

Planning Unit 072124

Final Harvest Plan

1. Introduction

This plan is being submitted for appraisal, for a 5-year Final Harvest Plan (FHP) approval under the 2012 Alberta-Pacific Forest Industries Inc. (Alberta-Pacific) Annual Operating Plan (AOP). Planning Unit 072124 is located north of Lac La Biche.

The planning unit is located in Forest Management Unit (FMU) L1. Alberta-Pacific has rights to D, D(C) and DC as deciduous landbase.

Millar Western Forest Products Ltd. (Millar Western), Ed Bobocel Lumber (1993) Ltd. (Bobocel) and the Community Timber Permit Program (CTPP) are allocated portions of the coniferous Annual Allowable Cut (AAC) from the C and CD cover groups.

Millar Western holds active timber disposition CTL L01J003 within portions of this planning unit.

The 1:15,000 Harvest Design maps will be the spatial media that is approved. The block lists are the tabular media that is approved. If the attributes in the block listings contradict the 1:15,000 maps, the maps will be the media approved. The layout block maps have been submitted for additional information. If the layout block maps contain pertinent information not found on the 1:15,000 maps, this information will be summarized in Section 3.

2. Planning Unit Specific Comments

The harvest design utilizes the 2006 Spatial Harvest Sequence (SHS). A modified two-pass harvest system has been implemented due to the by-pass of deciduous stands adjacent to Mistletoe harvest blocks. The coniferous design (coniferous SHS) is shown for landbase integration purposes. Detailed coniferous block and road design, variances to the coniferous SHS and coniferous profile reporting will be completed by the coniferous operator during their planning process. The affected coniferous operators have reviewed and agreed to the deciduous design. The by-passed stands have been put into second-entry blocks. These blocks will have a number 2 at the end of the block number.

An average of 5% of the merchantable volume will be left in stand structure over the landscape. The structure will be left as single trees and small clumps of timber at the operators' discretion.

Stand structure has been planned (delineated) in the larger blocks to create some larger (> 1 ha) residual areas. These areas are identified as Retention Areas (RAs) within the lists and on the maps. These blocks have a 9 at the end of the block number.

The Logan River and two creeks that run through the southwest portion of Township (Twp.) 072-13-4 are fish bearing and are buffered accordingly.

The Logan River has been identified as a navigable water way.

All unsurveyed creeks have been buffered and crossed as though they were fish bearing.

All of the blocks in this unit are outside FireSmart Community Zones as identified by Alberta Sustainable Resource Development (ASRD). One or more of following debris management strategies apply for blocks within this planning unit:

- Methods described in the Forest and Prairie Protection Act and Regulations, and/or
- Thinly spread slash throughout the block, and/or
- Stump side processing.

The retention of debris piles may also be utilized in addition to the above strategies, as per Forest Protection Directive 2007-02.

The deciduous utilization standard will be 15/10. The coniferous utilization standard will be 15/11.

Design Comments

Type lines between some combined blocks (types) are difficult to follow. For this reason, field crews “*straight lined*” many of the splits between these indistinguishable types to create a boundary line for the silviculture department to plan appropriate treatments.

During the layout phase of this operation, Alberta-Pacific looked for signs of insect or disease infestations. No significant signs were encountered during this phase.

Areas that have been by-passed in Twp. 072-13-4 have been left due to the amount of harvesting in the area from the Mistletoe sanitation project. These stands have been left for the time being so that they can be harvested later on in the 15 year SHS once the pine blocks have been re-established.

3. Block Information

The following table summarizes the volumes within the Quota blocks and Alberta-Pacific's FHP blocks.

Landbase Volume Summary

Company	Area (ha)	Decid (m3)	Conif (m3)	Inc Conif (m3)	Total (m3)
Quota	556	13,207	72,193	756	86,156
Alberta-Pacific	910	176,343	0	14,227	190,570

Block Comments

SHS stands along the east edge of the planning unit were deleted due to steep terrain along the Logan River valley slope break.

Twp. 72-12-4

- 07212403471 Southwest deletions due to steep terrain and operational reasons. Deletions to east due to creek buffers and steep terrain. Block contains a machine free zone.
- 07212404261 SHS stands to south were deleted due to operational reasons and wildlife.
- 07212404751 East deletions due to steep terrain and erroneous timber type (C18Pj10).
- 07212405281 East deletions due to high surface water and young and vigorously growing stands (C16Aw8Sw2). SHS stands to east at grid references 0548 and 0861 were deleted due to potential trapper concerns.
- 07212405751 Deletions to south and northeast due to operational reasons. Northwest deletion due to creek buffer. SHS stands to west at grid reference 0546 were deleted due to steep terrain.
- 07212406371 South boundary follows stand type.
- 07212406481 Deletions due to young and vigorously growing stands (B15Aw9Pj1). SHS stands to northeast deleted due to burnt and charred wood.

Block Comments (Cont.)

- 07212406641 Northwest boundary follows stand type. Deletions in southwest due to high surface water and buffer left for wind firmness on adjacent coniferous stands.
- 07212406761 Deletions due to buffer left for wind firmness on adjacent coniferous stands, operational reasons and erroneous timber types (C21Sw8Aw2, B19Pj6Sb4).
- 07212406781 South deletion due to landuse dispositions. Southwest deletion due to high surface water.
- 07212407841 Southeast deletion due to coniferous understorey with patchy overstorey Aspen. Northwest deletions due to burnt and charred wood and erroneous timber type (B21Pj7Aw3). Deletion along south boundary of northeast island due to boundary following type and erroneous timber types (C18Sb7Aw3, B22Pj7Bw2Aw1). Area outside the 15 year SHS was added in the north to avoid isolating timber.
- 07212409511 SHS stand to west at grid reference 0892 was deleted due to operational reasons. Block contains machine free zones.
- 07212416151 SHS stand to west at grid reference 1732 was deleted due to operational reasons. SHS stands to southwest at grid reference 0857 were deleted for wildlife. Deletion in southwest due to erroneous timber type (B14Pj5Sb3Sw2). Area outside the 15 year SHS was added in the northeast to avoid isolating timber. Block contains RA's 07212416189 and 07212416239.
- 07212416471 SHS stand to east deleted due to steep terrain. Decking will occur along Alberta-Pacific's LOC 001226.
- 07212416511 South deletion due to buffer left for wind firmness on adjacent coniferous stands, creek buffers and following stand type. East central deletions due to erroneous timber types (A15Sw8Pj2) and a creek buffer. Deletions to east due to steep terrain. Block contains clumps of ≥ 600 stems/ha of White Spruce understorey and the clumps are ≥ 2 hectares. A detailed block plan will be created for understorey protection. Decking in the north will occur along Alberta-Pacific's LOC 001226.
- 07212420441 SHS stands to west at grid references 1961, 1976 and 1988 were deleted due to isolation. Block contains some steep terrain.
- 07212421271 Block was added from outside the 15 year SHS to avoid isolating timber.

