



SITE PLAN

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A. Tenure

Region RWC	FD Haida Gwaii Natural Resource District	LOCATION SouthBay	TFL Haida Gwaii	Timber Mark 58/270	Block SOBY62
Licensee A&A Trading (Haida Gwaii) Ltd.		Licence TFL58	Cutting Permit 270	NT Map SheetD 103F.020	Polygon

B. Area Description

Area of No Planned Reforestation (ha) (NPR)

Permanent Access	Rock	Water	Swamp	Other	Non Commercial Brush	WTP - Reserve	Immature	Mature Timbered Leave Area	Total
0.5	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	1.8

Net Area to be Reforested

Standard Unit	Net Area	Description
1	5.8	CWHwh1 - 01 (90%), 03 (5%), 05 (5%)
	5.8	Total net area to be reforested
	7.5	Total area under the prescription

Existing Forest Type

Species 1 Ss	Species 2 Hw	AHSS 441M	Site Index 29
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Ecology

Standard Unit	BGC Zone	Sub Zone	Site Series	Moisture	Nutrient	Min Slope	Max Slope	Avg Slope	Min Elev	Max Elev	Aspect
1	CWH	wh	01/90 03/5 04/5	4	C	5	25	15	20	90	N

C. Objectives

C.1 Long Term Management Objectives

The results and strategies prescribed in this Site Plan are consistent with results and strategies approved and/or amended from time to time in A&A Trading (Haida Gwaii) Ltd. Tree Farm License 58 Forest Stewardship Plan, Haida Gwaii Natural Resource District. The term of this FSP is 5 years commencing February 8, 2018.

