



Alberta Pacific Forest Industries Inc.  
and  
Northland Forest Products Ltd.

## Forest Harvest Plan

Compartment: "East Athabasca River - L03-A"

Planning Unit: "077154 (WMT)"

FMA 9100029 & CTLL030047

**Forest Harvest Plan - 077154WMT(20-25)**

Date Submitted: **2020/10/13**

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# Forest Harvest Plan

**PU077154**

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FHP Overview Map

SHS Variance Map

Block Maps

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# Report

## 1.0 Introduction

Alberta – Pacific Forest Industries Inc. (Alberta – Pacific) and Northland Forest Products Ltd. (Northland) have prepared a Forest Harvest Plan (FHP) for the harvest of deciduous and coniferous stands within Planning Unit 077154.

Planning Unit 077154 is comprised of 52 proposed coniferous cutblocks and 33 proposed deciduous cutblocks with a total area of 1,755.6 ha, within Forest Management Unit (FMU) Lo3.

The companies have identified four potential camp locations for logging operations within this Planning Unit. The temporary camps are in blocks FCo7715411041

(Lat 6168293.842, Long 422317.563298), FCo7715435681 (Lat 6175883.3584, Long - 423132.0113), NCo7715412464 (Lat 6168702.235, Long 424952.1366, and NCo7815402034 (Lat 6176407.7636, Long 423061.6320) each with an area of 0.5 hectares and can be viewed in the FHP Overview Map. The campsites will be reclaimed as indicated in Section 11.3.4.4 of the Northeast Alberta Timber Harvesting Planning and Operating Ground Rules (OGRs).

Copies of this Forest Harvest Plan are available on the Alberta – Pacific website, at [www.alpac.ca](http://www.alpac.ca)

## 2.0 General Planning Unit Information /Design Considerations

This FHP has been validated by Registered Forestry Professionals employed by Alberta-Pacific and Northland.

This FHP includes maps and reports that clearly show and document the planned harvest area boundaries, roads and water crossings within the Planning Unit.

This plan is being submitted for appraisal, for a 5-year FHP approval under the 2020-21 Alberta-Pacific and Northland Annual Operating Plan (AOP).

### 2.1 Operating Ground Rules

Planning Unit 077154 has been designed in accordance with the Northeast Alberta Operating Ground Rules (OGRs), revised 2018. Alberta – Pacific and Northland are requesting certain deviations from the OGRs, due to field verified factors. These requests, along with corresponding information are listed under the section *OGR Deviations*.

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### **3.0 Maps**

Individual block maps have been included in the submission package, outlining the information pertinent to these blocks. A Planning Unit overview map and a Spatial Harvest Sequence (SHS) Planning Unit map have been included in the submission package. These maps can be viewed in the *Appendices* of this document.

### **4.0 Block Information**

A *Block Summary Table* has been included in Appendix A outlining the expected volumes of the area.

#### 4.1 Utilization

Alberta – Pacific and Northland adheres to the 15/10 utilization standard for coniferous and deciduous trees, this includes the incidental.

#### 4.2 Field Verification

The proposed blocks were ground verified by a field layout team. The layout team provided planning support to assess timber quality, sensitive and historical sites, operability of the harvest area, and classification of water courses within the Planning Unit boundary. Where applicable, the variance findings of the layout team have been noted in the corresponding section of this report.

#### 4.3 Understory Assessment

For this Planning Unit there was very little understory observed during the block and road layout process. If white spruce understory is encountered during operations it will be protected utilizing the avoidance method.

#### 4.4 Structure Retention

Alberta – Pacific will leave an average of 5% merchantable volume as structure retention throughout the FMU and Northland will leave an average of 3%. This retention will be left in the following methods:

- Laid out patches
- Mapped patches (planned with GIS desktop)
- Individual trees
- Small clumps left at the operators' discretion

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## 4.5 Debris Management

Debris management of the Planning Unit will be accomplished in a manner consistent with Section 7.3 of the OGRs.

### **5.0 Watercourse Protection**

Where harvest blocks are in proximity to any potential watercourses, the field layout team conducted field assessments utilizing the methodology and classification standards outlined in Section 6.0 of the OGRs. Any confirmed watercourses have been buffered in accordance with the OGRs Section 6.0, Table 2.

Any deviations from the OGRs in relation to the watercourse buffers are noted in this report; please refer to the *OGR Deviations* section of the report for further information. The list of watercourse crossings can be found in Appendix B – *Watercourse Crossing Summary Table*.

### **6.0 Road Information**

Overview maps have been attached showing roads in accordance with Section 3.4.6. of the OGRs; all spatial data requirements have also been included with this submission.

Roads will be constructed, maintained, and reclaimed in a manner consistent with Section 11.3 of the OGRs.

When new access is necessary, reclamation processes will adhere to Section 11.3.4 of the OGRs. To enable for silviculture activities, all-terrain vehicle (ATV) access may be left throughout the harvest area. The list of roads can be found in Appendix C – *Road Attributes Table*.

### **7.0 Land Use Information**

A search of the Geographic Land Information Management Planning System (GLIMPS) and Digital Integrated Dispositions (DIDs) yielded active dispositions within the FHP harvest area. Any necessary agreements with the disposition holder will be in place prior to the commencement of harvest operations. None of the dispositions within the FHP harvest area will restrict harvest operations in the FHP.

The FHP design incorporates pipeline crossings for temporary class 4 roads. The agreements will be in place prior to the construction of these crossing. Below is a land use table with the various disposition holders in the area.