Block Comments (Cont.)

- 07212421331 North and east deletions due to buffers and steep terrain.
- 07212421621 East deletion due to steep terrain. Decking in east island will occur along Alberta-Pacific's LOC 001226.
- 07212421771 North deletions due to young and vigorously growing stands (B10Aw7Pj2Sb1). West deletions due to buffers, operational reasons and high surface water. South deletions due to buffers and steep terrain. East deletions due to steep terrain. Block contains clumps of ≥ 600 stems/ha of White Spruce understorey and the clumps are ≥ 2 hectares. A detailed block plan will be created for understorey protection.
- Twp. 72-13-4**
- 07213406281 South boundary follows slope break and lake buffer.
- 07213407971 SHS stand to south at grid reference 0814 deleted due to operational reasons. Area added to block from outside the 15 year SHS to avoid isolating timber.
- 07213412461 South deletion due to buffers.
- 07213414861 North-central deletions due to erroneous timber types (B15Pj9Aw1, A16Pj4Bw4Aw2). Northwest deletion due to buffers. Areas outside the 15 year SHS were added to avoid isolating timber.
- 07213417581 Deletion to southwest due to following stand type and erroneous timber type (C12Sb10).
- 07213417661 SHS stands to north at grid references 1788 and 2122 deleted for operational reasons and isolation.
- 07213417841 SHS stand to south at grid reference 0889 deleted due to operational reasons.
- 07213418241 Block contains ≥ 600 stems/ha of White Spruce understorey. A detailed block plan will be created for understorey protection.
- 07213418621 SHS stand to west at grid reference 1862 deleted for operational reasons.
- 07213424661 Unmapped pipeline splits block.
- 07213425821 Area added from outside the 15 year SHS to avoid isolating timber.

Block Comments (Cont.)

- 07213426181 Area added from outside the 15 year SHS to avoid isolating timber.
- 07213427331 SHS stand to south deleted for operational reasons. SHS stand to west at grid reference 2842 was deleted in the pine blocks for wildlife.
- 07213427471 Area added from outside the 15 year SHS to avoid isolating timber.

Refer to the end of this Harvest Design Report for the Layout Block Maps.

Understorey assessments were conducted on the deciduous blocks identified to have >400 stems/ha. of White Spruce understorey by Alberta Vegetation Inventory (AVI), SHS and by initial layout classification.

Understorey detailed block plans will be created for all blocks with ≥ 600 stems/ha of non-merchantable (< 15m) White Spruce understorey that are \geq two hectares. Other blocks with non-merchantable White Spruce understorey will be harvested using avoidance. No detailed block plan will be created for those blocks. Balsam Fir, Pine, and Black Spruce understorey will be protected using understorey avoidance methods.

A detailed block plan for understorey protection is required for block 07213418241 since it contained ≥ 600 stems/ha and \geq two hectares of White Spruce understorey.

The following deciduous blocks contain 400-599 stems/ha understorey; however, they contain areas (clumps > 2.0 hectares) of White Spruce understorey ≥ 600 stems/ha and will be harvested using protection methods as shown on a detailed block plan:

07212416511 07212421771

The understorey assessment surveys will be submitted prior to harvesting operations.

Block Buffer Table

Source ID	Buffer Location	Base Info	Field Call	Buffer Type	Habitat Rating
07212403471	E	P	LP	60	SF
	E	UM	E	LV	U
	E	UM	E	MFZ	U
07212405281	E	UM	E	LV	U
07212405751	N	I	SP	30	U
07212406761	S	UM	E	LV	U
07212409511	C	UM	E	MFZ	U
	W	E	E	MFZ	U
07212416151	C, W-C	UM	E	LV	U
07212416511	S	SL	SL	30	U
	E-C, S-C	UM	E	LV	U
07212421271	NE	E	B	30	U

Block Buffer Table (Cont.)

Source ID	Buffer Location	Base Info	Field Call	Buffer Type	Habitat Rating
07212421331	N, E	E	B	30	U
	NE	E	SP	30	U
	N	UM	E	LV	U
	N	UM	I	LV	U
07212421771	S, W	E	B	30	U
	S	E	SP	30	U
07213406281	S	SL	LL	100	U
07213407971	S	LL	LL	100	U
07213412461	S	P	B	30	U
	S, W	UM	B	30	U
07213413181	S, W	P	B	30	U
	W	P	SP	30	U
07213414861	W	P	B	30	U
	W	P	SP	30	U
	E	UM	T	10	U
	E	UM	E	LV	U
07213417661	E	P	B	30	U
07213427471	N	SL	SL	30	U
07213434841	S	SL	SL	30	U
	NW	LL	LL	100	U
07213435241	SE, SW	P	E	LV	U
	NW	LL	LL	100	U
	W	P	E	LV	U

In the above table, possible “Base Info” watercourse classifications are indefinite (E), intermittent (I), perennial (P) or unmapped (UM). The possible “Field Call” watercourse classifications are ephemeral (E), intermittent (I), transitional (T), small permanent (SP), large permanent (LP), lake < 4 ha (SL), lake ≥ 4 ha (LL), beaver pond (B), spring (S), Water Source Area (WA), or no watercourse (NW). The possible “Buffer Type” is lesser vegetation (LV), machine free zone (MFZ), no buffer (0) and non-operational ten, twenty, thirty, sixty or one hundred metres (10, 20, 30, 60 or 100). The “Habitat Rating” identifies watercourses surveyed as fish bearing or potentially fish bearing (SF), surveyed as non-fish bearing (SN) or unsurveyed (U). The “Field Call” watercourse classifications in the above table are based on Table 1 of the Northeast Alberta Operating Ground Rules (OGRs) at the time, and during the conditions, when layout was conducted.

