



Northland Forest Products Ltd.

and

Alberta-Pacific Forest Industries Inc.

Forest Harvest Plan

Planning Compartment "Horse River"

Planning Unit 086124

FMA9100029/CTLA140003

Forest Harvest Plan – HRR17-22

Date Submitted: December 20, 2017

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Version 3.0

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1.0 Introduction

This integrated Forest Harvest Plan (FHP) details the timber harvest activities located within Forest Management Unit A14; Planning Unit HRR (086124). This plan, HRR17-22, is being submitted for appraisal, for a five-year FHP approval under 2018/19 Northland Forest Products Ltd. (Northland) and Alberta-Pacific Forest Industries Inc. (Alberta-Pacific) Annual Operating Plan (AOP). Plan integration will significantly reduce the number of roads and overall disturbance of harvest operations.

The plan comprises 85 proposed coniferous cutblocks and 22 proposed deciduous cutblocks with a total area of 1082.3 ha. Total estimated volumes are 144,302 m³ conifer and 102,658 m³ deciduous inclusive of incidental timber. All cutblocks in this FHP will be harvested in the winter under frozen ground conditions.

The companies have identified a camp location for logging operations within this planning unit. The temporary camp will be located in Block 223 (Lat 56.46059, Long -111.85862) with an area of 0.98 hectares and is shown on the Horse River FHP Overview Map. The campsite will be reclaimed as indicated in **Section 11.3.4.4** of the Northeast Alberta Timber Harvesting Planning and Operating Ground Rules (OGRs).

2.0 Integration with Other Stakeholders

2.1 Trapper Referral & Comments

Letters and maps were sent by registered mail to trapline holders potentially affected by this FHP (Table 1).

Table 1: Trapline Holders

Trapline number	Holder	Address	Date contacted by Registered Mail (letter and map)
TPA 1576	Gerrit Vanderspeol	154 Galt Pl Fort McMurray, AB, T9H 2L5	February 22, 2017 November 23, 2017 March 22, 2018
TPA 2238	Brad Chartrand	62 Freestone Way, RR1 Fort McMurray, AB, T9H 5B4	February 22, 2017 November 23, 2017 March 22, 2018
TPA 1696	Marc Dube	150 Laffont Way Fort McMurray, AB T9K 2P9	February 22, 2017 December 20, 2017 March 22, 2018
TPA 2317	Norman Dube	112 Wood Buffalo Way Fort McMurray, AB T9K 1W5	March 22, 2018
TPA 2326*	Perry D Fotty	Box 6222 Fort McMurray, AB, T9H 4W1	November 23, 2017

*Access under disposition that will be used is located within TPA2326 but no cutblocks.

Notice of commencement of operations will also be sent out no later than ten days before operations begin.

Alberta-Pacific and Northland will respond promptly to any requests that trappers may have as it concerns their traplines and the public in general.

2.2 Forest Recreation Groups/Guides & Outfitters/Grazing Lease Operators

No active recreation groups, guides or outfitters have been identified.

2.3 Historical Resource Protection

The proposed cutblocks within this FHP were screened for high and moderate potential sites in November 2017 and again in May 2018. Areas that were identified with high potential for containing historical resources were excluded from the blocks using avoidance techniques. For blocks included in the original FHP submission, a historical resources field assessment was completed on moderate potential sites in November 2017, no historical finds were located. For blocks added in this amendment, high potential polygons were also avoided, and clearance is being requested on moderate potential blocks.

2.4 Integration with FMA Holder

This is an integrated plan between the FMA holder and CTL holder. Both companies have validated the plan (Section 9.0).

2.5 Third Party Agreements

Road use agreements will be obtained prior to commencing operations.

The companies will obtain facility crossing agreements with disposition holders as needed for crossings in this plan prior to operations.

2.6 Consultative and Protective Notations

A Geographic Land Information Management and Planning System (GLIMPS) search was completed on September 28, 2017. Within the FHP area there is one consultative notation noted below that may be impacted:

Disposition	Holder	Comments
CNT 090030	Alberta Government, Forestry and Emergency Response	Timber dispositions do not require referral for this CNT.

2.7 First Nations Consultation

First Nation Consultation is completed at the GDP stage. Prior to approval of the GDP, consultation with First Nations is documented and submitted to the Alberta Government for review.

3.0 Operational Considerations

3.1 Utilization Standard

The coniferous utilization standard to be used for this CTL is **15/10 cm**.

The deciduous utilization standard to be used for this CTL is **15/10 cm**.

Tree, stand, broken piece and cull merchantability standards will be consistent with the conditions listed on the disposition and in the Northeast Alberta Operating Ground Rules.

3.2 Debris Disposal

Debris disposal will be conducted as per approved Annual Operating Plan and corresponding amendments.

3.3 Caribou/Wildlife Protection

Approximately half of the blocks included in this FHP are located within the East Side Athabasca (Algar Sub-Unit) Caribou Range (Table 2 and 3). Blocks located within the caribou range will be targeted for harvest operations early in the winter to avoid mid to late winter operations as much as possible.

Table 2: Northland Blocks within Caribou Range

Block Number	Opening Number	Coverage within Caribou Range
201	4120860887	Complete
202	4120860933	Complete
203	4120860905	Complete
204	4120860988	Complete
205	4120861026	Complete
206	4120861034	Complete
207	4120861067	Complete
208	4120861126	Partial
214	4120861514	Complete
215	4120861530	Complete
216	4120861561	Complete
217	4120861581	Complete
218	4120861618	Complete
219	4120861623	Complete
220	4120861645	Complete
221	4120861682	Complete
222	4120861679	Complete
223	4120861767	Complete
224	4120861794	Complete
225	4120861822	Partial
227	4120861856	Complete
232	4120861955	Partial
235	4120861980	Complete
236	4120861983	Complete
237	4120862001	Complete
238	4120861841	Complete
239D	4120862055	Complete
240D	4120862075	Complete
241	4120862079	Complete
242	4120862080	Complete
243	4120862123	Complete
244	4120862128	Complete
245	4120862141	Complete
246	4120862157	Complete
247	4120862735	Complete
248	4120862789	Complete
249	4120862822	Complete
250	4120862899	Complete
251	4120862923	Partial
252	4120862962	Complete
253	4120862984	Complete
254	4120862990	Complete

255	4120863091	Partial
258	4120862967	Complete
259	4120863330	Complete
260	4120863333	Complete
261	4120863357	Complete
262	4120863369	Complete
263	4120863396	Complete
264	4120863421	Complete
265	4120863452	Complete
266	4120863486	Complete
267	4120863510	Complete
268	4120863522	Complete
269	4120863531	Complete
274	4120870372	Complete
275	4120870395	Complete
284	4130861381	Partial
01464	4120870146	Complete
02351	4120870235	Complete

Table 3: Alberta Pacific Blocks with Caribou Range

Block Number	Opening Number	Coverage within Caribou Range
207D	4120861063	Complete
212D	4120861410	Partial
227D	4120861835	Complete
234D	4120861979	Partial
258D	4120863300	Partial
15111	4120861511	Complete
15331	4120861533	Complete
14031	4120861403	Complete
14211	4120861421	Partial
01551	4120870155	Complete
01481	4120870148	Complete
02061	4120870206	Complete
03681	4120870368	Partial

A smaller subset of the blocks included in this FHP are located within a Key Wildlife and Biodiversity Zone (KWBZ). Blocks completely or partially located within the KWBZ are listed in Tables 4 and 5. As outlined in **Section 7.7.4.6** of the OGRs, both Northland and Alberta Pacific will strive to complete harvest operations outside the timing restriction of January 15th to April 30th. Should operations extend past the restricted activity period for the KWBZ, extensions will be requested.