## Land Use Summary Table

Disposition Number	Disposition Holder	Disposition Type
DRS890161	LAC LA BICHE REGIONAL OFFICE-LAN AND FOREST SERVICE DEPT. OF SUSTAINABLE RESOURCE DEVELOPMENT	DRS
EZE 160122	ATCO ELECTRIC LTD	EZE
LOC740608	Blackpearl Resources Inc.	LOC
LOC790004	CANADIAN NATURAL RESOURCES LIMITED	LOC
LOC791544		LOC
LOC900137		LOC
LOC91544		LOC
LOC940117		LOC
LOC761228		LOC
LOC881309		LOC
LOC790359		LOC
LOC800325		LOC
LOC900122		LOC
LOC910073		LOC
LOC931786		LOC
LOC970015		LOC
PIL130043		PIL
PLA3087		PLA
PLA910034		PLA
PLA890770		PLA
PLA3089		PLA
PLA880809		PLA
PLA890113		PLA
PLA900091		PLA
PLA900154		PLA
PLA900189		PLA
PLA930158		PLA
PLA951563		PLA
PLA960508		PLA
PLA970168		PLA
PLA970403	PLA	
PLA970830	PLA	
PLA940171	PLA	
PLA910125	PLA	
PLA130675	Grand Rapids Pipeline GP Ltd.	PLA
PLA090782	Inter Pipeline Offgas Ltd.	PLA
PLA071046	Interpipeline	PLA

DLO5996	Northlands Forest Products	DLO
DLO900949		DLO
PLA760298	Nova Gas Transmission Ltd.	PLA
PLA6026	Pembina Pipeline Corporation	PLA
LOC050211	POINT LOMA RESOURCES LTD.	LOC
PLA050730		PLA
PLA070322		PLA
PLA2466	Suncor Energy Inc.	PLA
PLA030334	HUSKY OIL OPERATIONS LIMITED	PLA
PLA770098	SIMMONS EDECO INC.	PLA
PNT150001	TRANSPORTATION	PNT
PNT120090		PNT
SML040083	Double S Cats	SML
SML050060	Rickard Excavation Ltd.	SML

## 8.0 Integration with Other Forest Users

### 8.1 Integration with Other Harvest Operators

This is an integrated plan between the FMA holder and CTL holder; both companies have validated the plan.

### 8.2 Registered Fur Management Areas (RFMAs)

There are 3 RFMAs within the FHP who will be affected by operations. Notification letters were sent to the respective RFMA holders, any requests from any RFMA holder have been considered, and, where possible, the harvest design has been planned to accommodate the request.

**Registered Fur Management Areas Table**

RFMA ID	Notification Method	Contact Method
1711	Letter	Mail
1729	Letter	Mail
2916	Letter	Mail

### 8.3 Wildlife Management Unit(s) (WMU)

Planning Unit 077154 is location within WMU 512. The Guides and Outfitters operating within this unit have been sent notification, via registered mail, on the FHP design, as

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well as a timeline for the commencement of harvest operations. Any requests from Guides and Outfitters have been considered, and, where possible, the harvest design has been planned to accommodate the request.

#### 8.4 Indigenous Groups

During the General Development Plan (GDP) process, Alberta – Pacific and Northland completes a consultation with indigenous groups every year. There have not been any issues identified for the Planning Unit 077154 FHP submission.

#### 8.5 Other Forest Users

There are no other forest user groups operating within the Planning Unit area.

#### 8.6 Forest Aesthetics

As outlined in Section 5.5. of the OGRs, Alberta – Pacific and Northland follow the objective to mitigate the impact of timber operations on the visual quality of the forest landscape. This FHP is not adjacent to any park or recreational areas, and no other aesthetics concerns have been noted to date by other forest users. Alberta – Pacific and Northland will strategically locate retention areas adjacent to Class I, II, and III roads, minimizing line of sight where possible.

### **9.0 Species and Areas of Concern**

#### 9.1 Woodland Caribou

None of the planned cutblocks in this FHP are within mapped Caribou Ranges.

#### 9.2 Key Wildlife and Biodiversity Zone (KWBZ)

Planning Unit 077154 is located within a Key Wildlife and Biodiversity Zone and will adhere to section 7.7.5 of the OGRs. The following table is a list of blocks that are within the KWBZ.

**Key Wildlife and Biodiversity Zone Table**

<b><i>Source ID</i></b>	<b><i>Opening Number</i></b>	<b><i>Block Area</i></b>
FC07714407101	4140770710	34.2
FC07714418511	4140771851	50.9
FC07715423491	4150772349	2.3

FC07715423561	4150772356	21.0
FC07715423641	4150772364	9.4
FC07715424901	4150772490	13.9
FC07715426081	4150772608	25.1
FC07715426171	4150772617	16.9
FC07715426261	4150772626	3.6
FC07715426411	4150772641	3.4
FC07715426631	4150772663	9.0
FC07715426901	4150772690	16.3
FC07715427771	4150772777	5.0
FC07715435021	4150773502	14.3
FC07715435291	4150773529	3.4
FC07715435481	4150773548	63.7
FC07715435681	4150773568	24.3
NC07714406144	4140770614	26.2
NC07714407134	4140770713	7.7
NC07714418024	4140771802	8.0
NC07714418534	4140771853	36.7
NC07715401954	4150770195	15.2
NC07715412894	4150771289	8.4
NC07715412974	4150771297	51.8
NC07715413584	4150771358	13.8
NC07715413714	4150771371	6.4
NC07715413954	4150771395	53.9
NC07715424344	4150772434	53.3
NC07715424394	4150772439	36.1
NC07715426144	4150772614	17.0
NC07715426734	4150772673	36.2
NC07815402034	4150780203	81.6

### 9.3 Other Species

All known sensitive wildlife sites have been buffered in accordance with Section 7.7.5.2 of the OGRs.

### 9.4 Sensitive Sites

A review of the block design and landscape of the FHP was completed by professional archaeologists. Any sites identified as being of high or moderate historical significance (historical resource sites), have been removed from the harvest design.