Alberta-Pacific Deciduous First Entry Block Listing

(Values Affected by Rounding)

Source Id	Harvest Season	Conif Charge	Detail Plan	Area (ha)	Decid (m3)	Conif (m3)	Inc Conif (m3)	Total (m3)
07212403471	NF	INC		32	6,935	0	614	7,549
07212404261	NF	INC		4	551	0	50	601
07212404751	NF	INC		3	559	0	47	606
07212405281	NF	INC		9	1,042	0	35	1,077
07212405751	NF	INC		2	326	0	95	421

Alberta-Pacific Deciduous First Entry Block Listing (Cont.)

(Values Affected by Rounding)

Source Id	Harvest Season	Conif Charge	Detail Plan	Area (ha)	Decid (m3)	Conif (m3)	Inc Conif (m3)	Total (m3)
07212406231	NF	INC		12	1,801	0	106	1,907
07212406371	NF	INC		5	790	0	69	859
07212406481	NF	INC		4	574	0	77	651
07212406641	NF	INC		13	2,178	0	77	2,255
07212406681	F	INC		3	477	0	19	496
07212406761	NF	INC		19	3,216	0	185	3,401
07212406781	NF	INC		8	1,366	0	68	1,434
07212407841	NF	INC		73	12,609	0	1,142	13,751
07212409511	NF	INC		35	7,451	0	515	7,966
07212416151	NF	INC		163	38,165	0	1,453	39,618
07212416471	NF	INC		3	528	0	32	560
07212416511	NF	INC	U	101	21,283	0	1,862	23,145
07212417671	F	INC		3	650	0	20	670
07212420431	F	INC		2	502	0	15	517
07212420441	F	INC		2	491	0	16	507
07212420641	F	INC		5	1,163	0	51	1,214
07212421271	F	INC		2	302	0	18	320
07212421331	NF	INC		33	7,437	0	278	7,715
07212421621	NF	INC		5	1,150	0	35	1,185
07212421771	NF	INC		43	9,098	0	943	10,041
07213401841	NF	INC		4	355	0	88	443
07213406281	NF	INC		9	1,311	0	147	1,458
07213407971	F	INC		10	1,838	0	540	2,378
07213410851	NF	INC		4	508	0	147	655
07213412461	F	INC		10	1,793	0	69	1,862
07213413181	F	INC		6	942	0	47	989
07213414861	F	INC		12	1,544	0	91	1,635
07213416621	NF	INC		12	1,845	0	252	2,097
07213417261	F	INC		1	234	0	26	260
07213417291	F	INC		7	1,834	0	62	1,896
07213417551	F	INC		4	531	0	163	694
07213417581	F	INC		4	909	0	101	1,010
07213417661	F	INC		2	333	0	10	343
07213417841	F	INC		1	194	0	33	227
07213418241	F	INC	U	59	12,401	0	2,002	14,403
07213418621	F	INC		4	651	0	163	814
07213420311	F	INC		1	192	0	32	224
07213420551	F	INC		2	411	0	75	486
07213424661	F	INC		12	1,942	0	130	2,072
07213425821	F	INC		15	1,894	0	130	2,024

Alberta-Pacific Deciduous First Entry Block Listing (Cont.)

(Values Affected by Rounding)

Source Id	Harvest Season	Conif Charge	Detail Plan	Area (ha)	Decid (m3)	Conif (m3)	Inc Conif (m3)	Total (m3)
07213426181	F	INC		18	3,079	0	125	3,204
07213427331	F	INC		4	707	0	39	746
07213427471	F	INC		81	13,031	0	1,595	14,626
07213427621	F	INC		2	244	0	9	253
07213427861	F	INC		10	1,711	0	54	1,765
07213434841	F	INC		7	1,619	0	117	1,736
07213435241	F	INC		21	3,646	0	158	3,804
Total				910	176,343	0	14,227	190,570

Alberta-Pacific Second Entry Block Listing

(Values Affected by Rounding)

Source Id	Harvest Season	Conif Charge	Detail Plan	Area (ha)	Decid (m3)	Conif (m3)	Inc Conif (m3)	Total (m3)
07213407352	F	INC		3	468	0	52	520
07213407532	NF	INC		47	7,649	0	943	8,592
07213431982	NF	INC		50	8,734	0	490	9,224
07213432162	NF	INC		1	351	0	11	362
Total				101	17,202	0	1,496	18,698

Retention Area Listing

(Values Affected by Rounding)

Block Id	Harvest Season	Status	Area (ha)	Decid (m3)	Conif (m3)	Inc Conif (m3)	Total (m3)
16189			4	900	0	28	928
16239			4	854	0	130	984
Total			8	1,754	0	158	1,912

4. Access and Road Information

Planning unit will be accessed from the west off of the Old Conklin Road, north of the Heart Lake Road. See the Planning Unit Access Map at the end of this Section.

Planning Unit Temporary Road Information

Existing access has been utilized where possible to minimize the clearing of new Right of Way (RoW).

New access and watercourse crossings will be reclaimed in order to restrict access. All terrain vehicle (ATV) access may be left to facilitate silviculture activities.

There was no access opened for layout under Temporary Field Authority (TFA).

New access and watercourse crossings will be reclaimed as per Section 11.3.4 of the OGRs. Road reclamation and abandonment details are listed in the AOP when the blocks and roads are scheduled.

No crossings within planning unit are not exempt from the Water Act.