Table 4: Northland Conifer Blocks within KWBZ

Block Number	Opening Number	Coverage within KWBZ
256	4120863125	Partial
278	4120870472	Complete
279	4120870554	Complete
04644	4120870464	Complete

Table 5: Alberta Pacific Deciduous Blocks within KWBZ

Block Number	Opening Number	Coverage within KWBZ
35801	4130863580	Complete
25391	4130862539	Complete
09401	4120870940	Complete
04851	4120870485	Complete
03141	4120870314	Complete
03681	4120870368	Partial

A search of the Fish and Wildlife Management Information System (FWMIS) database was completed on November 10, 2017. Species that have been reported in this area included:

- Barred owl
- Osprey
- Trumpeter swan

Of the species reported through the FWMIS database search, the trumpeter swan is listed as ‘Species of Special Concern’ in Alberta and ‘Not at Risk’ federally; the barred owl and osprey are both listed as ‘Sensitive’ in Alberta and are not listed federally.

There are no trumpeter swan lakes in the area of this FHP, according to the AEP Wildlife Sensitivity data (April 2016). Additionally, none were observed during layout activities.

The barred owl is a year-round Alberta resident. Its preferred habitat is swamps and very dense, old mixedwood stands. The species likely selects old growth forests since nesting sites are more common in these stands (ie: tree cavities formed from fallen branches and broken top of balsam poplar and aspen). No nest sites are known within FHP area.

The osprey is a migratory raptor that primarily nests near waterbodies in tall trees (alive or dead) or on rock faces. It feeds exclusively on fish. There are no waterbodies present within this FHP that are suitable for osprey habitat, nor were any large stick nests found during layout operations.

3.4 Insect, Disease and Fire

No significant infestations of insect or disease were found in the area during layout. This FHP does not contain any fire salvage blocks.

4.0 Access Management

All access roads, including inter-block roads, are shown in Appendix A, crossings are shown in Appendix B and on the FHP map accompanying this plan. Operations in this FHP will utilize one public highway, Hwy 63, other industrial LOCs, right of ways and existing cutlines as discussed in Section 2.5.

All proposed roads within this FHP will be built to a Class IV standard as per Table 3 of the OGRs. Road right of way widths will be minimized as much as possible and will generally be between 7-10 meters. The majority of the creek crossings will be constructed using a combination of log fills and snow fills, however, native timber bridges may be utilized on a few of the larger crossings. Snowfill crossings will be notched to allow them to melt back to creek embankments during the spring. At the time of operations, the harvest supervisor may change crossing structures to any acceptable crossing type as per OGR 11.4.1.

Seismic lines that are being used for block access and in-block roads currently utilized by the trapper will not be reclaimed and will be left open for trapper access. Seismic lines that are used for block access and in-block roads that have regrowth greater than 3 meters will be reclaimed. All other access, not under disposition, will be deactivated using rollback following harvesting and hauling operations. ATV access may be maintained to allow access for pile burning operations the following year.

Any changes to roads or crossings will adhere to the protocol defined in **Section 3.5.5.1** of the Ground Rules.

4.1 Road Disturbance

A list of cutblocks and their estimated road disturbance has been provided in Table 6 & 7 below. For cutblocks greater than 7 ha in size, roads in several blocks exceed the 5% disturbance threshold of the harvest area as per OGR **Section 9.2**. Additional details on this deviation are included in Section 7.0.

Table 6: Road Disturbance within Northlands Cutblocks

Planning Unit	Block Number	Cutblock Area (ha)	Road Area (ha)	Disturbance (%)
PU086124	201	5.8	0.2	3.0
PU086124	202	17.4	0.4	2.4
PU086124	203	9.3	0.3	3.6
PU086124	204	18.8	0.7	3.8
PU086124	205	9.7	0.4	4.6
PU086124	206	3.7	0.1	1.8
PU086124	207	4.4	0.1	2.5
PU086124	208	26.2	0.7	2.5
PU086124	209	8.2	0.2	2.3
PU086124	210	5.8	0.2	2.6
PU086124	213	9.5	0.3	3.6
PU086124	214	12.4	0.7	6.0
PU086124	215	4.6	0.2	4.5
PU086124	216	3.6	0.2	5.4
PU086124	217	11.4	0.4	3.7
PU086124	218	6.8	0.4	5.9
PU086124	219	2.7	0.2	7.6
PU086124	220	8.5	0.3	3.3
PU086124	221	9.6	0.5	5.3
PU086124	222	20.0	0.6	2.8
PU086124	223	3.9	0.1	3.4
PU086124	224	4.3	0.2	3.8
PU086124	225	4.5	0.2	5.0
PU086124	227	23.6	0.6	2.7
PU086124	228	7.9	0.3	4.3
PU086124	229	5.3	0.3	5.6
PU086124	230	15.4	0.6	4.1
PU086124	232	30.0	1.1	3.5
PU086124	235	6.9	0.1	1.6
PU086124	236	6.9	0.2	2.4
PU086124	237	39.1	0.8	2.1
PU086124	238	11.1	0.3	2.9
PU086124	239D	15.2	0.4	2.4

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PU086124	240D	4.0	0.1	2.4
PU086124	242	15.7	0.5	2.9
PU086124	243	17.1	0.7	4.1
PU086124	244	2.8	0.1	4.0
PU086124	245	5.6	0.1	1.3
PU086124	246	4.5	0.2	3.4
PU086124	247	29.3	1.3	4.3
PU086124	248	14.8	0.5	3.7
PU086124	249	4.9	0.2	5.1
PU086124	250	6.1	0.1	1.7
PU086124	251	19.7	0.6	3.2
PU086124	252	9.0	0.3	3.9
PU086124	253	15.2	0.4	2.3
PU086124	254	5.0	0.3	6.1
PU086124	255	19.8	0.6	3.1
PU086124	256	16.8	0.2	1.2
PU086124	258	21.0	0.8	3.6
PU086124	259	4.7	0.1	2.0
PU086124	260	8.0	0.3	3.1
PU086124	261	2.6	0.1	4.9
PU086124	262	3.8	0.3	7.6
PU086124	263	4.4	0.2	5.4
PU086124	264	5.0	0.2	4.7
PU086124	265	4.2	0.2	4.6
PU086124	266	1.7	0.1	5.7
PU086124	267	5.4	0.1	2.6
PU086124	268	7.1	0.0	0.1
PU086124	274	4.5	0.2	3.4
PU086124	275	9.0	0.4	4.4
PU086124	278	1.7	0.1	6.8
PU086124	279	6.1	0.3	5.4
PU086124	281	3.7	0.1	3.0
PU086124	282	9.3	0.4	4.3
PU086124	283	18.0	0.6	3.3
PU086124	284	33.2	0.9	2.8
PU086124	286	32.5	1.0	3.1
PU086124	287	16.0	0.4	2.7
PU086124	289	10.3	0.3	3.3
PU086124	290	3.4	0.1	4.2
PU086124	291	8.0	0.3	3.5
PU086124	292	6.5	0.3	4.9
PU086124	293	24.9	0.4	1.8
PU086124	294	5.1	0.2	4.1
PU086124	295	7.9	0.2	2.7
PU086124	296	6.1	0.2	3.6
PU086124	298	6.4	0.3	4.7
PU086124	299	4.0	0.1	2.4
PU086124	01464	10.9	0.2	2.2
PU086124	02354	2.1	0.0	2.0
PU086124	03874	0.3	0.0	0.0
PU086124	04644	6.7	0.2	2.6

Total	85	867.4	27.9	3.2
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Table 7: Road Disturbance within Alberta-Pacific Cutblocks

Planning Unit	Block Number	Cutblock Area (ha)	Road Area (ha)	Disturbance (%)
PU086124	207D	6.1	0.3	5.7
PU086124	212D	2.2	0.2	7.2
PU086124	227D	5.6	0.2	2.8
PU086124	234D	11.9	0.6	5.3
PU086124	239D	15.2	0.4	2.3
PU086124	240D	4.0	4.0	2.4
PU086124	257D	4.2	0.2	4.1
PU086124	258D	44.6	1.9	4.3
PU086124	285D	6.1	0.1	2.2
PU086124	14031	1.3	0.1	7.2
PU086124	14211	14.7	1.1	7.5
PU086124	15111	5.7	0.2	4.2
PU086124	15331	4.4	0.4	8.5
PU086124	25391	2.1	0.2	11.3
PU086124	35801	8.1	0.5	6.0
PU086124	01481	7.0	0.4	5.4
PU086124	01551	7.1	0.5	6.4
PU086124	02061	4.8	0.4	9.2
PU086124	03141	13.7	1.0	7.0
PU086124	03681	13.5	0.4	3.2
PU086124	04851	27.6	1.4	4.9
PU086124	09401	10.9	0.6	5.6
Total	22	220.5	15.1	6.8

4.2 Protection of Roadside Vegetation

Roadside vegetation includes non-merchantable trees, shrubs, forbs and grasses located adjacent to a Class I, II or III road. During operations, this vegetation will be maintained by avoidance and removing only the merchantable timber, where possible.

