

STATE OF ALASKA
DEPARTMENT OF NATURAL
RESOURCES
DIVISION OF FORESTRY



TOK AREA FORESTRY

**FINAL BEST INTEREST FINDING / FOREST LAND USE PLAN AND DECISION FOR
EAGLE TRAIL FIRE & 2012 BLOWDOWN SALVAGE SALE**

NC - 1117

ADL -420044

2015

I. PROPOSED ACTION

The Division of Forestry (DOF) proposes to offer a salvage timber sale area of approximately 18864 acres with harvest units totally approximately 5,800 acres southwest of Tok and west of Tanacross (Map 1). The timber sale includes saw timber, fuel wood, and biomass. This timber is comprised of black spruce, white spruce, birch, aspen, and poplar from state lands that were affected by the 2010 Eagle Trail Fire and the September 2012 blow-down event. The proposed area is roughly eight to twenty air miles west of Tok, Alaska: the entire project area covers 18864 acres. The total volume offered is approximately 10.7 million net board feet (MMBF), or 5.6 million net cubic feet (MMCF), or 108,707 green tons of woody biomass. DOF will sell the timber in a negotiated sale for commercial use. Limited personal use firewood permit harvest activities will be facilitated in the area by commercial operations constructing and maintaining road access to the area over the winter season(s). Limitations will be placed on personal use due to the restricted access through Tanacross, Inc. lands and conditions of the Temporary Easement and Road Use Agreement; and, in active commercial harvest areas.

The management objectives for the proposed timber sale are:

- Harvest the commercial sawtimber, fuel wood, and biomass before significant economic loss occurs due to decay. Provide timber products for the industry, the state and local economy.
- Mitigate the significant threat of wildfire in areas of blowdown where suppression activities are extremely difficult and dangerous to firefighters and extremely expensive to the state.
- Convert the site to an early successional stage and productive mixed stand forest. Accelerate the restoration of the health and usability of the forest for subsistence, recreation, fiber production, and personal use activities. The current condition of the blow down forest is dangerous for use by most people and generally inaccessible. This proposed sale will aid in restoring areas of the forest and likely promote additional use of the forest within a generation of the residents of the community.
- Help protect undamaged forest by minimizing potential local outbreaks of deleterious insects, specifically engraver beetles (*Ips perterbus*) and spruce bark beetle (*Dendroctonus rufipennis*).
- Provide some limited, accessible firewood for local residential heating needs.
- Work cooperatively with Tanacross, Inc. where possible to optimize road location and construction and access from the Alaska Highway to benefit opportunities for salvage harvest of timber on Tanacross, Inc. lands.

II. STATUTORY AND REGULATORY AUTHORITY

The Division is taking this action under the authority of

- AS 38.05.035(e) Best Interest Finding;
- AS 38.05.110-120 and 11 AAC 71, Timber Sale Statutes and Regulations; and
- AS 41.17.010-950 and 11 AAC 95 Alaska Forest Resources and Practices Act and Regulations.

III. ADMINISTRATIVE RECORD

The Division will maintain an administrative record regarding the decision of whether or not to proceed with the action as proposed. This record will be maintained at the DOF's Tok Office filed as NC 1117 ADL-420044.

IV. SCOPE OF DECISION

This Final best interest finding FBIF(FBIF) and Forest Land Use Plan (FLUP) are step two and three of a five-step process used to design, sell, and administer timber sales. This FBIF covers the sale area of approximately 18864 with harvest units of approximately 5,800 acres of burned and blowdown timber on state land in the areas the 2010 Eagle Trail Fire and the 2012 Blow down event as identified on the maps. The following summarizes the overall process:

Step 1: Regional planning. The Department of Natural Resources (DNR) develops area plans and state forest management plans to designate appropriate uses for state land, classify the land accordingly, and establish management guidelines for multiple use. These plans determine where timber sales are an allowed use and what other uses must be considered when designing and implementing sales. Subsequent land use decisions must be consistent with the area plans covered by the Tanana Basin Area Plan. The finding also considers the Interagency Wildland Fire Management Plan. The proposed area is not within a municipality nor borough, therefore no municipal or borough plans apply.

Step 2: Best Interest Finding. A best interest finding is the decision document that:

- Establishes the overall area within which the timber sale may occur,
- Determines the amount of timber that will be offered for sale and the duration of the sale,
- Sets the overall harvest and reforestation strategy for the sale area,
- Determines whether the sale proposal complies with the Alaska Constitutional requirement to manage for sustained yield by evaluating the amount of timber in the sale and the annual allowable cut for the affected area,
- Selects the appropriate method of sale (i.e., competitive or negotiated), and
- Determines the appraisal method that will be used to determine the sale price.

The FBIF is intended to provide sufficient information for reviewers to ensure that the best interest of the State will be served by the proposed action.