For the tables in this section, possible “Base Info” watercourse classifications are indefinite (E), intermittent (I), perennial (P) or unmapped (UM). The possible “Field Call” watercourse classifications are ephemeral (E), intermittent (I), transitional (T), small permanent (SP), large permanent (LP), lake < 4 ha (SL), lake ≥ 4 ha (LL) beaver pond (B), spring (S), saturated soils (SS) or no watercourse (NW). “Watercourse Features” identify the fish habitat rating and the navigability of the watercourse. The habitat rating identifies watercourses surveyed as fish bearing or potentially fish bearing (SF), surveyed as non-fish bearing (SN) or unsurveyed (U). The navigability rating identifies watercourse as being potentially navigable (N) or potentially unnavigable (U) based on the possibility of traveling the stream with a vessel. The “Field Call” watercourse classifications in the above table are based on Table 1 of the OGRs at the time, and during the conditions, when layout was conducted.

Crossings in this section that have no watercourse information are pipeline crossings.

Road Comments

Road No.	Class	Comments
06641	4S	This road requires a pipeline crossing at grid location 0646.
06761	4S	This road requires a pipeline crossing at grid location 0675.
12461	4W	This road requires a pipeline crossing at grid location 1227. This road parallels an east-west pipeline in Section 11 of Twp. 72-13-4. This main road contains a favorable slope of 17% for 55m at grid location 1247 in Twp. 72-13-4.

Road Comments (Cont.)

Road No.	Class	Comments
12461		This main road contains adverse slopes of 7% for 50m at grid locations 1187 and 1197 in Twp. 72-13-4.
14861	4W	This road parallels a northeast running pipeline in Sections 12 and 13 of Twp. 72-13-4. This main road contains a favorable slope of 15% for 55m at grid location 1341 in Twp. 72-13-4. This main road contains an adverse slope of 15% for 20m at grid location 1352 in Twp. 72-13-4. Skid trail will be used to access northeast island.
16151	4S	This road requires a pipeline crossing at grid location 1633.
17551	4W	Skid trail will be used to access south island.
18241	4W	This road requires a pipeline crossing at grid location 1856. Skid trail will be used to access northeast island.
20431	4W	This main road contains a favorable slope of 35% for 8m at grid location 2043 in Twp. 72-12-4.
20441	4W	This road requires a pipeline crossing at grid location 2055.
20551	4W	Skid trail will be used to access north island.
21331	4S	This road requires a pipeline crossing at grid location 2163.
24661	4W	This road requires a pipeline crossing at grid location 2466.
25821	4W	This main road contains a favorable slope of 10% for 50m at grid location 2477 in Twp. 72-13-4.

Main Access

Road No.	Class	Length (Km)	Construction Season	Crossing Location
01841	4S	0.17	Non-Frozen	
03471	4S	0.75	Non-Frozen	
04261	4S	0.58	Non-Frozen	
04751	4S	0.29	Non-Frozen	
05281	4S	0.72	Non-Frozen	
05751	4S	0.44	Non-Frozen	
06231	4S	0.98	Non-Frozen	
06371	4S	0.20	Non-Frozen	
06481	4S	0.52	Non-Frozen	
06641	4S	0.86	Non-Frozen	0646
06681	4W	0.51	Frozen	
06761	4S	0.02	Non-Frozen	0675
06781	4S	0.54	Non-Frozen	
07841	4S	2.45	Non-Frozen	
07971	4W	0.46	Frozen	
09511	4S	0.83	Non-Frozen	
10851	4S	0.16	Non-Frozen	
12461	4W	2.39	Frozen	1217 1227 1237
13181	4W	0.97	Frozen	1499
14861	4W	2.54	Frozen	
16151	4S	1.96	Non-Frozen	1633 1788
16511	4S	2.46	Non-Frozen	0969

Main Access (Cont.)

Road No.	Class	Length (Km)	Construction Season	Crossing Location
17261	4W	0.59	Frozen	1746
17291	4W	0.73	Frozen	
17551	4W	0.14	Frozen	
17581	4W	0.88	Frozen	
17661	4W	0.48	Frozen	1775
17671	4W	0.17	Frozen	
17841	4W	0.52	Frozen	
18241	4W	1.25	Frozen	1856
18621	4W	0.85	Frozen	
20311	4W	0.24	Frozen	
20431	4W	0.19	Frozen	
20441	4W	0.21	Frozen	2055
20551	4W	0.32	Frozen	
20641	4W	1.30	Frozen	
21271	4W	0.55	Frozen	2146
21331	4S	0.72	Non-Frozen	2163
21621	4S	0.21	Non-Frozen	
24661	4W	2.07	Frozen	2466
25821	4W	0.57	Frozen	
26181	4W	0.19	Frozen	
27331	4W	1.79	Frozen	2713
27471	4W	3.62	Frozen	
27621	4W	0.08	Frozen	
27861	4W	0.05	Frozen	
34841	4W	0.92	Frozen	3496
35241	4W	0.75	Frozen	
Total Km Class 4W:		25.33		
Total Km Class 4S:		14.86		
Total Km Class 4P:		0.00		

Main Access Crossings

Road No.	Crossing Location	Source Id	Base Info	Field Call	Watercourse Features
06641	0646				
06761	0675				
12461	1217		P	E	U-U
	1227				
	1237		UM	I	U-U
13181	1499		P	SP	U-U
16151	1633				
	1788		UM	E	U-U
16511	0969		UM	E	U-U
17261	1746		UM	E	U-U
17661	1775		P	SP	U-U
18241	1856				
20441	2055				
21271	2146		UM	E	U-U
21331	2163				
24661	2466				

Main Access Crossings (Cont.)