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Upon completion of cutblock and road layout, a second review of the harvest blocks, and temporary class 4 roads is completed to identify potential conflicts, and to determine if any further changes are required to the Planning Unit.

There were no signs of rare plants, or diseases identified, including signs of terrestrial lichen.

If any sites are identified post submission, Alberta – Pacific and Northland will take the appropriate action to protect these sites.

### 9.5 Forest Health

During the layout stage and field verification stage, a team evaluated the current state of the forest health in the FHP area and found nothing of significance, as outlined in Section 10.1 of the OGRs.

If any sites are identified post submission, Alberta – Pacific and Northland will take the appropriate action to protect these sites.

## **10.0 SHS Information / Variance Summary**

Variances from the Spatial Harvest Sequence (SHS) within the Planning Unit boundary are shown in Appendix D – *SHS Variance Summary Table*.

## **11.0 Silviculture Information**

No watercourse crossings will be left in for silviculture.

## **12.0 OGR Deviations**

### 12.1 Road Deviations

The first of the following tables outlines the blocks which are greater than 7 hectares, with potentially more than 5% road disturbance. The second table goes into detail where the roads go within 100m of a large permanent creek due to operational and terrain constraints.

## Road Percent Deviations Table

Source ID	Opening Number	Block Area (ha)	Harvest Season (Frozen/ Non-Frozen)	Road Percentage	Road Percentage Reason
FC07714418511	4140771851	50.9	Frozen	6.0	Terrain
FC07715408551	4150770855	10.0	Frozen	4.8	Terrain
FC07715408901	4150770890	15.8	Frozen	5.4	Access to other blocks
FC07715416011	4150771601	7.9	Frozen	4.7	Access to other blocks
FC07715416691	4150771669	13.9	Frozen	5.5	Access to other blocks
FC07715417771	4150771777	24.9	Frozen	5.6	Access to other blocks
FC07715421201	4150772120	22.3	Frozen	6.8	Access to other blocks
FC07715421291	4150772129	14.0	Frozen	6.8	Access to other blocks
FC07715421471	4150772147	10.1	Frozen	9.6	Access to other blocks
FC07715421721	4150772172	10.5	Frozen	7.7	Access to other blocks
FC07715422661	4150772266	8.1	Frozen	9.1	Narrow / Irregular Block
FC07715422921	4150772292	46.7	Frozen	6.3	Access to other blocks
FC07715423531	4150772353	7.3	Frozen	8.3	Access to other blocks
FC07715423561	4150772356	21.0	Frozen	6.2	Access to other blocks
FC07715423641	4150772364	9.4	Frozen	6.3	Access to other blocks
FC07715424901	4150772490	13.9	Frozen	9.5	Narrow / Irregular Block
FC07715426081	4150772608	25.1	Frozen	8.7	Access to other blocks
FC07715426171	4150772617	16.9	Frozen	8.6	Access to other blocks
FC07715426631	4150772663	9.0	Frozen	7.3	Terrain
FC07715427511	4150772751	7.2	Frozen	5.0	Adjacent to main road
FC07715428401	4150772840	19.8	Frozen	4.9	Access to other blocks
FC07715428601	4150772860	13.0	Frozen	9.1	Access to other blocks
FC07715429441	4150772944	33.2	Frozen	6.9	Access to other blocks
FC07715429961	4150772996	37.6	Frozen	6.2	Narrow / Irregular Block
FC07715435021	4150773502	10.0	Frozen	5.3	Terrain
FC07715435481	4150773548	63.7	Frozen	6.0	Terrain
FC07715435681	4150773568	24.3	Frozen	7.5	Narrow / Irregular Block
FC07715436561	4150773656	11.0	Frozen	6.3	Access to other blocks
NC07714406144	4140770614	26.2	Frozen	7.7	Narrow / Irregular Block
NC07715401314	4150770131	26.4	Frozen	6.4	Access to other blocks
NC07714418024	4140771802	8.0	Frozen	5.3	Terrain
NC07715401954	4150770195	15.2	Frozen	5.3	Narrow / Irregular Block
NC07715411524	4150771152	16.0	Frozen	9.3	Access to other blocks
NC07715412224	4150771222	25.4	Frozen	7.1	Narrow / Irregular Block
NC07715412464	4150771246	111.3	Frozen	7.7	Narrow / Irregular Block
NC07715412894	4150771289	8.4	Frozen	6.5	Access to other blocks
NC07715412974	4150771297	51.8	Frozen	4.5	Narrow / Irregular Block

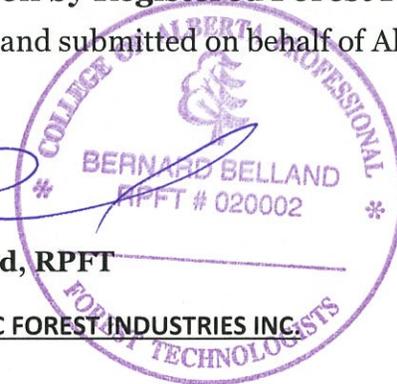
NC07715413174	4150771317	7.1	Frozen	6.0	Adjacent to main road
NC07715413584	4150771358	13.8	Frozen	7.8	Narrow / Irregular Block
NC07715413954	4150771395	53.9	Frozen	5.5	Access to other blocks
NC07715414664	4150771466	33.9	Frozen	6.4	Access to other blocks
NC07715415144	4150771514	53.0	Frozen	5.8	Adjacent to main road
NC07715415684	4150771568	61.8	Frozen	4.6	Access to other blocks
NC07715416624	4150771662	11.9	Frozen	5.3	Narrow / Irregular Block
NC07715422324	4150772232	17.5	Frozen	5.8	Narrow / Irregular Block
NC07715423244	4150772324	79.5	Frozen	6.1	Narrow / Irregular Block
NC07715423374	4150772337	8.2	Frozen	9.0	Access to other blocks
NC07715424344	4150772434	53.3	Frozen	6.4	Access to other blocks
NC07715426144	4150772614	17.0	Frozen	6.8	Access to other blocks
NC07715426734	4150772673	36.2	Frozen	6.3	Access to other blocks
NC07715433374	4150773337	10.6	Frozen	4.8	Adjacent to main road

### Roads, Landings, and Bared Areas Deviations Table

Source ID	Harvest Season (Frozen/ Non-Frozen)	Buffer	Reason
FC07714407101	Frozen	Large Perm	Main block road comes within 100m of creek for 300m due to operational constraints and terrain.
FC07715436561	Frozen	Large Perm	Main block road comes within 100m of creek for 250m due to operational constraints.