5.0 Operational Design and Block Comments

A complete block list is provided in Appendix C. A summary of the variance from the approved Spatial Harvest Sequence (SHS) is provided in Appendix D as well as shown on the variance map included with this plan.

Cutblocks were laid out in a manner to achieve several objectives. These include maximizing operational efficiency, incorporating natural topography and forest ecology, reducing forest and land fragmentation, reducing linear disturbance, and mitigating impacts on other resources and values. All available tools such as LiDAR, Alberta Vegetation Inventory, and various third-party datasets, were used to prepare the plan to meet the objectives of the DFMP and OGR in an efficient and cost-effective manner.

The companies will identify and leave a patch (or patches) of timber representative of the area being harvested to meet the target as per **Section 7.4** of the OGRs. Planned retention patches are included in Appendix E and are shown on the provided FHP and blocks maps, however, the actual size and location of these “patches” will be confirmed through GPS traverse or post-harvest photo interpretation. Actual

retention will be reconciled with the as-built information and reported in the next Annual Operating Plan. Retention will also focus on snags, immature conifer understory, non-merchantable stems and clumps, where operationally and silviculturally feasible.

No significant weed issues were identified in this area at the time of planning. Operations will follow the *Appendix 3 – Directive for weed management* in the OGR.

6.0 Compartment Assessment

A compartment assessment was not required for this plan.

7.0 Ground Rule Deviations

The companies would like to request variance from OGR **Section 9.2** as outlined below.

- **Block 214** (Opening Number: 4120861514) is greater than 7 ha in size with roads exceeding 5% of the total area. The block is 12.4 ha originally had two roads planned, however an additional road was added to allow access to a new block included in this amendment, which is why the percentage is exceeded. The percent area of these roads is 6.0%.
- **Block 221** (Opening Number: 4120861682) is greater than 7 ha in size with roads exceeding 5% of the total area. The block is 9.6 ha, however, is quite narrow and is two pieces. A road (with one turnaround) was planned down the middle of each portion of the block. The percent area of these roads is 5.3%.
- **Block 234D** (Opening Number: 4120861979) is greater than 7 ha in size with roads exceeding 5% of the total area. The block is 11.9 ha, however, is narrow. One road was planned down the middle of the block to facilitate harvest operations. The percent area of these roads is 5.3%.
- **Block 14211** (Opening 4120861421) is greater than 7 ha in size with roads exceeding 5% of the total area. The block is 14.7 ha, however, it is a long narrow block that curves around like a “C” and provides access to a previously approved block.
- **Block 35801** (Opening 4130863580) is greater than 7 ha in size with roads exceeding 5% of the total area. The block is 8.1 ha, however there was a need to include a loop road at the end of the block which resulted in 0.5 ha of in-block road.
- **Block 01551** (Opening 4120861511) is greater than 7 ha in size with roads exceeding 5% of the total area. The block area is only 7.1 ha and has a main haul road going through the block to two directly adjacent approved blocks, resulting in additional road area.
- **Block 03141** (Opening 4120870314) is greater than 7 ha in size with roads exceeding 5% of the total area. The block area is 13.7 ha, however, the block is of irregular shape and terrain limiting reasonable skidding distances. The block also contains a loop road in the northern portion that provides access to an adjacent future planned block, which is not included in this amendment.
- **Block 09401** (Opening 4120870940) is greater than 7 ha in size with roads exceeding 5% of the total area. The block is 10.9 ha, however, the block is an irregular shape with approximately half the area being narrow. An existing cutline was utilized to provide access to the north portion and avoided the need for new cut on portions outside to the boundary. The spur road inside the block was extended to accommodate decking space and skidding distances in the southern portion.

The companies would like to request variance from OGR **Section 6.0.4** to construct approximately 135 metres of road (HRR202A) within 100-metres of a large permanent stream. This route would avoid the need for new cut road.

Alberta-Pacific Additions > 20% for Compartment A14-E

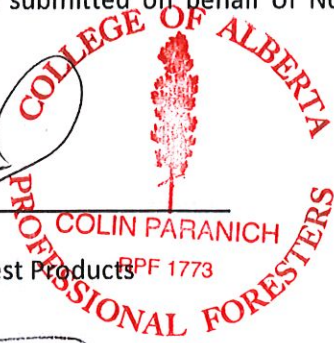
A large component of the variance in Compartment A14-E comes from a previous FHP in that same Compartment. Plan 086104 was planned and harvested between 2015-2017 using the 2006 SHS as the new FMP was not approved at the time. The blocks from 086104 were hardcoded into the new SHS, however some of that area was removed from the productive land base and SHS due to an overlapping Disposition Reservation (DRS) resulting in the 086104 plan to have a significant amount of addition variance, post harvest. If the contributing variance from the DRS removal in 086104 (approx. 150ha) were to be taken out of the calculation, the variance for Compartment A14-E would be well under 20%.

8.0 Validation by Registered Forest Practitioner

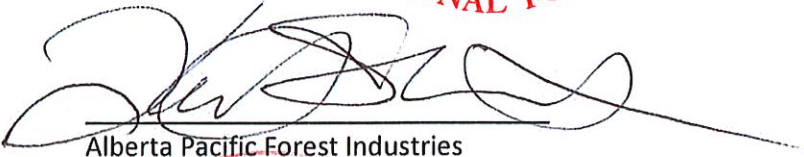
Plan prepared and submitted on behalf of Northland Forest Products Ltd and Alberta Pacific Forest Industries Inc. by:



Colin Paranich, RPF
For: Northland Forest Products



Date: February 11, 2019



Alberta Pacific Forest Industries

Date: February 11, 2019



Appendix A: List of Roads

Northland Roads

Block Number	Source ID	Road Name	Compartment	Road Class	Clearing Width	Road Surface Width	Season	Road Length (m)
		DLO000486	HRR	4	7 to 10	5 to 6	Frozen	15837
		DLO781334	HRR	4	7 to 10	5 to 6	Frozen	1982
		DLO860443	HRR	4	7 to 10	5 to 6	Frozen	31513
		LOC091615	HRR	4	7 to 10	5 to 6	Frozen	4140
		HRR_HAUL_A	HRR	4	7 to 10	5 to 6	Frozen	3958
		HRR_HAUL_B	HRR	4	7 to 10	5 to 6	Frozen	4341
		HRR_HAUL_C	HRR	4	7 to 10	5 to 6	Frozen	3956
202	NB08612409334	HRR202A	HRR	4	7 to 10	5 to 6	Frozen	2188
202	NB08612409334	HRR202B	HRR	4	7 to 10	5 to 6	Frozen	990
203	NB08612409054	HRR203A	HRR	4	7 to 10	5 to 6	Frozen	1488
204	NB08612409884	HRR204A	HRR	4	7 to 10	5 to 6	Frozen	683
204	NB08612409884	HRR204B	HRR	4	7 to 10	5 to 6	Frozen	708
205	NB08612410264	HRR205A	HRR	4	7 to 10	5 to 6	Frozen	93
206	NB08612410344	HRR206A	HRR	4	7 to 10	5 to 6	Frozen	211
207	NB08612410744	HRR207A	HRR	4	7 to 10	5 to 6	Frozen	3312
207	NB08612410744	HRR207B	HRR	4	7 to 10	5 to 6	Frozen	510
208	NB08612411264	HRR208A	HRR	4	7 to 10	5 to 6	Frozen	842
208	NB08612411264	HRR208B	HRR	4	7 to 10	5 to 6	Frozen	599
208	NB08612411264	HRR208C	HRR	4	7 to 10	5 to 6	Frozen	190
210	NB08612412064	HRR210A	HRR	4	7 to 10	5 to 6	Frozen	695
213	NB08612411864	HRR213A	HRR	4	7 to 10	5 to 6	Frozen	326
214	NB08612415144	HRR214A	HRR	4	7 to 10	5 to 6	Frozen	339
215	NB08612415304	HRR215A	HRR	4	7 to 10	5 to 6	Frozen	245
217	NB08612415814	HRR217A	HRR	4	7 to 10	5 to 6	Frozen	183
217	NB08612415814	HRR217B	HRR	4	7 to 10	5 to 6	Frozen	238
218	NB08612416184	HRR218A	HRR	4	7 to 10	5 to 6	Frozen	1006
219	NB08612416234	HRR219A	HRR	4	7 to 10	5 to 6	Frozen	677
221	NB08612416824	HRR221A	HRR	4	7 to 10	5 to 6	Frozen	1896
221	NB08612416824	HRR221B	HRR	4	7 to 10	5 to 6	Frozen	294
221	NB08612416824	HRR221C	HRR	4	7 to 10	5 to 6	Frozen	123
221	NB08612416824	HRR221D	HRR	4	7 to 10	5 to 6	Frozen	1357
222	NB08612416794	HRR222A	HRR	4	7 to 10	5 to 6	Frozen	1113
224	NB08612417944	HRR224A	HRR	4	7 to 10	5 to 6	Frozen	3974
229	NB08612419174	HRR229A	HRR	4	7 to 10	5 to 6	Frozen	175
230	NB08612419374	HRR230A	HRR	4	7 to 10	5 to 6	Frozen	239
230	NB08612419374	HRR230B	HRR	4	7 to 10	5 to 6	Frozen	678
232	NB08612419554	HRR232A	HRR	4	7 to 10	5 to 6	Frozen	633
232	NB08612419554	HRR232B	HRR	4	7 to 10	5 to 6	Frozen	1106
237	NB08612420014	HRR237A	HRR	4	7 to 10	5 to 6	Frozen	666
237	NB08612420014	HRR237B	HRR	4	7 to 10	5 to 6	Frozen	1342
238	NB08612418414	HRR238A	HRR	4	7 to 10	5 to 6	Frozen	714
241	NB08612420794	HRR241A	HRR	4	7 to 10	5 to 6	Frozen	5129
242	NB08612420804	HRR242A	HRR	4	7 to 10	5 to 6	Frozen	817
243	NB08612421234	HRR243A	HRR	4	7 to 10	5 to 6	Frozen	891
244	NB08612421284	HRR244A	HRR	4	7 to 10	5 to 6	Frozen	362
245	NB08612421414	HRR245A	HRR	4	7 to 10	5 to 6	Frozen	370
246	NB08612421574	HRR246A	HRR	4	7 to 10	5 to 6	Frozen	744
247	NB08612427354	HRR247A	HRR	4	7 to 10	5 to 6	Frozen	1192
247	NB08612427354	HRR247B	HRR	4	7 to 10	5 to 6	Frozen	381
248	NB08612427894	HRR248A	HRR	4	7 to 10	5 to 6	Frozen	172
248	NB08612427894	HRR248B	HRR	4	7 to 10	5 to 6	Frozen	714
249	NB08612428224	HRR249A	HRR	4	7 to 10	5 to 6	Frozen	721
251	NB08612429234	HRR251A	HRR	4	7 to 10	5 to 6	Frozen	871

251	NB08612429234	HRR251B	HRR	4	7 to 10	5 to 6	Frozen	266
252	NB08612429624	HRR252A	HRR	4	7 to 10	5 to 6	Frozen	596
254	NB08612429904	HRR254A	HRR	4	7 to 10	5 to 6	Frozen	532
255	NB08612430914	HRR255A	HRR	4	7 to 10	5 to 6	Frozen	450
255	NB08612430914	HRR255B	HRR	4	7 to 10	5 to 6	Frozen	427
260	NB08612433334	HRR260A	HRR	4	7 to 10	5 to 6	Frozen	112
260	NB08612433334	HRR260B	HRR	4	7 to 10	5 to 6	Frozen	269
261	NB08612433574	HRR261A	HRR	4	7 to 10	5 to 6	Frozen	1732
264	NB08612434214	HRR264A	HRR	4	7 to 10	5 to 6	Frozen	740
265	NB08612434524	HRR265A	HRR	4	7 to 10	5 to 6	Frozen	876
266	NB08612434864	HRR266A	HRR	4	7 to 10	5 to 6	Frozen	661
267	NB08612435104	HRR267A	HRR	4	7 to 10	5 to 6	Frozen	249
268	NB08612435224	HRR268A	HRR	4	7 to 10	5 to 6	Frozen	789
269	NB08612435314	HRR269A	HRR	4	7 to 10	5 to 6	Frozen	772
279	NB08712405544	HRR279A	HRR	4	7 to 10	5 to 6	Frozen	1435
281	NB08613413184	HRR281A	HRR	4	7 to 10	5 to 6	Frozen	2456
283	NB08613413684	HRR283A	HRR	4	7 to 10	5 to 6	Frozen	624
283	NB08613413684	HRR283B	HRR	4	7 to 10	5 to 6	Frozen	221
284	NB08613413814	HRR284A	HRR	4	7 to 10	5 to 6	Frozen	5074
284	NB08613413814	HRR284B	HRR	4	7 to 10	5 to 6	Frozen	145
284	NB08613413814	HRR284C	HRR	4	7 to 10	5 to 6	Frozen	303
284	NB08613413814	HRR284D	HRR	4	7 to 10	5 to 6	Frozen	128
286	NB08613414954	HRR286A	HRR	4	7 to 10	5 to 6	Frozen	1090
286	NB08613414954	HRR286B	HRR	4	7 to 10	5 to 6	Frozen	605
286	NB08613414954	HRR286C	HRR	4	7 to 10	5 to 6	Frozen	488
286	NB08613414954	HRR286D	HRR	4	7 to 10	5 to 6	Frozen	322
286	NB08613414954	HRR286E	HRR	4	7 to 10	5 to 6	Frozen	117
287	NB08613415984	HRR287A	HRR	4	7 to 10	5 to 6	Frozen	550
287	NB08613415984	HRR287B	HRR	4	7 to 10	5 to 6	Frozen	247
289	NB08613424254	HRR289A	HRR	4	7 to 10	5 to 6	Frozen	253
289	NB08613424254	HRR289B	HRR	4	7 to 10	5 to 6	Frozen	144
290	NB08613424444	HRR290A	HRR	4	7 to 10	5 to 6	Frozen	300
292	NB08613424664	HRR292A	HRR	4	7 to 10	5 to 6	Frozen	2101
292	NB08613424664	HRR292B	HRR	4	7 to 10	5 to 6	Frozen	471
296	NB08613425324	HRR296A	HRR	4	7 to 10	5 to 6	Frozen	404
298	NB08613425554	HRR298A	HRR	4	7 to 10	5 to 6	Frozen	561
298	NB08613425554	HRR298B	HRR	4	7 to 10	5 to 6	Frozen	279
299	NB08613425544	HRR299A	HRR	4	7 to 10	5 to 6	Frozen	570
02354	NB08712402354	RB08712402354A	HRR	4	7 to 10	5 to 6	Frozen	309
Total								135590