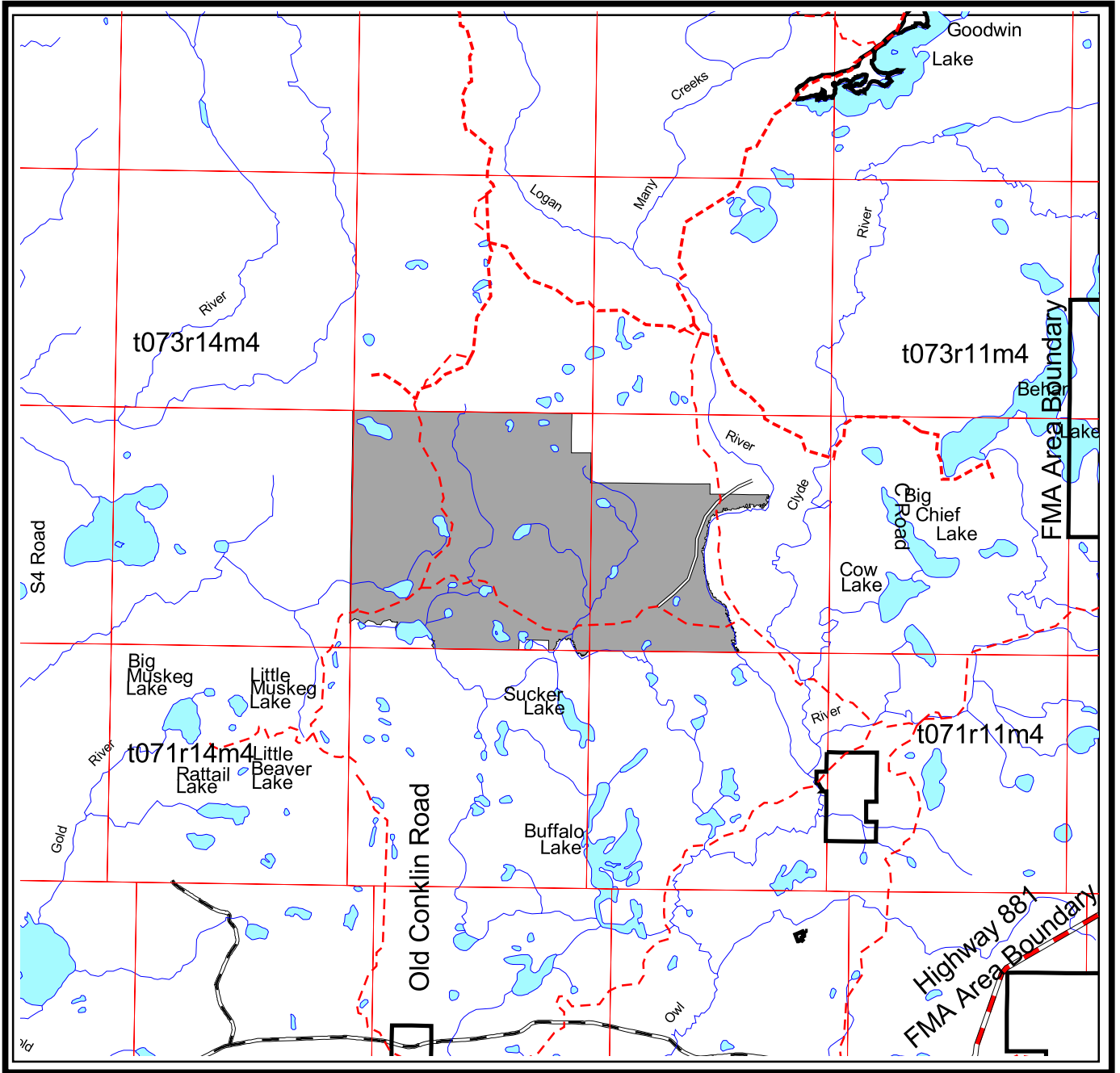
Road No.	Crossing Location	Source Id	Base Info	Field Call	Watercourse Features
27331	2713		P	SP	U-U
34841	3496		P	E	U-U

Skid Trail Crossings

Road No.	Crossing Location	Source Id	Base Info	Field Call	Watercourse Features
14861	1344		UM	E	U-U

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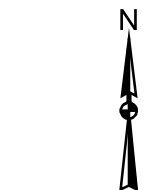
Access Map



1:250000



Alberta-Pacific
Forest Industries Inc.



5. Non Timber Values

Public Involvement

Copies of this harvest plan will be available for viewing at the Athabasca, Fort McMurray and Lac La Biche libraries, Teco-Athabasca, the Alberta-Pacific field offices (Wabasca and Janvier) and the Alberta-Pacific mill site.

Alberta-Pacific hosted a public meeting, October 21, 2009, for Planning Unit 072124 in Heart Lake.

No concerns have been identified through the public involvement process to date.

Aboriginal Consultation

The Aboriginal Consultation for this plan was completed during the previous year's General Development Plan (GDP) review meetings.

No concerns have been identified through the Aboriginal Consultation process to date.

Trappers

The holders of the following Registered Fur Management Areas (RFMA) have been contacted regarding harvesting activities within Planning Unit 072124:

- 1323
- 2037
- 2252

SHS stands were removed from the plan in Twp. 072-12-4 at grid references 0548 and 0861 to mitigate affects of the harvest plan on trappers.

Guides and Outfitters

The holders of the following permits within Wildlife Management Unit (WMU) 515 have been notified of Alberta-Pacific's harvest plans within Planning Unit 072124:

- 0059
- 0431
- 0446
- 0447
- 0493
- 0529
- 0960

No concerns have been identified through the Guides and Outfitters Consultation process to date.

Forest Recreation Groups

There are currently no active forest recreation groups with interests within this planning unit.

Grazing Lease Operators

There are currently no grazing leases within this planning unit.

Historical Resources

No known historical resource sites are located within this unit. Lands on which historical resource sites are likely to occur will be checked prior to commencement of operations or post harvest.

Forest Aesthetics

There are no forest aesthetics concerns within this planning unit.

Land Use

As per a Land Status Automated System (LSAS) land standing report dated October 2, 2009, there are currently no dispositions within this planning unit that restrict harvesting timber.

The following dispositions have been reviewed and contain no restrictions for timber removal at this time and do not affect the harvest design: PNT 030020 and CNT 090006.

A Permanent Sample Plot (PSP) was found in Section 17 of Twp. 072-13-4 and has been removed from the harvest design.

Wildlife

The northwest corner of the planning unit is within key Caribou Zones. No blocks are currently planned for harvest within this area. Operations will adhere to the Alberta-Pacific wildlife plan submitted annually in the fall.

