STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF FORESTRY
NORTHERN REGION

FAIRBANKS AREA

FOREST LAND USE PLAN

Two Rivers Junction
NC-1440-F

ADL 418722

February 2013

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I. INTRODUCTION

A. Purpose

The purpose of this Forest Land Use Plan (FLUP) is to provide sufficient information for reviewers to ensure that the best interest of the State will be served by the Department of Natural Resources (DNR), Division of Forestry, Fairbanks Area, offering this proposed timber sale. This FLUP deals with site specific considerations of the sale. The boundaries and precise volume of the sale may be refined if and when the sale is developed. Site specific research has been completed on title considerations, land classifications, applicable land management plans, appropriate silvicultural techniques, regulatory and statutory requirements, and physical conditions that apply to the proposed sale area. The proposal is for the harvest of approximately (+/- 10%) 81 acres of land that is predicted to yield approximately (+/- 10%) 1160 CCF of birch fuel wood. The sale design may be altered to mitigate potential conflicts. It will be the responsibility of the Forester-In-Charge to ensure that any purchaser of this sale harvests timber per the sale design and sale contract provisions and adheres to Alaska Forest Resources and Practices Act (AFRPA) best management practices.

The public is invited to comment on any aspect of this proposed timber sale with regards to the Preliminary Finding and Decision (AS 38.05.035). Comments should be mailed to the Division of Forestry, 3700 Airport Way, Fairbanks, Alaska 99709 or by email at brian.young@alaska.gov. Comments must be received at the Division of Forestry no later than March 22, 2013 in order to be considered in the Final Decision of whether the sale will be held in whole or in part. To be eligible to appeal the final decision, a person must have provided written comment by March 22, 2013.

Five-Year Sale Schedule

The general area and timber type that this proposed sale occupies has been shown as a potential sale area in the current Five-Year Schedule of Timber Sales (FYSTS) for Fiscal Years 2012-2016 as required by AS 38.05.113. It has been listed in previous schedules.

B. Location

The proposed sale is located 18 miles east of Fairbanks within the Fairbanks North Star Borough and within the boundaries of the Tanana Valley State Forest. The proposed sale area is located within Section 13 of Township 1 North, Range 3 East, Fairbanks Meridian. The sale area is shown on the attached map and is within the United States Geological Survey 1:63,360 Quadrangle map titled Fairbanks D-1. The tract is accessed from Fairbanks by driving east on the Chena Hotsprings road to milepost 18. At this point the route continues north along Two Rivers road. After driving approximately 4.9 miles north on the Two Rivers road the sale is located on the east side of the road.

C. Title, Classification and Other Active or Pending Interests

The acquisition for the land upon which the sale is proposed is based on General Selection 1145. The title was transferred by Patent 50-66-0217. There are no title restrictions on the area. The primary land classification for the area is Forestry per

Classification Order NC-82-065. The proposed sale area is within Unit 6 of the Tanana Valley State Forest (TVSF).

D. General Timber Sale Program Objectives

1. **Develop the State's Renewable Resources**

   To follow the DNR's constitutional mandate to encourage the development of the State's renewable resources, making them available for maximum use consistent with the public interest. Sustain and promote a healthy, long-term timber industry in the State, through providing a secure source of timber for harvest that produces raw materials for local manufacturing plants when practical while protecting other resources such as fish and wildlife.

2. **Improve the State's Economy**

   To help the State's economy by providing royalties to the State in the form of stumpage receipts, as well as contributions to local economies through wages, purchases, jobs, and business.

3. **Improve Forest Health**

   To improve forest growth and vigor by harvesting mature and or declining stands and replace them with new healthy regenerating stands. The stand replacement will be accomplished while protecting and maintaining other resource values. The actions authorized under this decision will follow the constitutional mandate of sustained yield and shall adhere to multiple use management as described in the Tanana Basin Area Plan.

4. **Improve Wildlife Habitat**

   Meet the statutory wildlife management objectives for the TVSF (AS 41.17.400(e)) that provides for the economic development of other natural resources while protecting habitat needs of wildlife resources necessary to maintain or enhance public use and economic benefits.