Alberta Pacific Roads

Block Number	Source ID	Road Name	Planning Unit	Road Class	Clearing Width	Road Surface Width	Season	Road Length (m)
212D	FB08612414101	HRR212DA	PU086124	4	10-15	9	Frozen	1023
227D	FB08612409131	HRR227DA	PU086124	4	10-15	9	Frozen	128
227D	FB08612409131	HRR227DB	PU086124	4	10-15	9	Frozen	161
227D	FB08612409131	HRR227DC	PU086124	4	10-15	9	Frozen	654
228D	FB08612419141	HRR228DA	PU086124	4	10-15	9	Frozen	830
234D	FB08612419791	HRR234DA	PU086124	4	10-15	9	Frozen	382
234D	FB08612419791	HRR234DB	PU086124	4	10-15	9	Frozen	142
235D	FB08612419801	HRR235D	PU086124	4	10-15	9	Frozen	208
236D	FB08612419831	HRR236DA	PU086124	4	10-15	9	Frozen	436
236D	FB08612419831	HRR236DB	PU086124	4	10-15	9	Frozen	166
239D	FB08612420551	HRR239DA	PU086124	4	10-15	9	Frozen	205
239D	FB08612420551	HRR239DB	PU086124	4	10-15	9	Frozen	298
239D	FB08612420551	HRR239DC	PU086124	4	10-15	9	Frozen	252
240D	FB08612420751	HRR240DA	PU086124	4	10-15	9	Frozen	882
250D	FB08612428991	HRR250DA	PU086124	4	10-15	9	Frozen	530
253D	FB08612429841	HRR253DB	PU086124	4	10-15	9	Frozen	754
256D	FB08612431251	HRR256DA	PU086124	4	10-15	9	Frozen	350
256D	FB08612431251	HRR256DB	PU086124	4	10-15	9	Frozen	404
257D	FB08612432951	HRR257DA	PU086124	4	10-15	9	Frozen	126
258D	FB08612433001	HRR258DA	PU086124	4	10-15	9	Frozen	1031
258D	FB08612433001	HRR258DB	PU086124	4	10-15	9	Frozen	308
258D	FB08612433001	HRR258DC	PU086124	4	10-15	9	Frozen	929
258D	FB08612433001	HRR258DD	PU086124	4	10-15	9	Frozen	234
259D	FB08612433301	HRR259DA	PU086124	4	10-15	9	Frozen	471
263D	FB08612433961	HRR261A	PU086124	4	10-15	9	Frozen	2085
272D	FB08612435941	HRR272DA	PU086124	4	10-15	9	Frozen	1522
282D	FB08613413491	HRR282DA	PU086124	4	10-15	9	Frozen	406
282D	FB08613413491	HRR282DB	PU086124	4	10-15	9	Frozen	83
285D	FB08613414431	HRR285DA	PU086124	4	10-15	9	Frozen	524
291D	FB08613424471	HRR291DA	PU086124	4	10-15	9	Frozen	517
293D	FB08613424831	HRR293DA	PU086124	4	10-15	9	Frozen	573
294D	FB08613424881	HRR294DA	PU086124	4	10-15	9	Frozen	3361
14031	FB08612414031	RB08612414031A	PU086124	4	10-15	9	Frozen	130
14211	FB08612414211	RB08612414211A	PU086124	4	10-15	9	Frozen	293
15331	FB08612415331	RB08612415331A	PU086124	4	10-15	9	Frozen	1061
35801	FB08613435801	RB08613435801A	PU086124	4	10-15	9	Frozen	1212
01481	FB08712401481	RB08712401481A	PU086124	4	10-15	9	Frozen	3448
01481	FB08712401481	RB08712401481B	PU086124	4	10-15	9	Frozen	384
02061	FB08712402061	RB08712402061A	PU086124	4	10-15	9	Frozen	552
03141	FB08712403141	RB08712403141A	PU086124	4	10-15	9	Frozen	1882
03141	FB08712403141	RB08712403141B	PU086124	4	10-15	9	Frozen	332
03681	FB08712403681	RB08712403681A	PU086124	4	10-15	9	Frozen	829
03681	FB08712403681	RB08712403681C	PU086124	4	10-15	9	Frozen	14
04851	FB08712404851	RB08712404851A	PU086124	4	10-15	9	Frozen	811
05544	FB08712405544	RB08712405544A	PU086124	4	10-15	9	Frozen	2459
09401	FB08712409401	RB08712409401A	PU086124	4	10-15	9	Frozen	843
Total								34224

Appendix B: Watercourse Crossings

Northland Crossings

Crossing Number	Road Name	Stream Class	Crossing Type	Latitude	Longitude
HRR-2017147	HRR275A	Ephemeral	Log Fill	56.51497766	-111.8139574
HRR-2017148	HRR210A	Ephemeral	Log Fill	56.44692947	-111.7727241
HRR-2017150	HRR202A	Ephemeral	Snow Fill	56.43958195	-111.8456922
HRR-2017151	HRR202A	Ephemeral	Snow Fill	56.43959076	-111.8396526
HRR-2017152	DLO860443	Large Perm	Native Timber Bridge	56.43719588	111.8616483
HRR-2017153	HRR207B	Ephemeral	Snow Fill	56.4424032	-111.8077558
HRR-2017155	HRR230B	Ephemeral	Snow Fill	56.4748971	-111.8950899
HRR-2017156	HRR230B	Ephemeral	Log Fill	56.47184059	-111.8957039
HRR-2017157	Skid	Intermittent	Snow Fill	56.46621761	-111.8892309
HRR-2017158	HRR232B	Ephemeral	Log Fill	56.46673599	-111.8930269
HRR-2017161	HRR246A	Ephemeral	Log Fill	56.47586348	-111.8370401
HRR-2017166	HRR261A	Ephemeral	Snow Fill	56.49987381	-111.8421842
HRR-2017167	HRR260B	Ephemeral	Snow Fill	56.49912652	-111.8412538
HRR-2017170	HRR284A	Ephemeral	Snow Fill	56.45040149	-111.9010522
HRR-2017171	HRR286E	Ephemeral	Snow Fill	56.45867655	-111.9322926
HRR-2017174	HRR281A	Intermittent	Snow Fill	56.47244022	-111.9041368
HRR-2017175	HRR298A	Ephemeral	Snow Fill	56.4868301	-111.9173812
HRR-2017176	HRR299A	Ephemeral	Snow Fill	56.47632042	-111.9121357
HRR-2017177	DLO860443	Large Perm	Steel Bridge	56.40869017	-111.8042901
HRR-2017178	DLO860443	Small Perm	Log Fill	56.40729424	-111.7054444
HRR-2017179	DLO860443	Intermittent	Snow Fill	56.40729497	-111.6697056
HRR-2017180	DLO860443	Small Perm	Snow Fill	56.4078423	-111.5642812
HRR-2017181	DLO860443	Large Perm	Steel Bridge	56.41309194	-111.4531687
HRR-2017182	DLO860443	Intermittent	Snow Fill	56.41353039	-111.4456685
HRR-2017183	DLO860443	Ephemeral	Snow Fill	56.41493028	-111.4240472
HRR-2017184	DLO860443	Ephemeral	Snow Fill	56.41594438	-111.40915
HRR-2017185	DLO860443	Ephemeral	Snow Fill	56.41450454	-111.4308769
HRR-2017186	DLO860443	Ephemeral	Snow Fill	56.41522384	-111.4204771
HRR-2017187	DLO860443	Ephemeral	Snow Fill	56.40722004	-111.8263647
HRR-2017188	DLO860443	Ephemeral	Snow Fill	56.40721445	-111.8342034
HRR-2017189	DLO860443	Ephemeral	Log Fill	56.4075934	-111.8414676
HRR-2017190	DLO000486	Small Perm	Native Timber Bridge	56.4302854	-111.9026011
HRR-2017191	DLO000486	Beaver Pond	Snow Fill	56.4608549	-111.9482558
HRR-2017192	DLO000486	Ephemeral	Snow Fill	56.48152427	-111.9266516
HRR-2017193	DLO000486	Beaver Pond	Snow Fill	56.49213884	-111.9157351
HRR-2017194	DLO860443	Ephemeral	Snow Fill	56.40778664	-111.810375
HRR-2017195	HRR207A	Large Perm	Native Timber Bridge	56.45446183	-111.8043795
HRR-2017196	LOC091615	Ephemeral	Snow Fill	56.41520915	-111.779424
HRR-2017197	HRR_HAUL_B	Ephemeral	Snow Fill	56.41688963	-111.7777853
HRR-2017198	Skid	Ephemeral	Snow Fill	56.46507763	-111.8438711
HRR-2017200	HRR292B	Ephemeral	Snow Fill	56.47370275	-111.909303