No areas of concentrated terrestrial lichens were identified during layout.

All known sensitive sites have been addressed as per 7.7.6.2 of the OGRs.

The block 07213417661 has been buffered according to section 7.1.1 of the OGR's.

Block Design

Areas of timber to be used as stand structure have been strategically chosen to break up the line of sight in larger blocks. These have been delineated on the maps as RAs.

Access and Access Management

Existing access has been utilized where possible to minimize the clearing of new RoW.

Continuous flow roads have been utilized in larger blocks to reduce skidding distances and cycle times. Their use outside of blocks has been minimized to control access and reduce potential wildlife disturbance.

The following policies have been implemented to mitigate access management concerns:

- Temporary road systems will be “signed” as temporary and closed as soon as possible after the harvesting, hauling, and silviculture activities have been completed.
- Sight lines were considered while designing the harvest blocks and roads. Methods that might have been used are blending blocks and roads into contour levels, terrain features, vegetation cover types, and retained stand structure.

Since the planning unit falls within a key Caribou Zone, the timing of operations will be completed as per the Boreal Caribou Committee Guidelines.

6. Integration with Affected Forest Companies

Millar Western and Bobocel signed off regarding this plan.

Quota Block Listing (Values Affected by Rounding)

Block Id	Harvest Season	Conif Charge	Detail Plan	Area (ha)	Decid (m3)	Conif (m3)	Inc Conif (m3)	Total (m3)
03264	F	CTL		6	36	907	0	943
03464	F	CTL		3	38	423	0	461
04244	F	CTL		2	16	324	0	340
04254	F	CTL		7	38	1,217	0	1,255
04424	F	CTL		8	59	1,171	0	1,230
04444	F	CTL		9	141	1,379	0	1,520
04464	F	CTL		5	89	798	0	887
04644	F	CTL		31	548	4,638	0	5,186
04684	F	CTL		5	431	300	51	782
04854	F	CTL		2	13	406	0	419
04934	F	CTL		4	14	414	0	428
05244	F	CTL		4	78	966	0	1,044
05364	F	CTL		5	154	1,386	0	1,540
05374	F	CTL		0	12	109	0	121
05644	F	CTL		7	116	1,474	0	1,590
05844	F	CTL		8	40	1,270	0	1,310
05864	F	CTL		3	241	563	0	804
06194	F	CTL		24	573	3,032	131	3,736
06224	F	CTL		12	197	1,757	0	1,954
06434	F	CTL		2	24	546	0	570
06464	F	CTL		10	913	963	256	2,132
06494	F	CTL		1	21	191	0	212
06624	F	CTL		2	46	282	0	328
06824	F	CTL		2	18	592	0	610
06844	F	CTL		2	16	478	0	494
06864	F	CTL		1	1	47	0	48
06884	F	CTL		4	11	361	0	372
07224	F	CTL		1	10	94	0	104
07264	F	CTL		15	46	1,496	0	1,542
07354	F	CTL		3	28	255	0	283
07424	F	CTL		2	139	208	0	347
07644	F	CTL		3	17	499	0	516
07664	F	CTL		3	59	471	0	530
07684	F	CTL		13	280	1,758	82	2,120
07824	F	CTL		3	44	393	0	437
08244	F	CTL		2	16	534	0	550

Quota Block Listing (Cont.)

(Values Affected by Rounding)

Block Id	Harvest Season	Conif Charge	Detail Plan	Area (ha)	Decid (m3)	Conif (m3)	Inc Conif (m3)	Total (m3)
09424	F	CTL		1	8	75	0	83
09444	F	CTL		4	232	929	0	1,161
09624	F	CTL		1	71	282	0	353
09644	F	CTL		2	56	503	0	559
09864	F	CTL		2	140	558	0	698
09884	F	CTL		4	11	347	0	358
16444	F	CTL		3	154	617	0	771
16824	F	CTL		0	8	72	0	80
17384	F	CTL		2	11	350	0	361
17534	F	CTL		3	121	236	0	357
17824	F	CTL		9	734	693	0	1,427
17834	F	CTL		4	288	378	0	666
18264	F	CTL		14	198	1,934	0	2,132
18644	F	CTL		3	57	509	0	566
18824	F	CTL		5	586	109	142	837
19224	F	CTL		35	235	5,508	0	5,743
19424	F	CTL		1	3	120	0	123
19744	F	CTL		2	8	245	0	253
19864	F	CTL		3	48	432	0	480
19884	F	CTL		1	4	136	0	140
20224	F	CTL		1	6	127	0	133
20244	F	CTL		7	15	494	0	509
20264	F	CTL		1	2	57	0	59
20364	F	CTL		4	69	616	0	685
20414	F	CTL		2	184	184	0	368
20474	F	CTL		5	19	441	0	460
20664	F	CTL		0	2	72	0	74
20864	F	CTL		2	11	333	0	344
20884	F	CTL		3	14	443	0	457
21244	F	CTL		2	212	493	0	705
21284	F	CTL		9	33	1,042	0	1,075
21364	F	CTL		1	3	93	0	96
21464	F	CTL		4	65	583	0	648
21644	F	CTL		1	43	103	0	146
21664	F	CTL		3	84	758	0	842
21684	F	CTL		3	36	142	0	178
21864	F	CTL		2	172	394	0	566
22284	F	CTL		1	22	89	0	111
22464	F	CTL		2	12	387	0	399
22664	F	CTL		2	11	401	0	412

Quota Block Listing (Cont.)