### 13.0 Validation by Registered Forest Practitioner

Plan prepared and submitted on behalf of Alberta-Pacific and Northland.

**Bernie Belland, RPFT**

**ALBERTA-PACIFIC FOREST INDUSTRIES INC.**



**Douglas Needham, RPFT**

**NORTHLAND FOREST PRODUCTS LTD**

Appendix A: Block Summary Table

Deciduous Blocks						
Source ID	Opening Number	Harvest Season (Frozen/Non-Frozen)	Area (ha)	Deciduous Volume (m <sup>3</sup> )	Incidental Conifer Volume (m <sup>3</sup> )	Total Volume (m <sup>3</sup> )
FC07714407101	4140770710	Frozen	34.2	5,816	1,381	7,197
FC07714418511	4140771851	Frozen	50.9	10,873	3,045	13,918
FC07715408551	4150770855	Frozen	10.0	2,357	672	3,029
FC07715408901	4150770890	Frozen	15.8	3,645	1,079	4,724
FC07715411041	4150771104	Frozen	59.9	11,292	5,145	16,437
FC07715413271	4150771327	Frozen	3.1	606	123	729
FC07715416011	4150771601	Frozen	7.9	1,090	599	1,689
FC07715416091	4150771609	Frozen	6.8	1,666	452	2,118
FC07715416691	4150771669	Frozen	13.9	2,651	932	3,584
FC07715417771	4150771777	Frozen	24.9	4,073	1,269	5,342
FC07715421201	4150772120	Frozen	22.3	5,976	1,008	6,983
FC07715421471	4150772147	Frozen	10.1	1,935	403	2,338
FC07715422661	4150772266	Frozen	8.1	1,119	349	1,468
FC07715422921	4150772292	Frozen	46.7	8,078	2,694	10,772
FC07715423491	4150772349	Frozen	2.3	399	149	549
FC07715423531	4150772353	Frozen	7.3	1,058	363	1,421
FC07715423561	4150772356	Frozen	21.0	4,029	1,333	5,362
FC07715423641	4150772364	Frozen	9.4	2,447	443	2,890
FC07715424901	4150772490	Frozen	13.9	1,870	1,236	3,106
FC07715426081	4150772608	Frozen	25.1	5,608	1,315	6,923
FC07715426411	4150772641	Frozen	3.4	483	185	668
FC07715426631	4150772663	Frozen	9.0	2,124	356	2,480
FC07715426901	4150772690	Frozen	16.4	3,221	1,515	4,737
FC07715427601	4150772760	Frozen	5.4	779	288	1,067
FC07715428111	4150772811	Frozen	3.2	701	91	792
FC07715428331	4150772833	Frozen	11.2	2,181	911	3,092
FC07715428611	4150772861	Frozen	4.6	871	168	1,039
FC07715429591	4150772959	Frozen	11.1	2,051	586	2,637
FC07715433381	4150773338	Non-Frozen	5.5	879	807	1,686
FC07715435021	4150773502	Frozen	14.3	2,761	1,284	4,044
FC07715435291	4150773529	Non-Frozen	3.4	816	132	948
FC07715435481	4150773548	Frozen	63.7	10,042	8,544	18,585
FC07715436561	4150773656	Frozen	11.0	1,739	591	2,329
<b>Total</b>			<b>555.6</b>	<b>105,236</b>	<b>39,447</b>	<b>144,683</b>