Alberta Pacific Crossings

Crossing Number	Road Name	Stream Class	Crossing Type	Latitude	Longitude
HRR-2017154	HRR227DB	Intermittent	Snow Fill	56.46436746	-111.8849152
HRR-2017159	HRR294DA	Ephemeral	Snow Fill	56.47566924	-111.8890113
HRR-2017172	HRR291DA	Ephemeral	Snow Fill	56.4768876	-111.9168925

Appendix C: Cutblock Area and Volume Summary

Northland - Coniferous Blocks

License	Block Number	Source ID	Opening Number	Season	Status	Area (ha)	Conifer (m3/ha)	Deciduous (m3/ha)	Conifer Volume (m3)	Deciduous Volume (m3)	Total Volume (m3)
CTLA140003	201	NB08612408874	4120860887	Frozen	Laid Out	5.8	94	0	545	0	545
CTLA140003	202	NB08612409334	4120860933	Frozen	Laid Out	17.4	170	0	2952	0	2952
CTLA140003	203	NB08612409054	4120860905	Frozen	Laid Out	9.3	184	0	1717	0	1717
CTLA140003	204	NB08612409884	4120860988	Frozen	Laid Out	18.8	158	18	2967	338	3305
CTLA140003	205	NB08612410264	4120861026	Frozen	Laid Out	9.7	192	10	1855	97	1952
CTLA140003	206	NB08612410344	4120861034	Frozen	Laid Out	3.7	59	39	218	144	362
CTLA140003	207	NB08612410674	4120861067	Frozen	Laid Out	4.4	128	156	563	686	1250
CTLA140003	208	NB08612411264	4120861126	Frozen	Laid Out	26.2	104	45	2724	1179	3903
CTLA140003	209	NB08612411564	4120861156	Frozen	Laid Out	8.2	91	10	742	82	824
CTLA140003	210	NB08612412064	4120861206	Frozen	Laid Out	5.8	100	0	578	0	578
CTLA140003	213	NB08612411864	4120861186	Frozen	Laid Out	9.5	106	27	1006	256	1262
CTLA140003	214	NB08612415144	4120861514	Frozen	Laid Out	12.4	178	20	2214	249	2463
CTLA140003	215	NB08612415304	4120861530	Frozen	Laid Out	4.6	173	43	796	198	994
CTLA140003	216	NB08612415614	4120861561	Frozen	Laid Out	3.6	164	18	590	65	655
CTLA140003	217	NB08612415814	4120861581	Frozen	Laid Out	11.4	96	0	1099	0	1099
CTLA140003	218	NB08612416184	4120861618	Frozen	Laid Out	6.8	97	0	662	0	662
CTLA140003	219	NB08612416234	4120861623	Frozen	Laid Out	2.7	80	5	217	14	231
CTLA140003	220	NB08612416454	4120861645	Frozen	Laid Out	8.5	125	14	1065	119	1184
CTLA140003	221	NB08612416824	4120861682	Frozen	Laid Out	9.6	155	17	1483	163	1646
CTLA140003	222	NB08612416794	4120861679	Frozen	Laid Out	20.0	150	37	3001	740	3741
CTLA140003	223	NB08612417674	4120861767	Frozen	Laid Out	3.9	106	0	418	0	418
CTLA140003	224	NB08612417944	4120861794	Frozen	Laid Out	4.3	101	0	430	0	430
CTLA140003	225	NB08612418224	4120861822	Frozen	Laid Out	4.5	328	36	1473	162	1635
CTLA140003	227	NB08612409134	4120861856	Frozen	Laid Out	23.6	82	183	1937	4322	6259
CTLA140003	228	NB08612419144	4120861914	Frozen	Laid Out	7.9	134	144	1065	1144	2209
CTLA140003	229	NB08612419174	4120861917	Frozen	Laid Out	5.3	124	53	658	281	939
CTLA140003	230	NB08612419374	4120861937	Frozen	Laid Out	15.4	117	50	1798	769	2567
CTLA140003	232	NB08612419554	4120861955	Frozen	Laid Out	30.0	142	83	4264	2492	6756
CTLA140003	235	NB08612419804	4120861980	Frozen	Laid Out	6.9	100	196	693	1358	2051
CTLA140003	236	NB08612419834	4120861983	Frozen	Laid Out	6.9	115	157	789	1077	1866
CTLA140003	237	NB08612420014	4120862001	Frozen	Laid Out	39.1	180	120	7043	4695	11738
CTLA140003	238	NB08612418414	4120861841	Frozen	Laid Out	11.1	174	90	1932	999	2931
CTLA140003	241	NB08612420794	4120862079	Frozen	Laid Out	1.1	105	80	110	84	194

CTLA140003	242	NB08612420804	4120862080	Frozen	Laid Out	15.7	135	15	2123	236	2359
CTLA140003	243	NB08612421234	4120862123	Frozen	Laid Out	17.1	176	80	3001	1364	4365
CTLA140003	244	NB08612421284	4120862128	Frozen	Laid Out	2.8	43	29	120	81	201
CTLA140003	245	NB08612421414	4120862141	Frozen	Laid Out	5.6	175	123	988	694	1682
CTLA140003	246	NB08612421574	4120862157	Frozen	Laid Out	4.5	237	59	1060	264	1324
CTLA140003	247	NB08612427354	4120862735	Frozen	Laid Out	29.3	180	120	5271	3514	8785
CTLA140003	248	NB08612427894	4120862789	Frozen	Laid Out	14.8	99	42	1466	622	2088
CTLA140003	249	NB08612428224	4120862822	Frozen	Laid Out	4.9	36	36	177	177	354
CTLA140003	250	NB08612428994	4120862899	Frozen	Laid Out	6.1	82	192	500	1171	1671
CTLA140003	251	NB08612429234	4120862923	Frozen	Laid Out	19.7	133	89	2617	1751	4368
CTLA140003	252	NB08612429624	4120862962	Frozen	Laid Out	9.0	65	43	584	386	970
CTLA140003	253	NB08612429844	4120862984	Frozen	Laid Out	15.2	126	86	1912	1305	3217
CTLA140003	254	NB08612429904	4120862990	Frozen	Laid Out	5.0	83	55	413	274	687
CTLA140003	255	NB08612430914	4120863091	Frozen	Laid Out	19.8	172	124	3407	2456	5863
CTLA140003	256	NB08612431254	4120863125	Frozen	Laid Out	16.8	84	158	1410	2652	4062
CTLA140003	258	NB0861249674	4120862967	Frozen	Laid Out	21.0	113	122	2371	2560	4932
CTLA140003	259	NB08612433304	4120863330	Frozen	Laid Out	4.7	131	145	617	683	1300
CTLA140003	260	NB08612433334	4120863333	Frozen	Laid Out	8.0	206	88	1643	702	2345
CTLA140003	261	NB08612433574	4120863357	Frozen	Laid Out	2.6	239	102	629	269	898
CTLA140003	262	NB08612433694	4120863369	Frozen	Laid Out	3.8	251	107	960	409	1369
CTLA140003	263	NB08612433964	4120863396	Frozen	Laid Out	4.4	79	52	351	231	582
CTLA140003	264	NB08612434214	4120863421	Frozen	Laid Out	5.0	144	36	718	179	897
CTLA140003	265	NB08612434524	4120863452	Frozen	Laid Out	4.2	165	41	699	174	873
CTLA140003	266	NB08612434864	4120863486	Frozen	Laid Out	1.7	190	47	319	79	398
CTLA140003	267	NB08612435104	4120863510	Frozen	Laid Out	5.4	106	46	572	248	820
CTLA140003	268	NB08612435224	4120863522	Frozen	Laid Out	7.1	101	43	719	306	1025
CTLA140003	269	NB08612435314	4120863531	Frozen	Laid Out	7.9	76	51	599	402	1001
CTLA140003	274	NB08712403724	4120870372	Frozen	Laid Out	4.5	156	66	700	298	998
CTLA140003	275	NB08712403954	4120870395	Frozen	Laid Out	9.0	223	55	2009	498	2507
CTLA140003	278	NB08712404724	4120870472	Frozen	Laid Out	1.7	66	99	112	168	280
CTLA140003	279	NB08712405544	4120870554	Frozen	Laid Out	6.1	224	0	1364	0	1364
CTLA140003	281	NB08613413184	4130861318	Frozen	Laid Out	3.7	167	121	614	445	1059
CTLA140003	282	NB08613413494	4130861349	Frozen	Laid Out	9.3	121	166	1131	1552	2683
CTLA140003	283	NB08613413684	4130861368	Frozen	Laid Out	18.0	198	49	3558	880	4438
CTLA140003	284	NB08613413814	4130861381	Frozen	Laid Out	33.2	267	30	8838	993	9831
CTLA140003	286	NB08613414954	4130861495	Frozen	Laid Out	32.5	136	99	4423	3220	7643
CTLA140003	287	NB08613415984	4130861598	Frozen	Laid Out	16.0	209	139	3340	2221	5561