(Values Affected by Rounding)

Block Id	Harvest Season	Conif Charge	Detail Plan	Area (ha)	Decid (m3)	Conif (m3)	Inc Conif (m3)	Total (m3)
22684	F	CTL		3	8	272	0	280
23284	F	CTL		12	579	1,350	0	1,929
28624	F	CTL		4	218	327	0	545
01774	F	CTL		3	9	274	0	283
01864	F	CTL		2	6	189	0	195
07444	F	CTL		5	68	492	0	560
07464	F	CTL		3	85	371	4	460
07614	F	CTL		4	18	574	0	592
08534	F	CTL		2	21	305	0	326
10644	F	CTL		2	5	145	0	150
11264	F	CTL		6	375	562	0	937
12884	F	CTL		3	8	261	0	269
14624	F	CTL		2	74	298	0	372
14644	F	CTL		8	395	691	26	1,112
14674	F	CTL		5	57	520	0	577
14824	F	CTL		3	140	328	0	468
15114	F	CTL		8	608	608	0	1,216
15864	F	CTL		2	168	168	0	336
16354	F	CTL		2	35	309	0	344
16454	F	CTL		1	89	59	0	148
16664	F	CTL		2	7	238	0	245
16744	F	CTL		3	267	178	0	445
17244	F	CTL		1	3	94	0	97
17284	F	CTL		1	11	100	0	111
17454	F	CTL		2	6	199	0	205
17484	F	CTL		10	106	945	0	1,051
18224	F	CTL		3	25	225	0	250
18574	F	CTL		4	308	308	0	616
18864	F	CTL		1	3	98	0	101
18884	F	CTL		1	1	48	0	49
19234	F	CTL		4	527	162	64	753
20144	F	CTL		8	24	774	0	798
20324	F	CTL		1	9	87	0	96
20454	F	CTL		1	28	113	0	141
21564	F	CTL		1	68	43	0	111
21734	F	CTL		4	36	491	0	527
24674	F	CTL		3	28	249	0	277
26264	F	CTL		2	5	163	0	168
27444	F	CTL		2	29	264	0	293
27664	F	CTL		2	36	321	0	357

Quota Block Listing (Cont.)

(Values Affected by Rounding)

Block Id	Harvest Season	Conif Charge	Detail Plan	Area (ha)	Decid (m3)	Conif (m3)	Inc Conif (m3)	Total (m3)
27684	F	CTL		2	4	143	0	147
28224	F	CTL		4	22	710	0	732
29264	F	CTL		3	11	352	0	363
29624	F	CTL		6	18	583	0	601
29884	F	CTL		3	13	413	0	426
31484	F	CTL		0	3	114	0	117
31684	F	CTL		0	3	13	0	16
31884	F	CTL		0	16	68	0	84
33284	F	CTL		1	5	171	0	176
33844	F	CTL		24	75	2,405	0	2,480
34244	F	CTL		6	20	641	0	661
34644	F	CTL		2	13	390	0	403
Total				556	13,207	72,193	756	86,156

7. Spatial Harvest Sequence Summary

The tables below summarize the variance (in area) from the SHS, for Alberta-Pacific harvesting. The variance exceeds the 20% allowable for acceptance under the OGRs. The primary cause for the variance is steep terrain along the Logan River valley. Additional causes are: stands that are isolated by watercourse buffers, stands that would require too much road to access, operational removals for narrow stands and stands that would not meet the mechanical equipment constraints. Effort has been made to minimize variance wherever feasible.

SHS Tracking

SHS Tracking	Decid. Cover Type	Sw Cover Type	Sb Cover Type	Pj Cover Type	Total Cover Type
Total SHS in Planning Unit	1,323.6				1,323.6
FHP SHS Harvest ha.	771.0				771.0
Variance ha. (reportable)	298.4				298.4
Variance % ⁽¹⁾ (reportable)	27.9%				27.9%
Addition ha.	114.9				114.9
Bypassed ha.	101.0				101.0
Total Harvest ha. ⁽²⁾	885.9				885.9

(1) Variance % is the Variance ha. divided by the sum of the FHP SHS Harvest and Variance ha.

(2) Total Harvest ha. is the sum of FHP SHS Harvest ha. and Additions ha.

The tables below summarize the variance (in area) from the SHS into detailed categories, for Alberta-Pacific harvesting.

Variance Summary – Deleted From Net Landbase

Landbase	Area (ha)
Inventory Inconsistencies	36.5
Watercourse and Body Buffer Changes	30.2
Steep Terrain Removals	98.4
Land Use Changes	0.8
Operational and Isolation Changes	61.6
Public Concerns	10.6
Historical Removals	0.0
Aesthetic Removals	0.0
Sensitive Area Removals	26.8
GPS Anomalies	4.7

Variance Summary – Deferred from SHS

Landbase	Area (ha)
Inventory Inconsistencies	16.2
Public Concerns	0.0
Historical Removals	0.0
Aesthetic Removals	0.0
Isolated Stands	0.0
Structure Retention	0.0
Area Left for Wind Firmness	12.7

Variance Summary – Additions

Landbase	Area (ha)
Stands from the SHS outside of years 1-15	114.9
Stands that were not part of the net Landbase	0.0

8. Silviculture Information

The following incidental replacement area is based on AVI volume estimates from D cover group stands within Alberta-Pacific FHP blocks in Planning Unit 072124. The remaining incidental coniferous volume from first entry blocks listed in Section 3 is generated from DC stands that are considered deciduous landbase; which will be replaced by the balanced silviculture declaration process.

Incidental Coniferous Reforestation Volume Replacement

Estimated Incidental Volume (m ³)	Replacement Area (ha)
12,845	64.2

The following table outlines the initial silviculture declarations for FHP blocks within Planning Unit 072124. Cover group balanced declarations will be submitted post harvest.

Alberta-Pacific Silviculture Declarations

Source Id	Area (ha)	Std_ Mod	Open_ Desig	Species_ Gr	Silv_ Harv
07212403471	32.1	D	CC	DE	CC
07212404261	4.0	D	CC	DE	CC
07212404751	2.6	D	CC	DE	CC
07212405281	9.3	D	CC	DE	CC
07212405751	2.4	D	CC	DE	CC
07212406231	12.2	D	CC	DE	CC
07212406371	5.4	D	CC	DE	CC
07212406481	3.9	D	CC	DE	CC
07212406641	12.7	D	CC	DE	CC
07212406681	2.7	D	CC	DE	CC
07212406761	18.6	D	CC	DE	CC
07212406781	8.5	D	CC	DE	CC
07212407841	73.1	D	CC	DE	CC
07212409511	34.8	D	CC	DE	CC
07212416151	163.1	D	CC	DE	CC
07212416471	2.5	D	CC	DE	CC
07212416511	101.4	D	PC	DE	UP
07212417671	3.0	D	CC	DE	CC
07212420431	2.4	D	CC	DE	CC
07212420441	2.4	D	CC	DE	CC
07212420641	5.4	D	CC	DE	CC
07212421271	2.3	D	CC	DE	CC
07212421331	33.3	D	CC	DE	CC

Alberta-Pacific Silviculture Declarations (Cont.)