C.2 Known Resources

C.2.a Wildlife



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FSP Section 4.3.3 Part 5 - Wildlife			
<p>Black Bear (<i>Ursus americanus</i>) dens, HGLUO Order, Objective 18: A Black Bear den field assessment (See Cultural Feature Identification Survey Report SOBY60 to SOBY64, Phil Bruce, dated November 8, 2018) determined that there are no known occurrences of Black Bear dens or identified future recruitment Black Bear denning habitat within or adjacent to block SOBY62. Block SOBY62 is a second growth spruce and hemlock stand that lacks the attributes suitable for black bear denning (e.g. large cedar trees or stumps). There is an existing bear den located greater than 575 meters from block SOBY62 in the Wildlife Tree Retention Area of an adjacent cutblock. The bear den is indicated on the map with a wildlife feature symbol for easy identification. Harvesting will not impact this existing bear den. If a Black Bear den is discovered during operations then a plan for protecting the den will be developed consistent with the FSP results and strategies.</p> <p>Marbled Murrelet (<i>Brachyramphus marmoratus</i>) nesting habitat, HGLUO Order, Objective 19: Block SOBY62 is not located within Class 1 or Class 2 Marbled Murrelet nesting habitat shown on Schedule 11 of the HGLUO Order. Block SOBY62 is a second growth stand that lacks the attributes suitable for Marbled Murrelet nesting (e.g. large limbs with mossy platforms). The harvesting of block SOBY62 will not reduce the amount of habitat below target amounts listed in Schedule 9 of the HGLUO Order.</p> <p>Northern Goshawk (<i>Accipiter gentiles laingi</i>) / Great Blue Heron (<i>Ardea herodias fannini</i>) / Northern Saw-whet Owl (<i>Aegolius acadicus</i>) nesting habitat, HGLUO Order, Objectives 20 - 22: Block SOBY62 is not located within a Northern Goshawk Reserve or a Northern Saw-whet Owl Reserve shown on Schedule 12 of the HGLUO Order. An assessment of the development area, completed by trained field staff (September 30, 2018) determined that there are no known Northern Goshawk or Great Blue Heron nests within or adjacent to block SOBY62. Saw-whet Owl nests are generally located 3 to 12 meters off the ground, in existing tree cavities, with an entrance hole 2 to 3 inches across making them difficult to detect. Where possible snags are included in Wildlife Tree Retention Area's or excluded from the block to protect Saw-whet owl nesting habitat. If a nest is discovered during operations, and is confirmed to be a nest by a Qualified Professional, then the nest will be reported and a plan for protecting the nest will be developed consistent with the FSP results and strategies.</p> <p>No other wildlife species or habitat requiring special management was observed during field work. A significant population of deer are known to forage in this area.</p>			
C.2.b Sensitive Areas			
<p>The soils block SOBY62 have a high soil compaction and soil erosion rating. Avoid extensive machine use and rutting in block SOBY62. If practicable, complete harvesting operations during dry weather.</p> <p>There are no other sensitive areas in block SOBY62.</p>			
C.2.c Fisheries			
FSP Section 4.3.2 Part 3 - Aquatic Habitat			
<p>Type 1 Aquatic Habitat, HGLUP Order, Objective 10: MacMillan Creek (reach 1) is classified as Type 1 Aquatic Habitat and is located adjacent to block SOBY62 (Pacifcus Biological Services Ltd. dated, December 5, 2017). No harvesting will occur within the designated reserve zone of MacMillan Creek (reach 1) (Schedule 5 CWH wh1 01 column A).</p> <p>Type 2 Aquatic Habitat, HGLUO Order, Objective 11: MacMillan Creek (reach 2) is classified as Type 2 Aquatic Habitat (Pacifcus Biological Service Ltd. dated, December 5, 2018). No harvesting will occur within the designated reserve zone or management zone of Macmillan creek (reach 2) (Schedule 5: CWH wh1 01 column A).</p> <p>Stream 3 is classified as Type 2 Aquatic Habitat (classified by Pacifcus Biological Services Ltd. (December 5, 2017) below the Beach Main and using measurements recorded by A&A Trading (Haida Gwaii) Limited field staff above the Beach Main). No harvesting will occur within the designated reserve zone of stream 3 (Schedule 5: CWH wh1 01 column A). Harvesting within the management zone of stream 3 will occur (0.04 hectares), however 80% of the management zone within the Development Area of block SOBY62 will be maintained.</p> <p>Stream 11 is classified as a S6 upland stream that flows into the ocean and possesses a barrier to fish at the confluence with the ocean (1.5 meter hardpan vertical drop) restricting upstream fish access (Pacifcus Biological Service Ltd dated, December 5, 2017). The FPPR Section 52(2)(b) does not apply to stream 11. See section D.1 for a detailed riparian management strategy.</p> <p>Use of best management practices during road construction and harvesting will minimize impacts to fisheries values.</p> <p>Active Fluvial Units, HGLUO Order, Objective 12: Block SOBY62 is not located within a polygon identified using the Schedule 4 Council of the Haida Nation Active Fluvial Unit Model or on an active fluvial unit identified in the field. In determining an active fluvial unit, the principles outlined in the report titled, "Defining Active Fluvial Units", prepared by Glynnis Horel, P.Eng., Ostapowich Engineering Services Ltd., dated April 1, 2006 and updated for Haida Gwaii, dated June 2016 were followed.</p>			
C.2.d Watersheds			

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<p>Block SOBY62 is not located within a designated community watershed.</p>							
<p>Upland Stream Areas, HGLUO Order, Objective 13: An analysis of watershed sub-unit 631 and 748, dated September 9, 2019 determined that the equivalent clear cut area is 25 % (631) and 10% (748). The harvesting of block SOBY62 will not reduce the hydrologic recovery of upland stream area, sub-unit 631 or sub-unit 748 below 70%.</p>							
<p>Sensitive Watersheds, HGLUO Order, Objective 14: Block SOBY62 is not located within a sensitive watershed as shown on Schedule 7.</p>							
<p>C.2.e Recreation</p>							
<p>There are no designated recreation sites or trails within block SOBY62.</p>							
<p>C.2.f Biodiversity</p>							
<p>Block SOBY62 is consistent with FPPR section 64 and section 65.</p>							
<p>Stand level biodiversity will be maintained within block SOBY62 by maintaining large coarse woody debris on-site and through the designation of a Wildlife Tree Retention Area (WTRA). The designated WTRA is 1.3 ha in size or 17.3% of the total gross block area and includes stand level features consistent with A&A's stand level biodiversity guidelines and riparian features.</p>							
<p>Block SOBY62 is not located within or adjacent to a Forested Swamp.</p>							
<p>Ecological representation, HGLUO Order, Objective 16: Block SOBY62 is located within the Skidegate Lake Landscape Unit area and overlaps with site series CWH wh1 01 (old forest surplus). SOBY62 is a second growth block primarily comprised of age class 4 timber. The harvesting of SOBY62 will not reduce the amount of "old forest" as defined in the HGLUO Order, below Schedule 10 target amounts (Source: Haida Gwaii Ecological Representation Summary, dated July 13, 2020).</p>							
<p>Red-listed and blue-listed ecological communities, HGLUO Order, Objective 17: Field observations conducted on September 30, 2018 by a Qualified Professional confirmed that there are no leading occurrences of red-listed or blue-listed ecological communities within or adjacent to block SOBY62. Small non-mappable areas of CWH wh1 03 occur sporadically across the block.</p>							
<p>C.2.g Landscape</p>							
<p>Block SOBY62 is located within a designated scenic area established through Order, dated November 1, 2005, for the Queen Charlotte Islands Forest District. The Visual Quality Objective (VQO) for the visual landscape unit polygon for block SOBY62 has a designation of partial retention (PR). The block design complies with the guiding principles outlined in the Haida Gwaii Natural Resource District Manager Policy, dated April 17, 2013 and is consistent with the established VQO of PR as determined by the visual impact assessment completed for the area, dated September 10, 2019.</p>							
<p>C.2.h Heritage</p>							