II. LEGAL AUTHORITY

The Division of Forestry is taking this action under the authority of AS 38.05.035 (e) (Best Interest Finding); AS 38.05.110-120 (Alaska Land Act Statutes); 11 AAC 71 (Timber Sale Statutes and Regulations); AS 41.17.010-.950 and 11 AAC 95 (Forest Resources and Practices Statutes and Regulations).

III. ADMINISTRATIVE RECORD

The case file ADL 418722 and the Tanana Basin Area Plan constitute the administrative record for this finding.

IV. DISCUSSION OF ISSUES

A. Physical Characteristic of the Sale Area

1. **Topography**

   The unit is on a moderate northeast facing slope east of the Little Chena River. Elevation range of the site is approximately 1000 to 1210 feet.

2. **Soils**

Soils in the sale area are classified as a Steese-Gilmore complex and a Ester-Gilmore complex. Steese soils are upland silt loam soils that formed in loess over weathered bedrock. Gilmore soils are well drained upland soils formed in loess over weathered schist. These soils are relatively productive and tend to be well drained. Ester Soils are hydric soils that tend to have a thick organic mat over colluvium or loess. Ester soils tend to have a restrictive layer of permafrost 7 to 30 inches below the surface. There is limited potential for erosion given the slope and the soil type.

3. **Waterbodies**

The sale area is approximately 0.25 miles northwest of a small tributary of Jenny M Creek and approximately 2.3 miles to the west of the main channel of Jenny M Creek. No drainages or waterbodies are within the boundary of the proposed sale. The State Department of Environmental Conservation had no comment on this sale during the review of the 2012-2016 FYSTS. The sale area presents no obstacles that would prevent implementation of the best management practices of the AFRPA to maintain water quality.

4. **Stand Conditions**

The timber stand and proposed harvest unit consists primarily of birch with a few aspen and white spruce of about 90 years of age. The size class consists of pole and saw timber. There is an estimated 15% defect in the stand. Patches of white spruce advanced regeneration are present in the small openings of the stand. The birch trees are mature at this time, but are beginning to show signs of defect in the form of rot indicators and crown flattening. White spruce pole-timber and reproduction is of good form and are likely to release from stand opening. The scattered aspen is rougher form than the birch with greater evidence of rot. Understory vegetation includes high bush cranberry, rose, and some willow and alder. The moss within the unit is minimal. The grass component is moderate in this stand and is estimated to cover 15% of the area. The birch component of the stand ≥ 6" diameter breast height (dbh) has a stoking level estimated at 298 trees per acre with an average dbh of 8.7" and an average height of 66'and with a basal area per acre of 101 square feet. There will be approximately 40 residual stems per acre.

B. Historic and Current Land Use

The historic uses of the land in the general area have been logging, hunting, trapping, and general trail use. The current uses of the area are recreation, wood cutting, hunting and trapping.

C. Wildlife Habitat

Wildlife typical of the interior can be found in this area and during ground reconnaissance moose, grouse, and hares were observed. Moose damage in the form of bark stripping on some of the aspen trees was also observed. No raptor nests were observed within the proposed sale area. Should an eagle nest tree be discovered in the sale area, the nest tree will be marked on the ground and a 330 foot no-harvest radius will be established in order to protect the tree. No critical habitat has been identified for this area (TVSF Management Plan), nor has any become apparent during ground reconnaissance.

Treatments proposed for this stand are projected to enhance habitat conditions for ruffed grouse, moose, voles, hares, and ultimately, lynx, marten and fox. In the past, Alaska Department of Fish and Game, Division of Wildlife Conservation (ADFG) and now the DNR Office of Habitat Management and Permitting (OHMP) have recommended managing for as much diversity as possible when prescribing harvest unit size, shape and position to mimic the results of wildfire or other stand replacement phases such as insect outbreaks or flood events. To accomplish these objectives, snags will be retained to provide late-successional wildlife habitat for hole nesting birds, woodpeckers, small mammals, and other species requiring perching habitat. The units will be laid out with uneven edges along and between timber types. This layout design will create varied edge effects which are beneficial to many wildlife species.