Source Id	Area (ha)	Std_Mod	Open_Desig	Species_Gr	Silv_Harv
07212421621	5.4	D	CC	DE	CC
07212421771	42.7	D	AV	DE	CC
07213401841	3.6	D	CC	DE	CC
07213406281	8.7	D	CC	DE	CC
07213407971	10.5	DC	CC	MX	CC
07213410851	3.8	D	CC	DE	CC
07213412461	10.2	D	CC	DE	CC
07213413181	5.5	D	CC	DE	CC
07213414861	12.2	D	CC	DE	CC
07213416621	12.1	D	CC	DE	CC
07213417261	1.1	D	CC	DE	CC
07213417291	7.4	D	CC	DE	CC
07213417551	3.7	D	CC	DE	CC
07213417581	4.4	D	CC	DE	CC
07213417661	2.1	D	CC	DE	CC
07213417841	1.4	D	CC	DE	CC
07213418241	59.4	D	PC	DE	UP
07213418621	3.8	D	CC	DE	CC
07213420311	1.5	D	CC	DE	CC
07213420551	2.1	D	CC	DE	CC
07213424661	11.7	D	CC	DE	CC
07213425821	15.0	D	CC	DE	CC
07213426181	18.3	D	CC	DE	CC
07213427331	4.1	D	CC	DE	CC
07213427471	81.2	D	CC	DE	CC
07213427621	1.6	D	CC	DE	CC
07213427861	10.1	D	CC	DE	CC
07213434841	7.3	D	CC	DE	CC
07213435241	21.2	D	CC	DE	CC

In the above table, the codes for “Std_Mod”, “Open_Type”, “Species_Gr” and “Silv_Harv” are as per the Alberta Regeneration Information System (ARIS) domain codes. If a block contains adequate amounts of Balsam Fir, so that fir is an acceptable coniferous regeneration species, a code of FA is used in the “Species_Gr”.

All deciduous blocks will be Leave for Natural (LFN) unless required for incidental coniferous replacement in which case they will be treated as per Appendix 4 of Alberta-Pacific Forest Management Plan (FMP). All coniferous blocks will be treated as per Appendix 4, of the FMP.

Block 07213410851 and 07213418241 are potential strata conversions for incidental replacement.

9. OGRs Variances

Blocks

The lakes bordering the south boundary of Block 07212416511, the north boundary of 07213427471 and the south boundary of 07213434841 are less than 4.0 hectares in size and 30 metre buffers have been utilized.

The mapped perennial creek in Section 34 of Twp. 072-12-4 between blocks 07231434841 and 07213435241 was determined in the field to be an ephemeral draw through a wet Black Spruce muskeg, no channel was found.

All of the blocks within the planning unit are outside a community FireSmart Zone. The piling of debris will be used as a method of slash abatement within the blocks.

The variance in the planning unit exceeds the 20% allowable for acceptance under the OGRs. The primary cause for the variance is steep terrain along the Logan River valley. Additional causes are: stands that are isolated by watercourse buffers, stands that would require too much road to access, operational removals for narrow stands and stands that would not meet the mechanical equipment constraints. Effort has been made to minimize variance wherever feasible.

SHS Tracking

SHS Tracking	Decid. Cover Type	Sw Cover Type	Sb Cover Type	Pj Cover Type	Total Cover Type
Total SHS in Planning Unit	1,323.6				1,323.6
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Addition ha.	114.9				114.9
Bypassed ha.	101.0				101.0
Total Harvest ha. ⁽²⁾	885.9				885.9

(1) Variance % is the Variance ha. divided by the sum of the FHP SHS Harvest and Variance ha.

(2) Total Harvest ha. is the sum of FHP SHS Harvest ha. and Additions ha.

The following table identifies blocks greater than 7.0 ha that may exceed 5 % road disturbance once turnabouts are constructed.

Road Percent

Source Id	% Road Class	Comments
07212406231	6	Narrow block and/or irregular shaped block.
07212406641	5	Extra road required; Access to other blocks.
07213407971	5	Narrow block and/or irregular shaped block.
07213414861	5	Extra road required; Access to other blocks.
07213416621	5	Extra road required due to uneven terrain.
07213427861	5	Irregular shaped block.

The percent road class values have been achieved by rounding the road disturbance percent to the nearest whole number.

Block 07212405751 contains ≥ 600 stems/ha of White Spruce understorey but is too small for understorey protection methods, therefore will not have the understorey protected by avoidance or strips. No understorey assessment will be submitted for this block.

Roads

Roads Close to Watercourses

Road No.	Grid Location	Base Info	Field Call	Distance of Watercourse From Road	Habitat Rating
34841	3496	LL	LL	200	U

The “Distance of Watercourse From Road” is the minimum distance allowed in Table 2 of the OGRs without ASRD approval. The roads listed are within those minimum distances. Please refer to the FHP map and layout block maps for more information.

In the above table, possible “Base Info” watercourse classifications are indefinite (E), intermittent (I), perennial (P) or unmapped (UM). The possible “Field Call” watercourse classifications are intermittent (I), transitional (T), small permanent (SP), large permanent (LP), lake < 4 ha (SL), lake ≥ 4 ha (LL). The “Habitat Rating” identifies watercourses surveyed as fish bearing or potentially fish bearing (SF), surveyed as non-fish bearing (SN) or unsurveyed (U). The “Field Call” watercourse classifications in the above table are based on Table 1 of the OGRs at the time, and during the conditions, when layout was conducted.