CTLA140003	289	NB08613424254	4130862425	Frozen	Laid Out	10.3	279	70	2864	719	3583
CTLA140003	290	NB08613424444	4130862444	Frozen	Laid Out	3.4	127	55	436	189	625
CTLA140003	291	NB08613424474	4130862447	Frozen	Laid Out	8.0	69	191	554	1532	2086
CTLA140003	292	NB08613424664	4130862466	Frozen	Laid Out	6.5	137	59	892	384	1276
CTLA140003	293	NB08613424834	4130862483	Frozen	Laid Out	24.9	82	200	2038	4972	7010
CTLA140003	294	NB08613424884	4130862488	Frozen	Laid Out	5.1	175	50	901	257	1158
CTLA140003	295	NB08613425014	4130862501	Frozen	Laid Out	7.9	187	0	1469	0	1469
CTLA140003	296	NB08613425324	4130862532	Frozen	Laid Out	6.1	112	48	684	293	977
CTLA140003	298	NB08613425554	4130862555	Frozen	Laid Out	6.4	223	56	1435	360	1795
CTLA140003	299	NB08613425544	4130862554	Frozen	Laid Out	4.0	168	0	671	0	671
CTLA140003	300	NB08612411644	4120861164	Frozen	Laid Out	4.6	92	0	423	0	423
CTLA140003	01464	NB08712401464	4120870146	Frozen	Laid Out	10.9	116	131	1264	1431	2694
CTLA140003	02354	NB08712402354	4120870235	Frozen	Laid Out	2.1	132	131	279	277	557
CTLA140003	03874	NB08712403874	4120870387	Frozen	Laid Out	0.3	-	-	-	-	-
CTLA140003	04644	NB08712404644	4120870464	Frozen	Laid Out	6.7	96	122	644	820	1463
Total						861.8			125493	66412	191905

Alberta Pacific - Deciduous Blocks

Planning Unit	Block Number	Source ID	Opening Number	Season	Status	Area (ha)	Conifer (m3/ha)	Deciduous (m3/ha)	Conifer Volume (m3)	Deciduous Volume (m3)	Total Volume (m3)
PU086124	207D	FB08612410631	4120861063	Frozen	Laid Out	6.1	128	156	775	945	1720
PU086124	212D	FB08612414101	4120861410	Frozen	Laid Out	2.2	73	205	160	450	610
PU086124	227D	FB08612418351	4120861835	Frozen	Laid Out	5.6	82	183	458	1022	1480
PU086124	234D	FB08612419791	4120861979	Frozen	Laid Out	11.9	154	130	1835	1549	3384
PU086124	239D	FB08612420551	4120862055	Frozen	Laid Out	15.2	134	88	2031	1334	3365
PU086124	240D	FB08612420751	4120862075	Frozen	Laid Out	4.0	81	169	322	672	994
PU086124	257D	FB08612432951	4120863295	Frozen	Laid Out	4.2	58	231	244	971	1215
PU086124	258D	FB08612433001	4120863300	Frozen	Laid Out	44.6	113	122	5035	5436	10471
PU086124	285D	FB08613414431	4130861443	Frozen	Laid Out	6.1	74	230	451	1401	1852
PU086124	14031	FB08612414031	4120861403	Frozen	Laid Out	1.3	57	175	72	223	295
PU086124	14211	FB08612414211	4120861421	Frozen	Laid Out	14.7	73	187	1067	2747	3814
PU086124	15111	FB08612415111	4120861511	Frozen	Laid Out	5.7	74	196	424	1119	1543
PU086124	15331	FB08612415331	4120861533	Frozen	Laid Out	4.4	53	169	233	741	974
PU086124	25391	FB08613425391	4130862539	Frozen	Laid Out	2.1	24	221	50	459	510
PU086124	35801	FB08613435801	4130863580	Frozen	Laid Out	8.1	50	212	409	1726	2135
PU086124	01481	FB08712401481	4120870148	Frozen	Laid Out	7.0	30	180	212	1255	1467
PU086124	01551	FB08712401551	4120870155	Frozen	Laid Out	7.1	8	188	55	1337	1393
PU086124	02061	FB08712402061	4120870206	Frozen	Laid Out	4.8	61	181	293	871	1164
PU086124	03141	FB08712403141	4120870314	Frozen	Laid Out	13.7	64	187	875	2550	3426
PU086124	03681	FB08712403681	4120870368	Frozen	Laid Out	13.5	100	165	1356	2229	3585

PU086124	04851	FB08712404851	4120870485	Frozen	Laid Out	27.5	70	209	1929	5739	7669
PU086124	09401	FB08712409401	4120870940	Frozen	Laid Out	10.9	48	135	521	1469	1991
Total						220.5			18809	36246	55055

