Yukon
Energy, Mines and Resources

Highway 37 Junction
Timber Harvest Plan

FOREST MANAGEMENT BRANCH

Submitted by
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Forest Management Branch

June 20 / 2011
Date

Approved by
Patrick MacDonell, A/Director
Forest Management Branch

June 20 / 11
Date

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Executive Summary

The *Forest Resources Act* requires that timber harvesting licences may only be issued where a Timber Harvesting Plan (THP) is in place. (FRA, Section 29(4)(ii).) As such, this THP has been drafted to meet the requirements of the *Forest Resources Act*, and to provide opportunities for local wood cutters through small scale forest operations.

The THP is located southeast of the junction of Highway 37 (Cassiar) and the Alaska Highway, 26 km west of the community of Watson Lake.

The THP area was selected because it contains dead standing and wind-thrown trees within an existing road and trail network that remains from timber harvesting that occurred in the 1990's. Hence, it is easily accessible for local residents without the need of large equipment.

Additionally, the homogenous pine stands in the planning area, left uncut by the first pass harvesting contain green timber that would be suitable for a small sawmill or as a source for building or cabin logs.

The THP is proposing the salvage of dead and down timber as commercial fuelwood opportunities of which the volume is estimated at 600m3 or 250 cords. Small scale green timber harvesting will be considered in volumes less than 1000m3 per year, up to a total cut of 3600m3 from the operating area of the THP.

Applications for all harvesting licences require notification to the affected First Nation and public in the area of the application. The First Nation and public may make representations to the Branch Director on the application for a period of no less than 30 days. (FRA, Section 18)

In addition, applications that trigger a Yukon Environmental and Socio-economic Assessment require submission to the local Development Office in Watson Lake for public review prior to issuance.

1.0 Introduction

1.1 Background

This proposed THP is being put forward to contribute to a wood supply for the Town of Watson Lake (and surrounding area) as a requirement of the *Forest Resources Act*. Reconnaissance work during spring and summer of 2010 led to the view that there is no specific area of disturbance that could reasonably serve as a primary source of fuel wood for local residents. This has led to an approach whereby a variety of areas with small volumes of dead standing wood within reasonable proximity to Watson Lake, and outlying hamlets, are being targeted for potential development of small scale activities.

This is being done in the hope that an adequate amount of timber (with particular focus on fuel wood) can be developed to meet the needs of local residents. One benefit of this approach of low levels of harvest dispersed amongst a number of locations is utilization of existing access in areas with recent harvesting activity. A number of local wood cutters have contributed to identifying potential harvest sites, including the area identified in this draft plan.

A number of stakeholders have been notified of the Government of Yukon's intention to do THP planning in the identified areas. This includes Liard First Nation, the Town of Watson Lake, Government of Yukon, Department of Environment and Heritage Resources.

While the primary objective of this THP relates to local wood supply, a large fire immediately south of the B.C. border in the summer of 2010 caused concern that values near the "Junction" might have been at risk, suggesting that the timber harvesting in this area could serve a secondary function of contributing to fuel abatement and to reduce the risk of fire to infrastructure in the vicinity of Junction 37 Services.

Responses received through discussions with stakeholders have been incorporated and further comments and concerns may be raised during the 30 day review period. Subject to approval of the THP after the review period, the Department of Energy, Mines and Resources will entertain applications in these areas. Individual license applications will be subject to a 30 day notification period as required by the *Forest Resources Act*.

1.2 Ecoregion and Drainages

This draft THP is located within the Liard Basin Ecoregion which lies within the Boreal Cordillera Ecozone. This ecoregion is characterized by low hills separated by broad plains and surrounded by mountains and plateaus[1].

The low elevation, moderate precipitation and relatively long, warm summers result in vigorous forest growth[1].

The ecoregion is underlain by a thick mantle of unconsolidated glacial sands and gravel over fluvial sediments[1]. The geology is described as complex owing to two major faults which juxtapose contrasting rock assemblages[1]. The ecoregion was subject to several glaciations, with surface deposits resulting from the most recent. Glacial till can be thicker than 30m on lower slopes[1]. This is a mixture of cobbly sand, silt and minor clay, which drains well to moderately well[1].