D. Fisheries and Water Quality

Best management practices will be implemented to ensure water quality standards in all water courses. During review of the FY 2012-2016 FYSTS, ADF&G Division of Habitat did not have particular fish or wildlife concerns with the proposed road or harvest area. There is no expectation that this harvest will have negative impacts on Jenny M Creek, the Little Chena River or the Chena River.

Approximately 0.75 miles of new all season spur road will be required for this sale. Construction and maintenance of this road set to the BMP standards outlined in the AFRPA will be required. Erosion within the unit will be mitigated by backfilling skid trails with debris and through the installation of water bars if necessary.

E. Subsistence

The sale area lies within the Fairbanks Non-subsistence Area. The proposed sale of timber is anticipated to have no deleterious effects on subsistence activities. Subsistence activities of fishing, trapping, hunting and gathering of berries and other non timber forest products may occur on State owned lands.

F. Recreation and Tourism

Recreation use of this area is moderate, but not inconsistent with a timber sale. Primarily it consists of hunting and trapping activity, as well as some recreational snowmachining, ATV riding and dogmushing. Where trail use utilizes existing roads needed for access, sufficient snow cover will be left on the roads to enable continued winter recreational use. Cross trails will be kept free of either snow filled or brush filled berms.

G. Scenic Resources

The sale is located east of the Little Chena River. It will not be visible from the Chena Hot Springs Road, the Chena River or the Little Chena. It may be visible from the ridgeline trails to the northeast, and from some valley bottom winter trails. Leave trees and residuals will somewhat obscure the harvest area and help blend the cut border with existing landscape.

H. Cultural Resources

The TVSF Management Plan does not list any historic cultural or archaeological sites in the vicinity of the proposed harvest. The State Office of History and Archaeology (OHA) do not list any sites on its inventory. During the course of activities associated with this timber sale, cultural and/or paleontological resources may be inadvertently discovered. Should such discovery occur, these sites shall be protected from further disturbance and OHA will be contacted immediately so that compliance with state laws governing cultural resources may begin.

Under the Alaska Historic Preservation Act (AS 41.35), all burials on state land are protected. If burials or human remains are found, all land altering activities that would disturb the burial or remains shall cease and measures taken to protect it in place. OHA and a law enforcement officer will be notified immediately to ensure that proper procedures for dealing with human remains are followed.

I. Sustained Yield and Allowable Cut

The Alaska Forest Resources and Practices Act (AS 41.17.060 (c)) and Article VIII Sec. 4 of the State Constitution require that the State forest land be managed on a sustained yield basis. Sustained yield is defined in the Alaska Forest Resources and Practices Act (AS 41.17.950(25)):

> "Sustained Yield" means the achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of forest land and water without significant impairment of the productivity of the land and water, but does not require that timber be harvested in a non-declining yield basis over a rotation period.

The Annual Allowable Cut (AAC) is the amount that can be harvested from forest land managed for forestry purposes in a year under sustained yield management. The AAC in the Fairbanks Area is based on a ten-year average as determined by the Parsons and Associates, Inc. report titled "Tanana State Forestry Lands Periodic Sustained Yield Analysis". This sale complies with sustained yield/allowable cut principles outlined in the Fairbanks Area Five-Year Schedule of Timber Sales for FY 2012-2016. The AAC for the Fairbanks Management Area is approximately 6,260 acres. The AAC will not be exceeded for this proposed sale.