SHS Variance Summary

Operator: Al-Pac

SR SHS Tracking between 2015 and 2025 (timber year)
PD 1, Year 1-10

02/11/2019

Harvest Profile					Planned for Harvest (ha)									Asbuilts				Combined As-Built & Planned				Unplanned									
					Variance				Harvested (ha)					SHS Assessment (Excluding Slivers)		Variance		SHS Assessment (Excluding Slivers)													
Compartment	Company Specific Yield Strata	Provincial Yield Strata	Approved DFA 10 Year SHS	Operator Approved FMP 10 Year SHS	SHS 1-10yr	SHS 11-20yr	Contributing Landbase Outside SHS	Non-Contributing Landbase	Total	Additions	Deletions	Deferrals	Total	Additions	Deletions & Deferrals	Total	SHS 1-10yr	SHS 11-20yr	Contributing Landbase Outside SHS	Non-Contributing Landbase	Total	SHS Variance (Additions %)	Difference in Area (Subst. Add. - D&D)	Difference in Area Total Harvested - 10yr FMP SHS	Additions	Deletions	Deferrals	SHS Variance (Additions %)	Difference in Area (Subst. Add. - D&D)	Remaining Available Area (SHS & Non-SHS)	Unplanned SHS in Compartment
A14-E	All	All	3,862	1,432	976	-	146	237	1,360	383	226	48	274	130	182	312	-	-	-	-	-	26.75%	109	(1,432)	383	226	48	26.75%	109	72	(0)
	Aw/AwU	D	1,432	1,432	976.46	-	146.17	219.82	1,342.45	366.0	226.0	47.7	273.7	62.0	181.7	243.7	-	-	-	-	-	25.56%	92	(1,432)	366	226	48	25.56%	92	89	(0)
	PjMx	DC-P	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00%	-	-	-	-	-	-	-	-	-
	AwSx	DC-S	427	-	-	-	-	-	-	-	-	-	-	8.9	-	8.9	-	-	-	-	-	0.00%	-	-	-	-	-	-	-	-	-
	SxAw	CD-SW	414	-	-	-	-	-	-	-	-	-	-	7.6	-	7.6	-	-	-	-	-	0.00%	-	-	-	-	-	-	-	-	-
	PjMx	CD-P	36	-	-	-	-	-	-	-	-	-	-	0.0	-	0.0	-	-	-	-	-	0.00%	-	-	-	-	-	-	-	-	-
	SxAw	CD-SB	19	-	-	-	-	-	-	-	-	-	-	1.4	-	1.4	-	-	-	-	-	0.00%	-	-	-	-	-	-	-	-	-
	Sw	C-SW	880	-	-	-	-	-	-	-	-	-	-	14.2	-	14.2	-	-	-	-	-	0.00%	-	-	-	-	-	-	-	-	-
	Pj	C-P	280	-	-	-	-	-	-	-	-	-	-	1.5	-	1.5	-	-	-	-	-	0.00%	-	-	-	-	-	-	-	-	-
	SbG	C-SB	361	-	-	-	-	-	-	-	-	-	-	27.1	-	27.1	-	-	-	-	-	0.00%	-	-	-	-	-	-	-	-	-
	SBFM	C-SBFM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00%	-	-	-	-	-	-	-	-	-
	X	NoStrata	-	-	-	-	17.06	17.06	17.06	17.1	-	-	-	7.7	-	7.7	-	-	-	-	-	0.00%	17	-	17	-	-	-	17	(17)	-

Note: * Deletions and Deferrals to be provided in shapefile format for next FMP
Values may be affected by rounding

Planning Units Submitted with this Variance Calculation in order of latest to Oldest: 086124, 086104, 084144

SHS Variance Summary

Operator - NFPL

SR SHS Tracking between 2015 and 2025 (timber year)

PD 1, Year 1-10

Harvest Profile					Planned for Harvest (ha)												Asbuilts						Combined As-Built & Planned						Unplanned		
					Variance						Harvested (ha)						Variance			SHS Assessment (Excluding Slivers)											
																	Substantial			Slivers			Substantial			SHS Assessment (Excluding Slivers)					
Compartment	Company Specific Yield Strata	Provincial Yield Strata	Approved DFA 10 Year SHS	Operator Approved FMP 10 Year SHS	SHS 1-10yr	SHS 11-20yr	Contributing Landbase Outside SHS	Non-Contributing Landbase	Total	Additions	Deletions	Deferrals	Total	Additions	Deletions & Deferrals	Total	SHS 1-10yr	SHS 11-20yr	Contributing Landbase Outside SHS	Non-Contributing Landbase	Total	SHS Variance (Additions %)	Difference in Area (Subst. Add. - D&D)	Difference in Area Total Harvested - 10yr FMP SHS	Additions	Deletions	Deferrals	SHS Variance (Additions %)	Difference in Area (Subst. Add. - D&D)	Remaining Available Area (SHS & Non-SHS)	unplanned SHS in Compartment
A14-E	All	All	3,862	2,430	1,087	-	184	27	1,298	211	554	183	737	249	326	574	268	-	49	10	327	8.69%	(526)	(2,103)	211	332	108	8.69%	(229)	1,132	13
	Aw/AwU	D	1,432	-			62.58		62.58	62.6	96.3	47.7	144.0	48.0	32.3	80.4	37.4		0.9		38.3	100.00%	(81)	38	63	96	48	100.00%	(81)	(101)	(214)
	PjMX	DC-P	14	14	1.86		5.40		7.26	5.4	9.7		9.7	1.2	0.7	1.9	1.1				1.1	39.69%	(4)	(12)	5	10	-	39.69%	(4)	5	0
	AwSx	DC-S	427	427	257.39				257.39	-	42.7	7.6	50.3	8.3	56.6	64.9	19.9				19.9	0.00%	(50)	(407)	-	43	8	0.00%	(50)	150	43
	SxAw	CD-SW	414	414	219.13		2.51		221.64	2.5	44.8	13.2	58.0	10.6	51.9	62.5	47.0				47.0	0.61%	(55)	(367)	3	45	13	0.61%	(55)	146	38
	PjMx	CD-P	36	36	19.36		6.22		25.58	6.2			-	3.1	3.8	6.8	5.3				5.3	17.47%	6	(30)	6	-	-	17.47%	6	5	7
	SxAw	CD-SB	19	19	10.75				10.75	-			-	1.5	3.8	5.4	-				-	0.00%	-	(19)	-	-	-	0.00%	-	8	4
	Sw	C-SW	880	880	354.54		21.30	4.98	380.82	26.3	138.6	39.1	177.7	27.5	115.3	142.8	113.5				113.5	2.99%	(151)	(767)	26	139	39	2.99%	(151)	386	119
	Pj	C-P	280	280	130.14		12.25	3.16	145.55	15.4	63.9	10.4	74.3	9.6	21.5	31.1	41.7				41.7	5.50%	(59)	(238)	15	64	10	5.50%	(59)	93	13
	SbG	C-SB	361	361	93.66		88.36	4.32	186.34	92.7	158.1	65.3	223.5	117.4	39.8	157.3	1.7		43.8 ###		55.6	25.67%	(131)	(305)	93	158	65	25.67%	(131)	119	2
	SBFM	C-SBFM	-	-	-		-	-	-	-	-	-	-	9.2		9.2	-				-	0.00%	-	-	-	-	-	0.00%	-	-	-
	X	NoStrata	-	-	-		-	-	-	-	-	-	-	12.2		12.2	-		4.8		4.8	100.00%	-	5	-	-	-	100.00%	-	(5)	-

Note: * Deletions and Deferrals to be provided in shapefile format for next FMP
Values may be affected by rounding

Planning Units submitted with variance include: 86124, 86104, 85124 (LHC and HR14-01) and 84144

Appendix E: Planned Retention

Northland Retention

Block Number	Source ID	Opening Number	Type	Size (ha)
202	NB08612409334	4120860933	Island	0.4
203	NB08612409054	4120860905	Island	0.4
204	NB08612409884	4120860988	Island	0.2
208	NB08612411264	4120861126	Island	0.1
208	NB08612411264	4120861126	Island	0.5
214	NB08612415144	4120861514	Island	0.1
217	NB08612415814	4120861581	Island	0.4
222	NB08612416794	4120861679	Island	0.2
232	NB08612419554	4120861955	Island	0.4
237	NB08612420014	4120862001	Island	1.1
242	NB08612420804	4120862080	Island	0.3
247	NB08612427354	4120862735	Island	0.2
247	NB08612427354	4120862735	Island	0.3
248	NB08612427894	4120862789	Island	0.2
251	NB08612429234	4120862923	Island	0.4
251	NB08612429234	4120862923	Island	0.4
252	NB08612429624	4120862962	Island	0.2
253	NB08612429844	4120862984	Island	0.7
255	NB08612430914	4120863091	Island	0.1
255	NB08612430914	4120863091	Island	0.2
255	NB08612430914	4120863091	Island	0.4
256	NB08612431254	4120863125	Island	1.7
283	NB08613413684	4130861368	Island	0.5
284	NB08613413814	4130861381	Island	1.8
293	NB08613424834	4130862483	Island	0.6
298	NB08613425554	4130862555	Island	0.1
Total				11.9

Alberta Pacific Retention

Block Number	Source ID	Opening Number	Type	Size (ha)
227D	FB08612409131	4120860913	Island	0.3
258D	FB08612433001	4120863300	Island	5.1
Total				5.5