This ecoregion is described as containing prime habitat for moose, marten, snowshoe hare and lynx[1]. In addition to this, sandhill cranes are known to follow the Frances and Liard valleys during seasonal migrations[1].

The western portion of the ecoregion also contains important winter habitat for the Little Rancheria caribou herd. This area lies within the basin of the Liard River which flows into the Mackenzie River in the Northwest Territories.

1.3 Socio-Economic Considerations

The town of Watson Lake is referred to as the "Gateway to the Yukon" and has a long history as a supply and accommodation centre for Southeast Yukon.[2] The town is located at the junction of the Alaska Highway and the Robert Campbell Highway, and is also very close to the Junction with the Stewart Cassiar Highway. The population of the community is 1,200 people, many of whom are members of Liard First Nation[3].

There are currently no large saw mills operating in the community and the decline in North American lumber markets in the 2000's has resulted in a decline in this sector. The local demand for timber is related to very small scale, predominantly portable saw mills as well as fuel wood. Fuel wood consumption in the community is estimated at approximately 400 – 800 cords (1,100 – 1,800 m^3) annually, of which as much as half is supplied through commercial sales.

2.0 Planning Area Identification

This proposed THP is located approximately 2.5km south of the Alaska Highway along the Stewart Cassiar, approximately 500m from the British Columbia border at its nearest point. It is positioned between several blocks previously logged during the 1990's.

These existing openings were not planted but contain significant amounts of regeneration where the soil was disturbed, primarily alongside the roads as well as landings which were used during summer months. Much of the road network passing through these blocks is still in useable condition.

Refer to Appendix A and B maps of the Junction 37 THP Area.

2.1 Landscape Issues

2.1.1 Wildlife

The species of primary consideration in this draft plan is woodland caribou. The proposed operating area lies within the winter range of the Little Rancheria Caribou Herd, but outside the core winter range, as described by Adamczewski, et al.[4] (2003). Reconnaissance of the operating unit shows that there are sporadic amounts of lichen throughout the area, but more prevalent in the southeast corner of the proposed THP. Where lichen shows extensive ground coverage (>60%) in patches greater than 1 hectare in size, they will be reserved from harvest.

Reconnaissance has not identified any other particular use by wildlife species requiring specific mitigation beyond those guidelines and standards routinely utilized by the Forest Management Branch for THP development.

Signs of use by moose are most prevalent, although not extensive. There is some sign of moose using the existing road and trail network to move between openings from previous logging where early seral growth is available for browsing.

It is possible that this area may be used for hunting as the road created at the time of active logging has not been decommissioned.

All site plans and subsequent operational development must be consistent with the most current Wildlife Standards as adopted by the Forest Management Branch. These standards are being developed to ensure the protection and conservation of all wildlife in all THP areas.

2.1.2 Biodiversity

Previous harvest openings have regenerated to a native shrub and tree cover, providing visual protection and browse for local animal species.

Selection harvesting and 60% retention of mature timber within the THP will continue to provide canopy cover around small openings which are proposed for natural regeneration.

There have not been any concerns identified in relation to biodiversity for this area as a result of the proposed harvesting activities.

2.1.3 Riparian and Water Resources

There are no riparian features within the proposed THP.

Base map information displayed on the maps, show two streams, one to the north and one to the south of the THP area.

Albert creek to the north is a fish-bearing class 2 stream that lies some 400m, at its nearest point, to the north of the proposed THP boundary. Harvesting will not impact riparian or water resources in Albert Creek.

An assessment of the un-named feature to the south, at its nearest point to the southern most opening found that is not a stream but rather, a non-classified drainage, based on the lack of "confinement and gradient to create the scour required to be classified as a stream[5]." No impact on water resources is anticipated in this drainage.

2.1.4 Recreation and Visual Impact

The area identified in this proposed THP is situated such that there will not be any significant impact on recreation or visual esthetics as the area is well screened from tourist highway travel corridors. Other than possibly hunters, identified earlier, the Forest Management Branch is not aware of any recreational users in this area. The topographic position is such that the impacts of timber harvesting are not viewable from any local landscape feature, the community or the highway.