Appendix A: Block Summary Table

Coniferous Blocks - AIPac							
Source ID	Opening Number	Harvest Season (Frozen/ Non-Frozen)	Area (ha)	Conifer Volume (m <sup>3</sup> )	Aris Code	Incidental Deciduous Volume (m <sup>3</sup> )	Total Volume (m <sup>3</sup> )
FC07715421291	4150772129	Frozen	14.0	1,951	Pj	424	2,375
FC07715421721	4150772172	Frozen	10.5	421	Sw	631	1,052
FC07715421991	4150772199	Frozen	5.5	493	Sb	16	508
FC07715423751	4150772375	Frozen	4.3	936	Sw	221	1,158
FC07715426171	4150772617	Frozen	16.9	2,971	Sw	1,335	4,306
FC07715426261	4150772626	Frozen	3.6	668	Sw	352	1,020
FC07715427311	4150772731	Frozen	7.6	1,045	Pj	87	1,132
FC07715427511	4150772751	Frozen	7.2	954	Sw	88	1,042
FC07715427771	4150772777	Frozen	5.0	1,166	Sw	314	1,480
FC07715428401	4150772840	Frozen	19.8	2,968	Sw	2,605	5,573
FC07715428601	4150772860	Frozen	13.0	1,452	Sw	706	2,159
FC07715429441	4150772944	Frozen	33.2	4,223	Sw	4,091	8,315
FC07715429961	4150772996	Frozen	37.6	4,009	Sw	3,380	7,390
FC07715434501	4150773450	Frozen	7.7	818	Sb	360	1,178
FC07715435681	4150773568	Frozen	24.3	3,018	Pj	1,771	4,789
<b>AIPac Blocks</b>		<b>Total</b>	<b>210.1</b>	<b>27,094</b>		<b>16,383</b>	<b>43,477</b>
Coniferous Blocks - NFPL							
Source ID	Opening Number	Harvest Season (Frozen/ Non-Frozen)	Area (ha)	Conifer Volume (m <sup>3</sup> )	Aris Code	Incidental Deciduous Volume (m <sup>3</sup> )	Total Volume (m <sup>3</sup> )
NC07714406144	4140770614	Frozen	26.2	2,178	Aw	246	2,425
NC07714407134	4140770713	Frozen	7.7	747	Sb	619	1,366
NC07714418024	4140771802	Frozen	8.0	1,005	Sw	822	1,827
NC07714418534	4140771853	Frozen	36.7	6,118	Sw	4,509	10,627
NC07715401314	4150770131	Frozen	26.4	2,783	Pj	1,227	4,010
NC07715401654	4150770165	Frozen	6.2	746	Sb	23	769
NC07715401714	4150770171	Frozen	4.5	366	Sb	51	417
NC07715401954	4150770195	Frozen	15.2	1,141	Pj	327	1,468
NC07715411524	4150771152	Frozen	16.0	1,509	Pj	47	1,555
NC07715412224	4150771222	Frozen	25.4	2,452	Sb	142	2,593
NC07715412464	4150771246	Frozen	111.3	11,912	Sw	3,466	15,378
NC07715412894	4150771289	Frozen	8.4	1,074	Sw	973	2,047
NC07715412974	4150771297	Frozen	51.8	10,149	Sw	2,855	13,004
NC07715413174	4150771317	Frozen	7.1	639	Pj	755	1,394
NC07715413354	4150771335	Frozen	3.2	280	Sb	9	289
NC07715413434	4150771343	Frozen	4.9	443	Sb	14	456
NC07715413584	4150771358	Frozen	13.8	1,062	Pj	816	1,878
NC07715413714	4150771371	Frozen	6.4	18	Sb	73	91
NC07715413954	4150771395	Frozen	53.9	8,821	Sw	2,514	11,335
NC07715414664	4150771466	Frozen	33.9	4,060	Pj	1,876	5,936

Source ID	Opening Number	Harvest Season (Frozen/ Non-Frozen)	Area (ha)	Conifer Volume (m <sup>3</sup> )	Aris Code	Incidental Deciduous Volume (m <sup>3</sup> )	Total Volume (m <sup>3</sup> )
NC07715415144	4150771514	Frozen	53.0	6,842	Pj	3,508	10,350
NC07715415194	4150771519	Frozen	39.5	4,989	Pj	3,965	8,955
NC07715415684	4150771568	Frozen	61.8	7,448	Pj	7,982	15,430
NC07715416624	4150771662	Frozen	11.9	1,728	Sw	1,673	3,401
NC07715416794	4150771679	Frozen	2.6	478	Sw	229	707
NC07715421534	4150772153	Frozen	2.9	183	Sw	6	188
NC07715421864	4150772186	Frozen	4.5	411	Sb	13	423
NC07715422324	4150772232	Frozen	17.5	815	Pj	862	1,677
NC07715423054	4150772305	Frozen	6.6	602	Sw	1,000	1,603
NC07715423244	4150772324	Frozen	79.5	10,868	Pj	5,510	16,378
NC07715423374	4150772337	Frozen	8.2	668	Pj	491	1,160
NC07715424344	4150772434	Frozen	53.3	6,867	Sw	5,372	12,239
NC07715424394	4150772439	Frozen	36.1	7,516	Sw	2,902	10,418
NC07715426144	4150772614	Frozen	17.0	1,850	Sw	1,771	3,621
NC07715426734	4150772673	Frozen	36.2	7,525	Sw	2,082	9,608
NC07715433374	4150773337	Frozen	10.4	1,249	Sb	867	2,116
NC07815402034	4150780203	Non-Frozen	79.3	13,365	Sw	9,136	22,501
NC07815402364	4150780236	Non-Frozen	2.4	200	Sw	35	235
<b>NFPL Blocks</b>		<b>Total</b>	<b>989.6</b>	<b>131,108</b>		<b>68,769</b>	<b>199,876</b>
<b>AlPac &amp; NFPL Blocks</b>		<b>Total</b>	<b>1,199.7</b>	<b>158,202</b>		<b>85,152</b>	<b>243,354</b>

**Appendix B: Watercourse Crossing Summary Table**

<b>Road ID</b>	<b>Road Crossing Number</b>	<b>Stream Class</b>
DLO5996	3116	BEAVER POND
	3112	BEAVER POND
	1818	SMALL PERMANENT
	3222	SMALL PERMANENT
	3231	SMALL PERMANENT
	1910	EPHEMERAL
	0605	EPHEMERAL
DLO900949	2615	EPHEMERAL
	2605	BEAVER POND
	2855	EPHEMERAL
LOC050211	1886	TRANSITIONAL
LOC761228	0432	LARGE PERMANENT
LOC790359	2601	TRANSITIONAL
LOC791544	2319	EPHEMERAL
	2345	EPHEMERAL
	2781	EPHEMERAL
LOC800325	1926	EPHEMERAL
LOC900137	1776	EPHEMERAL
	1626	EPHEMERAL
	2851	EPHEMERAL
	2156	EPHEMERAL
	2158	INTERMITTENT
LOC970015	1183	SMALL PERMANENT
	1223	EPHEMERAL
PLA050730	1882	INTERMITTENT
PLA2466	2761	EPHEMERAL
RC07714418511	0809	EPHEMERAL
	0805	EPHEMERAL
RC07715417771	1775	EPHEMERAL
	1777	EPHEMERAL
RC07715421291	2811	EPHEMERAL
RC07715422661	2255	EPHEMERAL
RC07715422921	2302	EPHEMERAL
	2286	EPHEMERAL
RC07715423491	2348	EPHEMERAL
RC07715424901	1397	INTERMITTENT
	1807	INTERMITTENT
RC07715426081	2796	EPHEMERAL
	3501	EPHEMERAL
RC07715426171	2629	INTERMITTENT
RC07715426631	2653	TRANSITIONAL
RC07715426901	2501	EPHEMERAL
	2691	EPHEMERAL

