Cedar 1.4 99 Act Black Cottonwood 1.4 99	ed Cedar 1.4 99 Act Black Cottonwood 1.4 99 Target F	ed Cedar 1.4 99 Act Black Cottonwood 1.4 99 Target Pref/Acc 900	ed Cedar 1.4 99 Act Black Cottonwood 1.4 99 Target Pref/Acc Pref/Acc 900 500	ed Cedar 1.4 99 Act Black Cottonwood 1.4 99 Target Pref/Acc Pref/Acc 1 900 500	2.6 Ped Cedar 1.4 99 Act Black Cottonwood 1.4 99 Target Pref/Acc P		

SILVICULTURE ACTIVITY COMMENTS				
ACTIVITY	COMMENT			
Brushing	Establishment brushing is not expected to be required on Standards 1. Portions of Standards Unit 2 may require establishment brushing if fill planting is required. The anticipated brush complex is fireweed and mixed fern. Deciduous removal brushing is not expected to be required on this block.			
Site Preparation	Mechanical site preparation is not expected to be required for this block provided acceptable harvesting practices are followed.			
Planting	This block has two standards units both of which are complexes. Standards Unit 1 is dominated by the 01 site series and Standards Unit 2 is dominated by the 04 site series. Both Standards Units have a significant amount of advanced regeneration and have good chances for achieving natural regeneration, however both standards units are also likely to have high brush competition and if stocking is not achieved fill plants will likely require establishment brushing. In addition, the small size of the planned harvest units combined with Carbon Retention Stems means that significant portions of the harvested units are potentially exposed to Hw mistletoe from the surrounding stand. The preferred reforestation method is planting at H+1 or H+2 with resistant species. Suggested species mix is 60%Ba, 20%Cw and 20%Sxs. Suitable stock would be PSB410 1+0 or bigger planted to a target of 1000 stems per ha.			
Surveys	Walkthrus should be conducted on Standards Unit 2 at H+1 and H+2 to assess brush and conifer regeneration. A regeneration delay/brushing survey should be conducted at H+3 on Standards Unit 1 and 2. This survey should make recommendations on the need for fill planting, brushing and the need for any additional treatments including additional surveys. A Free Growing survey should be scheduled for both Standards Units at H+11 unless the regeneration delay survey recommends rescheduling the survey.			

COARSE WOODY DEBRIS MANAGEMENT STRATEGY INFORMATION

This block consists of a mature stand exhibiting high levels of decay, which will contribute an amount of coarse woody debris (CWD) that meets the objective stated in FPPR section 68 (1)(a). The nature of these forests means that a high level of non-merchantable material is typically left on site. During harvesting, additional breakage of trees occurs and is often left on a site, as most is non-merchantable. This block has Carbon Stocking Standards with a target of 100 Carbon Retention Stems per ha. These trees will provide additional CWD over time. Where site occupancy and fire hazard are not significant concerns, BCTS will attempt to avoid practices such as piling and burning (except for landings and roadside), and will not conduct broadcast burning within the FSP area. Utilization of a Group Selection harvest system will result in a greater percentage of waste material being dispersed throughout the block. In addition, harvested group selection units located away from the road will have reduced access post harvest and this will affect the fire hazard assessment. Units with restricted access potentially reduce the need for fire hazard abatement (piling and burning). The block is located in an area that may allow economic utilization of some of this residual volume. To maximize the likelihood of this occurring, non-merchantable logs at roadside will be decked and only limbs, tops and logs unsuitable for pellets piled. Even with the removal of roadside residual volumes these actions will maintain high amounts of CWD on blocks following harvest, providing essential habitat for those organisms that are dependent on CWD.

Amendment number	Date Typed (Yr Mo Dy)	Map Required?		
ORIGINAL	2013 02 20	YES		
RPF PRINTED NAME		RPF'S SIG	NATURE and SEAL	
RICO JORIMANN				
DATE SIGNED				
2013/02/20				
l certify l personally completed the work described herein.				