2.1.5 Cultural Values

In assessing the cultural values in this area, attention is immediately drawn to contemporary pursuits such as ATV use and fuelwood extraction on existing access networks, as well as hunting and trapping by first nation people and other outdoor enthusiasts.

Traditional pursuits of local First Nations in regard to the harvesting of forest resources within the THP, do not require permitting as per Section 43 of the Forest Resources Regulation.

2.2 Stand Level Issues

This proposed THP contains a single operating unit in which there are opportunities to develop individual licences. Applicants for licences will submit site plans that meet the standards and content of the new legislation, including; stand level objectives, silviculture system, ecological information, access management, soils and harvest method/season, and a reforestation plan that meets the intent and guidelines established in this THP.

2.2.1 Ecosystem and Stand Composition

The single operating unit identified in this draft plan is a predominantly open pine stand. The forest cover is homogeneous throughout with higher concentration of dead standing trees, leaners and blowdown adjacent to existing openings.

There is one slight depression with moist soils, along the existing road, near the southern part of the operating unit which will be restricted to seasonal operations.

The existing openings have not been planted but there is significant amounts of natural pine regeneration from 2 to 4m in height, with higher densities where soil was disturbed (roads and landings).

Soils vary slightly throughout the operating unit with predominantly sandy silt with higher amounts of clay in some areas and >60% of coarse fragments. The LFH layer varies from 20 to 40 cm. Ground cover consists of feather moss, Labrador tea, low bush cranberry, bear berry and juniper, as well as caribou lichen.

2.2.2 Cultural Heritage and Archeological Sites

A heritage resources overview assessment[6] of this area was completed which showed no known archaeological sites. The assessment did, however, identify a contiguous area within the proposed THP with elevated potential for the presence of heritage resources (see Appendix B map). The assessment recommends a site assessment prior to road construction or harvesting within areas of elevated heritage potential[8]. A heritage assessment will be performed prior to the issuance of permits within these identified areas

2.2.3 Traditional Land Users

The THP area is within a Liard FN Group Trapline # 365. Forest Management Branch has requested through letter correspondence but has not received any information regarding specific land user activities within this location. FMB will continue to engage traditional users in anticipation that FN Land Stewards will provide information related to conflicts with traditional use of this area during the referral process.

3.0 Harvesting Section

3.1 Operating Unit Area and Volume Summary

Table 1 provides a summary of existing timber volumes in the THP from field reconnaissance and Table 2 provides the proposed harvest and retention levels.

Table 1 – Total Volume Summary

Net Operable Area (ha)	Est. Avg. Volume (m^3/ha)	Species Distribution	Est. Total Volume (m^3)	Est. Green Timber Vol. (m^3)	Est. Dead Timber Volume (m^3)
80 ha	120	P_9Sw_1	9,600	9,000	600

Table 2 – Target Volume Summary

Total Volume (m3) (Green and Dry)		Harvest Volume Targeted (m3)	% Targeted for harvest	% Suggested Retention
Green	9,000	3600	up to 40	60
Dry	600	600	100	0

The intent of the THP is to clean-up salvageable dead wood from windthrow damage along the edges of the old openings or natural dead material within stands and to allow selection harvesting of green timber for building logs and saw-milling material. Maintaining 60% mature retention will reduce post harvest damage due to windthrow while maintaining canopy cover for wildlife and biodiversity.

3.2 Harvest Scheduling and Season

The area of the THP identified as wet ground is restricted to winter operations on frozen ground conditions.

For the balance of the area, soil conditions will allow operations to be conducted during dry summer, fall and winter conditions.

Operations will not be allowed during spring break-up or at other times when soils may be subject to compaction and rutting due to wet conditions.

3.3 Silviculture Systems and Reforestation

Site plans prepared for licence application will meet the content requirements of the new forest resource regulation which includes a reforestation plan.

Selection harvesting with protection of existing understorey and natural regeneration will be an acceptable option, with post harvest surveys required and planting if necessary.

Operations will not be allowed within existing openings to eliminate damage to the newly regenerated forest.