Road ID	Road Crossing Number	Stream Class
RC07715427511	2751	EPHEMERAL
	2750	EPHEMERAL
RC07715427601	2259	EPHEMERAL
	2258	EPHEMERAL
RC07715427771	2788	EPHEMERAL
RC07715428111	2812	INTERMITTENT
RC07715428331	2823	INTERMITTENT
	2813	INTERMITTENT
	2833	EPHEMERAL
RC07715428601	2861	EPHEMERAL
	2169	EPHEMERAL
RC07715428611	2179	INTERMITTENT
	2870	TRANSITIONAL
RC07715429441	2935	EPHEMERAL
	2945	EPHEMERAL
	2954	EPHEMERAL
	2943	BEAVER POND
	2965	EPHEMERAL
RC07715429961	2997	EPHEMERAL
	2807	EPHEMERAL
	2987	INTERMITTENT
	2977	EPHEMERAL
	2984	EPHEMERAL
	2976	TRANSITIONAL
	2986	TRANSITIONAL
	2994	EPHEMERAL
RC07715434501	3440	EPHEMERAL
RC07715435481	2779	EPHEMERAL
	3566	EPHEMERAL
	3576	EPHEMERAL
	3585	TRANSITIONAL
	3584	TRANSITIONAL
	3574	INTERMITTENT
RC07715436561	3627	EPHEMERAL
	3626	EPHEMERAL
WMT0131	0141	EPHEMERAL
	0132	EPHEMERAL
	0105	EPHEMERAL
WMT0165	0154	EPHEMERAL
	0164	EPHEMERAL
WMT0203	3479	EPHEMERAL
	3478	EPHEMERAL
WMT0614	0634	EPHEMERAL
	0751	LARGE PERMANENT

Road ID	Road Crossing Number	Stream Class
WMT0713	0760	TRANSITIONAL
	0771	EPHEMERAL
	0761	EPHEMERAL
WMT1222	1211	EPHEMERAL
	1191	EPHEMERAL
WMT1246	1226	EPHEMERAL
	1187	INTERMITTENT
	1460	EPHEMERAL
	1303	EPHEMERAL
	1491	EPHEMERAL
	1490	EPHEMERAL
	1258	EPHEMERAL
	1238	EPHEMERAL
	1237	INTERMITTENT
	1215	INTERMITTENT
	1225	EPHEMERAL
	1216	EPHEMERAL
	1194	INTERMITTENT
	1184	TRANSITIONAL
	1175	INTERMITTENT
1185	EPHEMERAL	
WMT1297	0715	EPHEMERAL
WMT1358	1337	EPHEMERAL
	1358	EPHEMERAL
WMT1371	1372	INTERMITTENT
WMT1395	1377	EPHEMERAL
	1378	EPHEMERAL
	1806	EPHEMERAL
	1826	EPHEMERAL
	1817	INTERMITTENT
WMT1514	0967	SMALL PERMANENT
	0955	EPHEMERAL
	1525	EPHEMERAL
	1681	EPHEMERAL
	1692	EPHEMERAL
	1682	EPHEMERAL
WMT1519	1689	EPHEMERAL
	1676	EPHEMERAL
WMT1568	2245	EPHEMERAL
	2230	SMALL PERMANENT
	1556	SMALL PERMANENT
	2244	EPHEMERAL
	2234	EPHEMERAL
	1589	SMALL PERMANENT
WMT1662	0937	EPHEMERAL

Road ID	Road Crossing Number	Stream Class
WMT2232	2247	EPHEMERAL
	2228	EPHEMERAL
WMT2305	2265	EPHEMERAL
WMT2324	2324	EPHEMERAL
	2336	EPHEMERAL
	1445	EPHEMERAL
WMT2337	2347	EPHEMERAL
	2337	EPHEMERAL
WMT2434	2385	EPHEMERAL
WMT2439	2426	EPHEMERAL
WMT2673	2369	EPHEMERAL
	2358	SMALL PERMANENT
WMT2751	2763	EPHEMERAL