J. Silvicultural Prescription

1. Stand Silvics

The merchantable tree species here is birch. Data and research on regeneration and growth characteristics of these species are compiled within the Resource Analysis of the Tanana Valley State Forest (TVSF) Management Plan. The harvest and reforestations systems available in Interior Alaska are also reviewed and listed in the Resource Analysis. The results of the public and agency discussions for harvest and reforestation are discussed in the TVSF Management Plan. Silvicultural harvest systems that facilitate even-aged (natural) management are generally preferred. They mimic the ecological impact of wildfire and other disturbances and result in the greatest increase in site productivity. Even-aged management is normally accomplished through clear-cuts, patch cuts, and heavy partial cuts (such as seed tree or shelterwood systems) which open up the site to maximum solar gain. This management system results in the greatest production of both young hardwood, that is

important to wildlife, and the spruce understory which is valuable years later as timber. Even-aged management techniques are utilized to provide young, vigorously growing stands in juxtaposition to older, undisturbed stands. Such placement of harvest units can optimize natural seeding and the edge effect.

2. **Specific Management Objectives**

   The overall goal for this stand is to increase the spruce component. Harvesting the birch now will maximize the value of the stand and release the existing spruce regeneration on site. Scattered spruce from adjacent stands will aid in regeneration by acting as a seed source. After harvest it is expected that the hardwood component will increase by 5% initially. It is reasonable to assume that these objectives will be realized under the recommended prescription with surface scarification and supplemental planting of white spruce.

3. **Harvest Methods**

   The sale will be harvested by a clear-cut with reserves silvicultural system. All birch 6" or greater will be removed. Snags, aspen, and spruce will not be cut. Residual spruce will be protected from damage during harvest operations. Harvesting will be by the whole tree yarding system. Slash disposal at the landings will be by burning or by salvage for fuel wood use.

4. **Regeneration**

   Mechanized crushing of vegetation during normal mechanical logging activities should be adequate to prepare a useable mineral soil seed bed. No additional scarification is proposed. Under this harvest system, natural regeneration of hardwoods should be increased due to increased light and soil temperatures. Birch and aspen, either as residuals from within the unit or adjacent trees outside of the unit, will provide abundant seed. The harvested birch trees are young enough to produce stump sprouts to augment natural regeneration from seeds. Additionally, mechanical crushing stimulates re-sprouting of trees and shrubs. White spruce will provide also provide a seed source. A regeneration survey will be conducted three years after any harvest. If the survey indicates inadequately stocked areas greater than 0.5 acres or totaling 6 acres then hand planting of white spruce seedlings will be performed on non-stocked areas. The goal for regeneration is to achieve a minimum of 450 stems per acre of mixed species. It is expected that the residual trees left on the site will provide 25% of this total amount.

K. Transportation

The planned access to the proposed sale is by all season roads. At mileposts 18 on the Chena Hotsprings Road turn north on the Two Rivers Road. After driving approximately 4.7 miles veer east onto the Two Rivers Road and continue for an additional 0.2 miles. At this point the new spur road will be constructed covering a total distance of before reaching the sale. All access routes will be maintained to the standards set out in the AFRPA.

L. Erosion

There are two soil erosion concerns: surface erosion and mass wasting of soil and debris. Road construction and poor maintenance of roads primarily causes surface

erosion. To avoid erosion, debris will be placed back onto skid trails and water bars installed if necessary. Harvesting will be suspended during periods of thawing soil conditions to assure there is minimal soil disturbance. The location of skid trails will optimize skidding distances and provide for adequate landing areas. The other aspect of erosion (mass wasting and debris avalanches) normally occurs on slopes of more than 70 percent therefore is not a particular concern because the proposed timber sale is on mostly flat ground.

M. Mining

This sub-unit of the TVSF has historically seen moderate levels of mining activity; however, there are no current mining claims within the sale area. More detailed information on subsurface resource use is found in the TVSF Management Plan. Other than providing access, and sharing some of the same access roads, this sale will have no impact on the potential mining resources or mining activity in this area.

N. Materials

No rock materials will be required for the construction of access roads.

O. Economics

In addition to generating royalties to the State's general fund, the proposed sale will create economic benefits to the Fairbanks North Star Borough and to other locations in Alaska. The Borough business community will receive direct economic benefits from providing support services for the operators through sales of fuel, food, housing, medical and miscellaneous supplies. The sale is expected to benefit the local economy by providing jobs. The Residents of the Borough will receive an indirect benefit through taxes paid to cities and the Borough by the operator and employees during the course of the timber harvest operation.