4.0 Access Management

Original logging roads developed in this area are still in place. Ingress of alders has narrowed the main road and some unused sections have almost completely grown over. These existing roads shall be used as the primary access into all portions of the THP.

Any new development proposed with forest resource applications shall be required to meet Forest Resources Act Road Standards for construction, maintenance and decommissioning at the time of permit issuance.

Newly bladed trails, roads and landings used during frost free conditions (summer, fall) may require scarification to reduce compaction and aid in the re-establishment of vegetation.

5.0 References

1 – Ecoregions of the Yukon Territory Part 2, Liard Basin: Ecoregion 181. Government of Yukon. Retrieved online at:
http://www.emr.gov.yk.ca/oilandgas/south_east_yukon.html

Socio-economic considerations
2 – Yukon Community Profiles http://www.yukoncommunities.yk.ca/communities/watsonlake/

3 – Yukon Bureau of Statistics, 2006 Census
http://www.eco.gov.yk.ca/stats/census.html

4 – Adamczewski, J.Z., Flokiewicz, R.F., and Loewen, V. 2003. Habitat management in the Yukon winter range of the Little Rancheria Caribou Herd. Department of Environment, Government of Yukon. Whitehorse, Yukon, Canada.

5 – Hooper, J. Government of Yukon. Personal communication. October 18, 2010.

6 – Thomas, C. 2010. Heritage Resources Overview Assessment Report for the Junction 37 Cassiar Highway. Cultural Services Branch, Department of Tourism and Culture, Government of Yukon.

APPENDIX A

1:30,000 – Overview Map

LAKES

LFN R-70A

105A02-035

2010-1540

72729 CLSR YT
75027 CLSR YT
83782 CLSR YT

105A03-023

74897 CLSR YT

97887 CLSR YT

105A03-010

105A03-035

Km 1002

2008-0860

850042

74780 CLSR YT

42909 CLSR YT

41781 CLSR YT

77872 CLSR YT

82222 CLSR YT

LFN S-95B

Alaska Highway

Km 1000

Km 998

McDame Crk. Rd.

68689 CLSR YT

105A03-009

105A03-019

Albert Creek

LFN S-292B

Cassiar Road

42907 CLSR YT

Proposed
THP Boundary

YUKON

BRITISH COLUMBIA

Project Specific Features

- ....Existing Access Routes
- ....Proposed Access Route
- ....Timber Harvest Area
- Opening from Historic Logging
- Heritage High Potential

Administravtive Features

- First Nation Settlement Lands
  - ....Category A
  - ....Category B
  - ....Fee Simple
  - ....Unsurveyed Interim Protected FN Lands
- ....Surveyed Parcel
- ....Agriculture Tenure
- ....Land Disposition
- Land Applications
- Municipal Boundary

Contact: Forest Management Branch
Phone: 456-3999
Date: July 12, 2011
Projection: NAD 1983 UTM Zone 9

Digital Data Sources

1:50,000 Canvec features downloaded from spatial data warehouse - www.geogratis.gc.ca. Her majesty the Queen in Right of Canada, Department of Natural Resources. All rights reserved.

Original map design by EDI Environmental Dynamics Inc. Fall 2009.

Digital Elevation Models (30 metre and 90 metre) provided by Yukon Government Geomatics spatial data warehouse - www.geomaticsyukon.ca.

Map scale 1:30,000 when printing on 11"x17" paper.

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0 590 1,180 1,770 2,360
Metres

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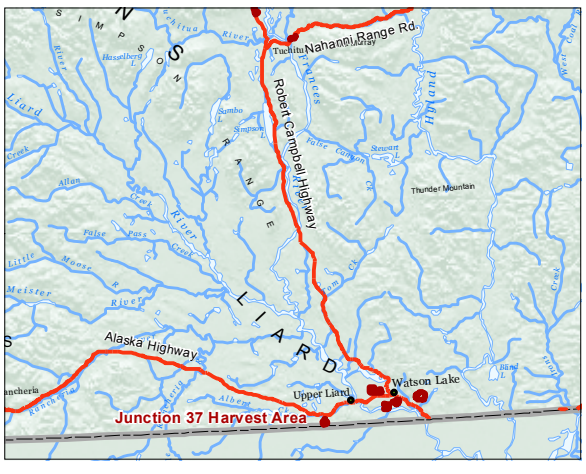
Appendix A