**Appendix C: Road Attributes Table**

Road ID	Road Classification	Haul Season	FCODE	Class	Length, m
DLO5996	Temp	Frozen	Winter Road	4	19,771
DLO900949	Temp	Frozen	Winter Road	4	4,306
FRD610005	Temp	Frozen	Winter Road	4	749
LOC050211	Temp	Frozen	Winter Road	4	1,538
LOC740608	PERM	Non-Frozen	Summer Road	4	9,496
LOC761228	Temp	Frozen	Winter Road	4	3,231
LOC790004	Temp	Frozen	Winter Road	4	2,537
LOC790359	Temp	Frozen	Winter Road	4	741
LOC791544	Temp	Frozen	Winter Road	4	6,700
LOC800325	Temp	Frozen	Winter Road	4	1,873
LOC900122	Temp	Frozen	Winter Road	4	1,547
LOC900137	Temp	Frozen	Winter Road	4	4,204
LOC910073	Temp	Frozen	Winter Road	4	412
LOC931632	Temp	Frozen	Winter Road	4	299
LOC931786	Temp	Frozen	Winter Road	4	1,510
LOC940117	Temp	Frozen	Winter Road	4	463
LOC951792	Temp	Frozen	Winter Road	4	1,470
LOC952164	Temp	Frozen	Winter Road	4	402
LOC970015	Temp	Frozen	Winter Road	4	1,150
PLA050730	Temp	Frozen	Winter Road	4	599
PLA2466	Temp	Frozen	Winter Road	4	885
RC07714407101	Temp	Frozen	Winter Road	4	979
RC07714418511	Temp	Frozen	Winter Road	4	1,491
RC07715408551	Temp	Frozen	Winter Road	4	1,943
RC07715408901	Temp	Frozen	Winter Road	4	1,230
RC07715411041	Temp	Frozen	Winter Road	4	4,371
RC07715413271	Temp	Frozen	Winter Road	4	85
RC07715416011	Temp	Frozen	Winter Road	4	1,854
RC07715416091	Temp	Frozen	Winter Road	4	602
RC07715416691	Temp	Frozen	Winter Road	4	459
RC07715417771	Temp	Frozen	Winter Road	4	1,482
RC07715421201	Temp	Frozen	Winter Road	4	980
RC07715421291	Temp	Frozen	Winter Road	4	1,113
RC07715421471	Temp	Frozen	Winter Road	4	810
RC07715421721	Temp	Frozen	Winter Road	4	916
RC07715421991	Temp	Frozen	Winter Road	4	293
RC07715422661	Temp	Frozen	Winter Road	4	741
RC07715422921	Temp	Frozen	Winter Road	4	1,117
RC07715423491	Temp	Frozen	Winter Road	4	71
RC07715423531	Temp	Frozen	Winter Road	4	334
RC07715423561	Temp	Frozen	Winter Road	4	1,234
RC07715423641	Temp	Frozen	Winter Road	4	417
RC07715424901	Temp	Frozen	Winter Road	4	97
RC07715426081	Temp	Frozen	Winter Road	4	1,985
RC07715426171	Temp	Frozen	Winter Road	4	1,217
RC07715426411	Temp	Frozen	Winter Road	4	67
RC07715426631	Temp	Frozen	Winter Road	4	959
RC07715426901	Temp	Frozen	Winter Road	4	1,102
RC07715427311	Temp	Frozen	Winter Road	4	1,648

Road ID	Road Classification	Haul Season	FCODE	Class	Length, m
RC07715427511	Temp	Frozen	Winter Road	4	814
RC07715427601	Temp	Frozen	Winter Road	4	878
RC07715427771	Temp	Frozen	Winter Road	4	361
RC07715428111	Temp	Frozen	Winter Road	4	438
RC07715428331	Temp	Frozen	Winter Road	4	565
RC07715428401	Temp	Frozen	Winter Road	4	687
RC07715428601	Temp	Frozen	Winter Road	4	552
RC07715428611	Temp	Frozen	Winter Road	4	518
RC07715429441	Temp	Frozen	Winter Road	4	3,839
RC07715429591	Temp	Frozen	Winter Road	4	26
RC07715429961	Temp	Frozen	Winter Road	4	1,887
RC07715433381	Temp	Non-Frozen	Summer Road	4	347
RC07715434501	Temp	Frozen	Winter Road	4	1,089
RC07715435481	Temp	Frozen	Winter Road	4	1,181
RC07715435681	Temp	Frozen	Winter Road	4	322
RC07715436561	Temp	Frozen	Winter Road	4	3,180
WMT0131	Temp	Frozen	Winter Road	4	1,315
WMT0165	Temp	Frozen	Winter Road	4	688
WMT0171	Temp	Frozen	Winter Road	4	675
WMT0195	Temp	Frozen	Winter Road	4	255
WMT0203	Temp	Non-Frozen	Summer Road	4	541
WMT0236	Temp	Non-Frozen	Summer Road	4	127
WMT0614	Temp	Frozen	Winter Road	4	2,664
WMT0713	Temp	Frozen	Winter Road	4	3,777
WMT100A	Temp	Frozen	Winter Road	4	256
WMT1152	Temp	Frozen	Winter Road	4	828
WMT1222	Temp	Frozen	Winter Road	4	2,473
WMT1246	Temp	Frozen	Winter Road	4	7,306
WMT1289	Temp	Frozen	Winter Road	4	808
WMT1297	Temp	Frozen	Winter Road	4	2,315
WMT1317	Temp	Frozen	Winter Road	4	641
WMT1335	Temp	Frozen	Winter Road	4	440
WMT1343	Temp	Frozen	Winter Road	4	132
WMT1358	Temp	Frozen	Winter Road	4	1,545
WMT1371	Temp	Frozen	Winter Road	4	734
WMT1395	Temp	Frozen	Winter Road	4	2,425
WMT1466	Temp	Frozen	Winter Road	4	2,187
WMT1514	Temp	Frozen	Winter Road	4	2,903
WMT1519	Temp	Frozen	Winter Road	4	2,189
WMT1568	Temp	Frozen	Winter Road	4	3,505
WMT1662	Temp	Frozen	Winter Road	4	4,271
WMT1679	Temp	Frozen	Winter Road	4	184
WMT1802	Temp	Frozen	Winter Road	4	185
WMT1853	Temp	Frozen	Winter Road	4	71
WMT2153	Temp	Frozen	Winter Road	4	349
WMT2186	Temp	Frozen	Winter Road	4	1,050
WMT2232	Temp	Frozen	Winter Road	4	1,387

Road ID	Road Classification	Haul Season	FCODE	Class	Length, m
WMT2305	Temp	Frozen	Winter Road	4	444
WMT2324	Temp	Frozen	Winter Road	4	2,636
WMT2337	Temp	Frozen	Winter Road	4	676
WMT2434	Temp	Frozen	Winter Road	4	2,954
WMT2439	Temp	Frozen	Winter Road	4	237
WMT2614	Temp	Frozen	Winter Road	4	590
WMT2673	Temp	Frozen	Winter Road	4	1,006
WMT3324	Temp	Frozen	Winter Road	4	1,175
WMT3337	Temp	Frozen	Winter Road	4	113
				Total	168,222