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<p>An area of interest package including maps and a letter explaining the proposed development was originally sent to the Council of the Haida Nation (CHN) on October 30, 2018, and subsequently resent on February 2, 2019, June 28, 2019, July 25, 2019 and August 13, 2019. A&A Trading (Haida Gwaii) Ltd and the CHN met in person to discuss the proposed development on multiple occasions throughout the information sharing period however no formal comments were received as a result of information sharing.</p> <p>Cedar Stewardship Areas, HGLUO Order, Objective 3: Block SAND62 is not located within a Cedar Stewardship Area.</p> <p>Cultural Feature Identification, HGLUO Order, Objective 4: A Cultural Features Identification (CFI) survey was completed by a surveyor certified by the Council of the Haida Nation (see Cultural Feature Identification Survey Report SOBY60 to SOBY64, dated November 8, 2018).</p> <p>Haida Traditional Heritage Features, HGLUO Order, Objective 5: No class one or class two Haida Traditional Heritage Features (HTHF) are located within or adjacent to block SOBY62.</p> <p>Haida Traditional Forest Features, HGLUO Order, Objective 6: There are no class one or class two Haida Traditional Forest Features (HTFF) within or adjacent to the harvest area of block SOBY62.</p> <p>Western Red Cedar and Yellow-cedar Retention, HGLUO Order, Objective 7: The combined western red cedar and yellow-cedar content identified through inventory mapping for the development area of block SOBY62 (<10 ha) is less than 60%. No retention of western red or yellow cedar is required within block SOBY62.</p> <p>Western Red Cedar and Yellow-cedar Regeneration, HGLUO Order, Objective 7: The combined western red cedar and yellow-cedar content identified through the cruise compilation for the development area of block SOBY62 is less than 20%. No regeneration of western red or yellow cedar is required within block SOBY62.</p> <p>Western Yew Retention / Culturally Modified Trees and Monumental Cedar, HGLUO Order, Objective 8 and 9: There are no western yew trees, western yew patches, cultural cedar stands, culturally modified trees, or monumental cedar trees greater than 120 cm within or adjacent to block SOBY62 (see Cultural Feature Identification Survey Report SOBY60 to SOBY64, dated November 8, 2018).</p>			
C.2.i Range			
There is no range management within the area.			
C.2.j Other Resources			
<p>Measures to prevent the introduction and spread of invasive plants FRPA S.47 & FPPR S.17: An invasive plant survey conducted using the Invasive Alien Plant Program on September 13, 2019 returned no known invasive plants within or adjacent to block SOBY62. No invasive plants were observed within or adjacent to the block during field work. A&A's Invasive Plant Operating Procedures will be used to prevent the spread of invasive plants within and adjacent to block SOBY62. If the spread of invasive plants resulting from A&A's practices become evident, then measures outlined in A&A's FSP will be followed.</p> <p>Karst: Block SOBY62 is located within an area mapped as having "karst potential" as shown on the "Queen Charlotte Island Karst Distribution" map, dated September 12, 2006. A karst survey, completed on September 15, 2019, confirmed that there are no karst features within or adjacent to block SOBY62.</p>			