The sale is expected to benefit the local economy by providing jobs. It will have a positive impact on local employment by generating significant man-hours of work associated with the harvest and transportation of wood products from this sale. Additionally the public may benefit from access to additional personal use fuel wood areas. Another benefit would be increased wildfire protection for the residents of Two Rivers through the potential utilization of the roads as a holding line during suppression efforts.

V. MARKET CONDITIONS

Interior Alaska has a growing demand for biomass and firewood and a sustainable market for saw timber. Heating oil continues to be more costly in the interior than the national average therefore residents are looking for an alternative and the only affordable one is wood. Local businesses are currently producing wood pellets as an alternative to traditional firewood. This market addresses an ongoing air quality issue in the Fairbanks area because these manufactured pellets produce almost no emissions. As this market continues to grow, the demand for material will increase. Other businesses are also looking into the use of biomass as a feedstock for producing electricity and heating alternatives in rural Alaska.

With improvements in wood stove technology for reducing emissions, firewood is also a viable alternative to high cost heating oil. The demand for firewood has steadily increased in the past few years and will likely continue to increase. Local suppliers of firewood continue to have a demand for accessible timber sales to deliver their product.

Residential construction and commercial operations throughout Alaska still need sawn products to support their operations. Local businesses that produce these products continue to pay for the delivered material.

These three markets create jobs in the forest products industry. Loggers, log truck drivers, commercial firewood cutters and mill workers all benefit from a sustainable timber market. This sale will provide the material needed to sustain these industries. As the economy continues to rebound there will be more demand for the products that this sector of the labor force provides.

VI. ALTERNATIVE ACTIONS

There are four possible alternatives to consider for this sale. A discussion of each of the four alternatives follows:

1. **To continue the sale(s) as proposed.**

   This alternative meets the objectives of the Five-Year Schedule of Timber Sales and DNR'S constitutional mandate. It also meets the silvicultural objective of improving forest vigor, provides for a value-added end product and creates additional jobs in Alaska due to the combination of road building, logging, and trucking. This alternative also complies with the management objectives of the TVSF Management Plan for Unit 6.

2. **To modify the sale(s) by making them smaller or larger.**

   The proposed sale unit is a logical setting for typical commercial logging equipment in Interior Alaska. The size of the sale is designed to be large enough to be economically viable considering access development and mobilization costs and distance to processing facilities. Sales of this size are appropriately balanced to maintain other resource values as well as provide economic benefits to the Tanana Valley.

3. **Defer the sale of this timber to a later date.**

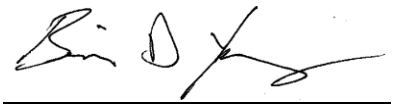
   Deferring harvest to a later date would fail to meet many of the objectives of the sale program. One of the main objectives is to make State-owned timber consistently available to the timber industry.

4. **Do not offer this timber for sale.**

   This alternative would result in not meeting any of the objectives outlined for this management action. Utilization of the forest resource would not be achieved. There would be no significant contribution to the State and local economies. This alternative would delay the management objectives planned for the area, deny making a source of raw materials available to the local wood products industry, and would delay the harvest of mature trees, prior to the onset of disease or insect infestation.

VII. PRELIMINARY FINDING AND DECISION

The purpose of this decision is to determine if the Department of Natural Resources, Division of Forestry, will make available timber located in Section 13, Township 1 North Range 3 East Fairbanks Meridian. After due consideration of all pertinent information and alternatives, the DNR has reached the following **Preliminary Decision: To offer the sale as proposed in Alternative 1.** In addition, the DNR finds that this preliminary decision satisfies the objectives as stated in this document and it is in the best interest of the State to proceed with this action.