# SHS Variance Summary

Operator: Al-Pac

SR SHS Tracking between 2015 and 2025 (timber year)

10/07/2020

PD 1, Year 1-10

Harvest Profile					Planned for Harvest (ha)										Asbuilts						Combined As-Built & Planned						Unplanned SHS in Compartment				
										Variance					Harvested (ha)						Variance			SHS Assessment							
										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
L03-A	All	All	9,189	4,451	911	-	253	18	1,182	271	246	9	255	158	173	332	131	-	9	-	141	6.09%	16	(4,310)	280	246	9	6.30%	25	3,128	2,980
	Aw/Aw	D	2,723	2,709	750.22	-	174.03	-	924.26	174.0	174.4	9.3	183.7	18.9	118.5	137.4	131.5	-	9.2	-	140.6	6.42%	(10)	(2,569)	183	174	9	6.76%	(0)	1,644	1,525
	U	PjMX DC-P	169	22	1.04	-	-	-	1.04	-	-	-	-	2.8	0.0	2.8	-	-	-	-	-	0.00%	-	(22)	-	-	-	0.00%	-	21	21
	AwSx	DC-S	670	240	21.01	-	2.14	-	23.15	2.1	-	-	-	7.6	4.2	11.8	-	-	-	-	-	0.89%	2	(240)	2	-	-	0.89%	2	217	215
	SxAw	CD-SW	886	366	19.50	-	-	-	19.50	-	-	-	-	17.9	4.6	22.5	-	-	-	-	-	0.00%	-	(366)	-	-	-	0.00%	-	347	342
	PjMx	CD-P	66	5	2.60	-	-	-	2.60	-	-	-	-	0.7	0.0	0.7	-	-	-	-	-	0.00%	-	(5)	-	-	-	0.00%	-	2	2
	SxAw	CD-SB	53	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00%	-	(20)	-	-	-	0.00%	-	20	20
	Sw	C-SW	2,674	687	59.54	-	33.26	-	92.80	33.3	33.2	-	33.2	29.6	20.5	50.1	-	-	-	-	-	4.84%	0	(687)	33	33	-	4.84%	0	594	574
	Pj	C-P	622	193	23.34	-	-	8.89	32.23	8.9	5.1	-	5.1	8.6	10.7	19.3	-	-	-	-	-	4.62%	4	(193)	9	5	-	4.62%	4	160	153
	SbG	C-SB	1,325	209	33.57	-	28.39	9.06	71.03	37.5	33.6	-	33.6	39.3	14.8	54.1	-	-	-	-	-	17.95%	4	(209)	37	34	-	17.95%	4	138	127
	SBFM	C-SBFM	-	-	-	-	15.47	-	15.47	15.5	-	-	-	18.7	-	18.7	-	-	-	-	-	0.00%	15	-	15	-	-	0.00%	15	(15)	-
	X	Non-Contrib	-	-	-	-	-	-	-	-	-	-	-	14.3	-	14.3	-	-	-	-	-	0.00%	-	-	-	-	-	0.00%	-	-	-

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: 77154, 78154, 76184

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)			SHS Assessment (Excluding Slivers)			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
<b>L03-A</b>	All	All	9,189	4,738	878	10	109	33	1,030	152	389	-	389	127	171	298	-	-	-	-	-	3.20%	(237)	(4,738)	152	389	-	3.20%	(237)	3,708	3,299
	Aw/AwU	D	2,723	14			7.29		7.29	7.3				6.303		6.3						52.16%	7	(14)	7	-		52.16%	7	7	14
	PjMX	DC-P	169	146	109.01		16.81		125.81	16.8				2.69	10.7	13.4						11.47%	17	(146)	17	-		11.47%	17	21	27
	AwSx	DC-S	670	431	89.43	1.18	7.80		98.42	9.0	19.019		19.0	15.33	12.12	27.5						2.09%	(10)	(431)	9	19		2.09%	(10)	332	310
	SxAw	CD-SW	886	519	90.77	0.08	3.01		93.87	3.1	14.401		14.4	3.536	15.65	19.2						0.60%	(11)	(519)	3	14		0.60%	(11)	425	398
	PjMx	CD-P	66	61	35.27		3.15		38.41	3.1	2.8247		2.8	0.031	12.61	12.6						5.13%	0	(61)	3	3		5.13%	0	23	11
	SxAw	CD-SB	53	33	7.16	1.16			8.32	1.2	8.0185		8.0	0.148	1.888	2.0						3.52%	(7)	(33)	1	8		3.52%	(7)	25	16
	Sw	C-SW	2,674	1,987	280.98		6.88		287.86	6.9	136.81		136.8	9.057	54.5	63.6						0.35%	(130)	(1,987)	7	137		0.35%	(130)	1,699	1,515
	Pj	C-P	622	430	146.90			20.713	167.61	20.7	103		103.0	8.901	21.87	30.8						4.82%	(82)	(430)	21	103		4.82%	(82)	262	158
	SbG	C-SB	1,325	1,117	118.79	7.40	46.87	12.651	185.72	66.9	105.15		105.1	58.95	41.83	100.8						5.99%	(38)	(1,117)	67	105		5.99%	(38)	931	851
	SBFM	C-SBFM	-	-			16.84		16.84	16.8			16.8	14.54		14.5						0.00%	17	-	17	-		0.00%	17	(17)	-
	X	NoStrata	-	-		0.00			0.00	0.0			-	7.026		7.0						0.00%	0	-	0	-		0.00%	0	(0)	-

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: 77154, 76184