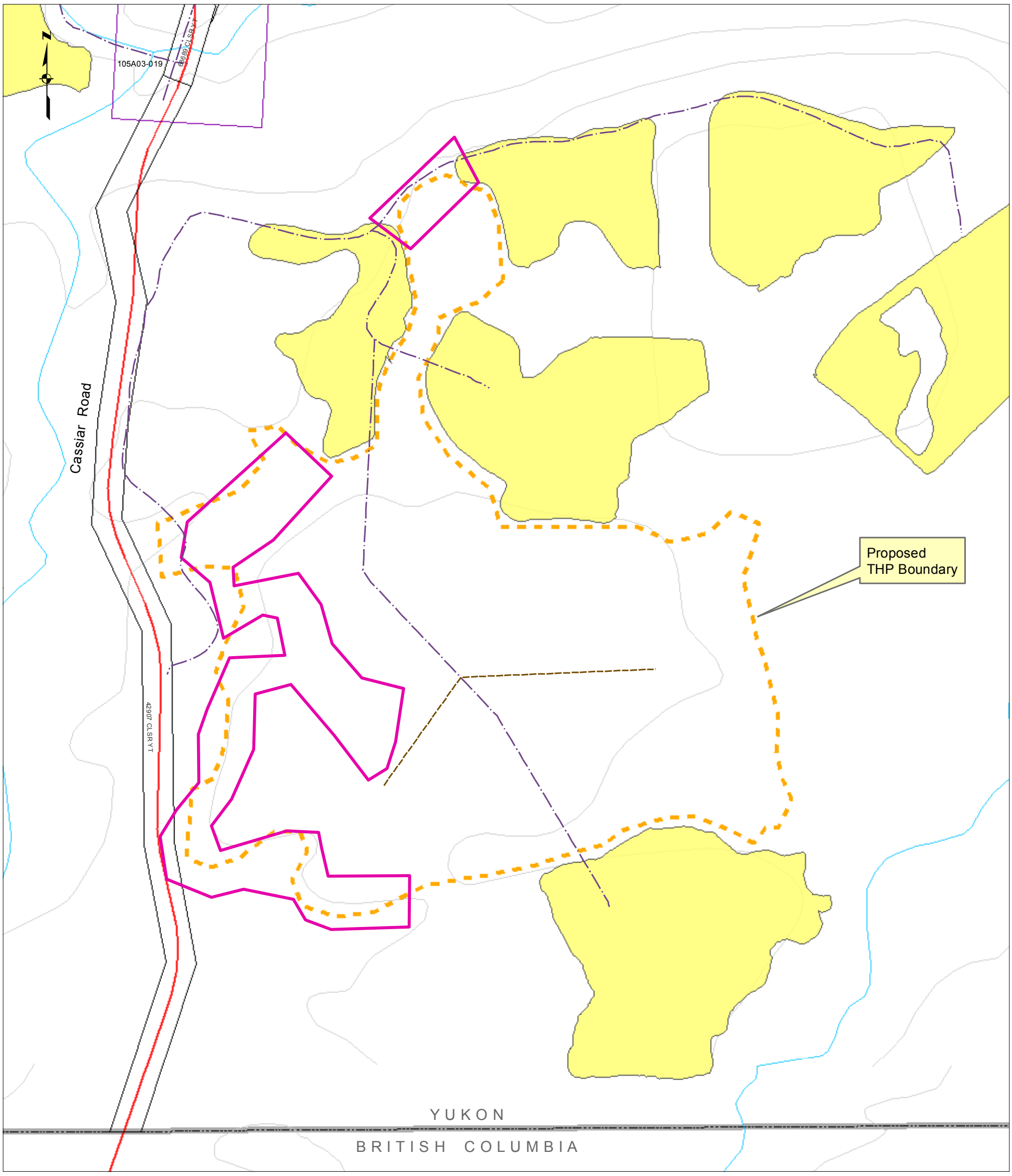
Junction 37 - Overview Map

Timber Harvest Plan Area
Watson Lake



APPENDIX B

1:8,000 – Timber Harvest Plan Map



Project Specific Features

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Map scale 1:8,000 when printing on 11"x17" paper.