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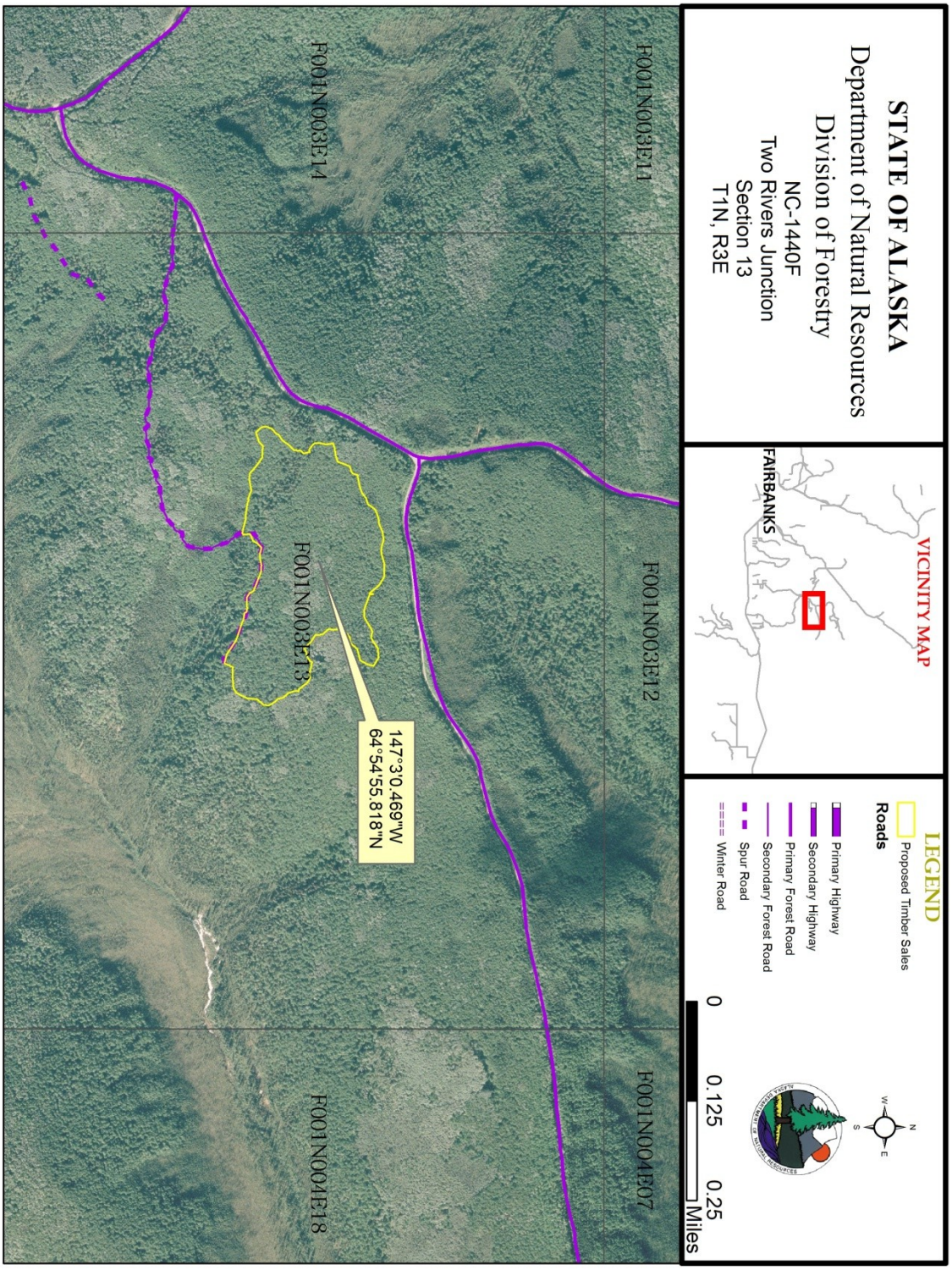
2/12/2013
(Date)


STATE OF ALASKA
Department of Natural Resources
Division of Forestry
NC-1440F
Two Rivers Junction
Section 13
T1N, R3E
VICINITY MAP
FAIRBANKS
LEGEND
Proposed Timber Sales
Roads
Primary Highway
Secondary Highway
Primary Forest Road
Secondary Forest Road
Spur Road
Winter Road
N
W
E
S
0
0.125
0.25
Miles
F001N003E11
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