D. Management Strategies

D.1 Riparian Management Strategies				
Stream/Lake/Wetland	Class	RRZ	RMZ	Prescription
MacMillan Creek (reach 2)	T2	40	20	No harvesting is permitted within the RMZ or RRZ of Macmillan Creek reach 2.
Stream 11	S6	0	20	Harvesting is permitted within the RMZ of stream 11 provided stream channel and stream bank integrity is maintained. Maintain riparian vegetation adjacent to stream 11 and fall and yard away where it is safe and practicable to do so.
Stream 3	T2	40	20	No harvesting is permitted within the RRZ of stream 3. Harvesting within the portion of the RMZ that is within the harvest area of block SOBY62 is permitted.
MacMillan Creek (reach 1)	T1	80	0	No harvesting is permitted within the RRZ of MacMillan Creek reach 1.



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D.2 Gully Management

There are no gullies within of adjacent to block SOBY62.

D.3 Forest Health

Hemlock Dwarf Mistletoe (Arceuthobium tsugense) - Minor amounts of DMH are present in the stand but aren't considered a major health concern. Planting ecologically suitable tree species combined with a 3 meter knock down of all infected over-story Western Hemlock is recommended to combat long term forest health issues.

Windthrow - The area is known to experience considerable wind events. A windthrow hazard assessment, dated September 12, 2019, assessed the entire boundary of block SOBY62. Windthrow hazard is a combination of risk and consequence of windthrow occurring. The assessment returned a low windthrow hazard rating from FC1 to FC8 and a moderate windthrow hazard rating from FC1 to FC3 and from FC6 to FC7. No wind firming treatments are prescribed. The assessment returned a high windthrow hazard rating from FC4 to FC6. A wind firming treatment is prescribed to reduce the risk of blow-down in the high windthrow hazard areas. Wind firming consists of treating 75% of the trees within the treatment area with a 30% tree crown modification.

Animal Browse - a significant population of deer are present in the area. Monitor planted Ss seedlings through scheduled surveys and schedule treatments as required.

No other forest health issues were noted during field work.

D.4 Coarse Woody Debris Management

Coarse woody debris (CWD) will be maintained by leaving large non-merchantable windfall and trees suitable as CWD on-site. Future CWD will be maintained within the WTRA of SOBY62.

D.5 Archaeology

An archaeological review of the area showed no previously recorded archaeological sites located within or adjacent to the harvest area of block SOBY62.

An Archaeological Impact Assessment (AIA) was completed on October 30, 2018 by Baseline Archaeological Services Ltd.. The AIA determined that there are no new archaeological remains, features, or culturally modified trees within the surveyed landscape (see Archaeological Impact Assessment Report, dated November 15, 2018). No further archaeological site surveys are recommended.

D.6 Vegetation Management

Vegetation within SOBY62 is greatly impacted by the presence of deer. The vegetation that exists is typical of a zonal site with wetter enriched sites having oak fern, blueberry, sword fern and deer fern. Brush competition is not considered to be a major concern to crop tree establishment and growth.

E. Soil Conservation

E.1 Site Disturbance

Standard Unit	Hazard Ratings			Soil Characteristics		
	Soil Compaction	Soil Erosion	Soil Displacement	Depth to Subsoil		Subsoil Type
				Min	Max	
1	H	H	M	50	100	DPM

E.2 Soil Disturbance

Standard Unit	Soil Disturbance		Bladed Trails		
	Max % Soil Disturbance	% Soil Dist Temp Exceeded	Max Height (m)	Avg Height (m)	Equipment
1	5.0				

Slope Stability Indicators

No slope stability issues were identified during field work. Slopes are generally less than 30 with some steeper areas.

E.3 Rehab Time for Temporary Access



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<i>E.4 Management Strategies for Temporary Access</i>			
No temporary access is required.			
<i>E.6 Soil Conservation</i>			
<p>The soil on this site is comprised of well drained to imperfectly drained, shallow and light to medium colored silty soils with less than 20 percent coarse fragment content. A 10 to 20 centimeters thick moder humus layer is present over the majority of the standard unit. Soil depth is generally less than 1 meter.</p> <p>Planned NPPA for block SOBY62 is 0.4 ha representing 3.4% of the gross cutblock area.</p>			

F. Silviculture

F.1 Site Preparation

Hazard abatement risk is considered to be low. The low hazard abatement risk is based on a combination of the area being in a low fire risk zone determined using the British Columbia Fuel Hazard Assessment and Abatement Fire Risk Map, dispersed fuel loading, low ignition probability due to constantly wet conditions and moderate due to the site being accessible by car and in close (approximately 20 km) proximity to the community of Sandspit. Despite the low hazard rating, hazard abatement is prescribed.