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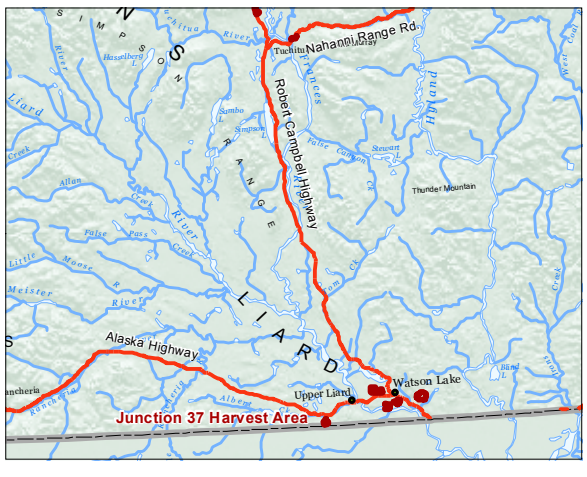
Yukon Territory

0 160 320 480 640
Metres

Appendix B
Junction 37 - Operating Unit Map
Timber Harvest Plan Area
Watson Lake



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Appendix C:

Representation Summary

Name of Plan	Highway 37 Junction Timber Harvest Plan
Prepared Date	May, 2011
Prepared by	Greg Cowman, Area Forester
Review Period	May 13 to June 13, 2011

Comments were received from:

- YG, Department of Environment

The following table contains a summary of the comments received, with responses to the comment and how the comment has been addressed.

Highway 37 Junction Timber Harvest Plan

June 2011

Topic	Name / Organization	Comment	Consultation Comment Response	How comment/s have been addressed.
General				
Site Photo addition	Dept of Environment	If there are any photos of the proposed block showing the old growth pine stand, etc. these would make a nice addition to the plan.	Agree, although pictures add significantly to size of electronic files, which can limit or hinder transferability. FMB prefers to limit photo content in plans to minimize file size.	No, pictures added.
Appendix B Map	Dept of Environment	The Appendix B map shows the general area of interest for the proposed harvest block, but does not show specific features within blocks – where the features have been identified through ground reconnaissance or otherwise identified (e.g. airphoto interpretation)	Ground reconnaissance has not covered the entire THP. Harvest block layout will identify specific areas or features of concern which will be reserved or buffered prior to permit issuance. (i.e. Caribou lichen)	See comment below on caribou.
Specific				
Section 2.2.1 Ecosystem and Stand Composition	Dept of Environment	Although the block has not been identified as a wildlife key area for caribou, they are still known to occur here. Environment requests that timber harvesting be avoided in pine-lichen stands where extensive ground lichen cover is seen. This could be a prescription in the operators permit, or any areas of high lichen concentration could also be identified and netted out during the final block layout of potential harvest areas	Comment noted. It would be nice to have firmer guidelines as apposed to subjective comments such as "high concentrations" with no size constraints. Concern will be addressed by restricting harvest in areas showing more than 60% ground cover of lichen in patches greater than 1 ha in size.	Section 2.1.1 – Wildlife reworded to identify concern and limit harvest in lichen areas in THP.
Section 4.0 – Access Management	Dept of Environment	Clarification that road construction, maintenance and decommissioning will follow Forest Resources Act standards.	Whether stated or not, Forest Resource Act standards must be followed.	Wording changed in Section 4 to clarify.
Section 2.2.1 Wildlife	Dept of Environment	This section could include the following statement "No Wildlife Key Areas were identified in the vicinity of the proposed harvest block."	This seems to conflict with comment above regarding Caribou. No harvest blocks are identified at this level of planning, This will be addressed at the site plan and where key wildlife sign, habitat or information is available it will be included.	Section 2.2.1 amended as noted above.