Debris resulting from harvest suitable for firewood is to be decked at roadside and made available to the community of Sandspit. The remaining debris is to be piled and burned in the fall following harvesting. Rehabilitate any matted debris or compacted areas from processing concurrent with use, disperse debris and fluff compacted soil. Ensure debris is located greater than 20 meters from standing timber and outside of the riparian management area of stream 11. Where possible locate debris piles on impacted areas, such as landings.

Block SOBY62 is located in a high smoke sensitivity zone. Burning of debris resulting from harvesting must be completed consistent with burning requirements outlined in the Open Burning Smoke Control Regulation, dated July 8, 2019.

F.2 Reforestation Prescription

Plant with Ss (100%) at a target density of 900 sph. A medium stock type such as a PSB 410 is recommended. Western hemlock and red alder naturals are anticipated.

A survival survey is recommended prior to the second growing season to assess crop tree performance. If necessary fill-planting and pest control treatments will be scheduled to ensure minimum stocking requirements are exceeded.

F.3 Brushing

Brush competition from vegetation is not considered to be a concern to crop tree establishment and growth. If brush competition inhibits conifer growth, treatments will be prescribed. Monitor tree growth and brush competition through scheduled surveys and schedule treatments as required.

F.4 Stand Tending/Future Treatments

No stand tending treatments beyond the achievement of free growing stand obligations are planned for this block.

F.5 Silviculture Systems

Standard Unit	System	Variant	Phase	BA (m2/ha)	Density (stems/ha)	Leave Trees Species & Function
1	CLEAR		REMOV			No planned leave trees

G. Stocking Requirements

Layer **REGEN**

Standard Unit	Preferred												Acceptable							
	Sp	Min Ht.	Sp	Min Ht.	Sp	Min Ht.	Sp	Min Ht.	Sp	Min Ht.	Sp	Min Ht.	Sp	Min Ht.	Sp	Min Ht.	Sp	Min Ht.	Sp	Min Ht.
1	Cw	1.3	Dr	4.0	Hw	2.0	Plc	2.0	Ss	3.0										

Stocking Requirements

Layer Regeneration Layer



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	Well Spaced / ha			Minimum	Density (Stems/ha)			Free Growing
Standard Unit	Target Pref&Acc	Minimum Pref&Acc	Minimum Preferred	Horizontal Distance (m)	Max Conif Density	Post Space Min	Post Space Max	Min Ht. % Rel. to Competition
1	900	500	0	2.0				
Stocking Assessment Dates								
Standard Unit	Regeneration Date			Early Free to Grow		Late Free to Grow		Legal ID
1	6					20		1054194

H. Harvesting

H.1 Harvesting Timing

Start Year 2020	Finish Year 2021	
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H.2 Harvesting, Special Commitments and Considerations

Harvesting will be completed using ground based equipment with wood processed at roadside. Minimize machine traffic on organic soils.

Debris resulting from harvest suitable for firewood is to be decked at roadside. The remaining debris is to be piled and burned in the fall following harvest. Ensure debris is located greater than 20 meters from standing timber, and outside of the RMA of upland stream 11. Where possible locate debris piles on impacted areas, such as landings.

I. Assessments

The following assessments have been completed.

Assessment	Date	
Riparian	December 05, 2017	
Archaeological	November 08, 2018	
Archaeological	November 15, 2018	
Riparian	December 05, 2018	
Forest Health	August 26, 2019	
Visual Impact	September 10, 2019	
Karst/Cave	September 15, 2019	



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J. Administration

I certify that I have reviewed this document and, while I did not personally supervise the work described, I have determined that this work has been done to the standards expected of a member of the Association of British Columbia Forest Professionals.

Prescription Prepared By

David Marquis

RPF Signature & Seal

Dave Marquis

RPF Name

August 31, 2020

Date

3093

RPF Number