This FBIF covers the decision for the sale area of approximately 18864 acres to harvest approximately 5,800 acres of harvest units with burned white spruce, black spruce, birch, poplar, and aspen saw timber, fuel wood, and biomass timber from state lands. The sale is within the 18,000 acre 2010 Eagle Trail Fire perimeter and the 2012 Blowdown event in the form of negotiated sales for commercial and limited personal use. After public and agency review of the FBIF, DOF will review comments, make changes as appropriate, and issue a final best interest finding. A person affected by the final decision who provided timely written comment or public hearing testimony on the Final decision may appeal it, in accordance with 11 AAC 02.

Because of fire damage and the risk of additional damage from beetles and decay (see Stand Silviculture section, p. 9) , this FBIF determines that these salvage sales are emergency sales with respect to AS 38.05.113(c) as defined by 11 AAC 71.010(d) and must be expedited to avoid loss of market value. Therefore, these salvage sales within the area covered by this FBIF do not have to appear on a Five-Year Schedule of Timber Sales prior to sale. However, whenever feasible, DOF will include sales under this FBIF in the Five-year Schedule for the Tok Area.

Step 3: Forest Land Use Plans (AS 38.05.112). Prior to authorizing harvest of timber on any area greater than 10 acres, the DOF must adopt a site-specific Forest Land Use Plan (FLUP) for the harvest area. This document is also the FLUPs for harvest areas within the overall sale area covered by this best interest finding. FLUPs specify the site, size, timing, and harvest methods for harvest unit within the sale area. FLUPs also address site-specific requirements for access construction and maintenance, reforestation, and multiple use management.

Step 4: Timber sales and contracts. Following adoption of the final FBIF and completion of the FLUPs, DOF will offer the timber for sale negotiating sales with purchasers. The DOF will sign a contract with each contractor for each sale. The contract will include stipulations to ensure compliance with the best interest finding, FLUP, and statutory requirements.

V. Step 5: Sale administration. DOF administers timber sales and conducts field inspections to ensure compliance with the final BIF, FLUP, timber sale contract, and applicable laws, including the Alaska Forest Resources and Practices Act and Regulations (AS 41.17 and 11

AAC 95), and forest management statutes and regulations in AS 38.05 and 11 AAC 71.**PROJECT LOCATION, LAND STATUS, AND DESCRIPTION**

A. Location

The sale area encompasses state land approximately 8 to 20 miles from the community of Tok and Tanacross, Alaska located in charts shown below. The proposed salvage sale area of 18864 acres is shown on the attached Map: Eagle Trail Fire and Blowdown Salvage Sale Map 1 & 2. The closest regional native corporation is Doyon Limited. Tanacross Inc. and Tanacross Village are the closest Alaska Native owned lands.

The proposed timber harvest activity is located within the following legal description

Tanana Valley State Forest

Township	Range	Section*	Meridian
19 N	9 E	1,12,13,14,24,25	Copper River
18 N	11 E	26,27,35,36	Copper River
17 N	11 E	10,11,2,3	Copper River

USGS 1: 63,360 Quadrangle map Tanacross B-6

Forest Classified Lands

Township	Range	Section*	Meridian
19 N	10 E	5-8,17-30,33-36	Copper River
19 N	9 E	24-26	Copper River

USGS 1: 63,360 Quadrangle map Tanacross B-5

*Area of the sections: Black = All, *Red* = Portion

B. Title Status

The proposed timber salvage areas are on General State land and Tanana Valley State Forest Lands.

C. Land Use Planning, Classification, and Management Intent

Portions of the proposed area are within the Tanana Basin Area Plan (TBAP) and the proposed Eastern Tanana Area Plan units 6D (Mt. Neuberger – Yerrick Creek) and 6H (West Fork). Most of the proposed harvest units are within subunit 6H3 for which Forestry is the primary use along with Wildlife Habitat.

Unit 6H2 is the area which includes the Moon Lake Campground. The campground is closed in the winter; therefore, this location could serve as winter access without conflicting with campground use. A signed MOA with DNR Parks stipulating the approved use of the park is signed and attached.

Portions of the proposed area are within Tanana Valley State Forest Units 12 (Tower Bluffs) and 14 (Tok River).

As part of the FBIF process, DOF is in consultation with the DNR Division of Mining Land and Water, DNR Historic Preservation Office (SHPO), DNR Division of Parks and Outdoor Recreation, Department of Fish and Game (ADF&G), and Department of Environmental Protection (DEC) prior to adopting a Final Finding and Decision.

The Interagency Fire Management Plan includes these lands in the “Full” protection category.

No municipal or borough plans apply.

D. Current Access and Land Use:

The area in the vicinity of Yerrick Creek and Moon Lake has very limited vehicular access to state lands from the Alaska Highway.

The first access point is the Moon Lake State Campground at Mile Post 1332 of the Alaska Highway. It has one short paved road from the highway to the oxbow known as Moon Lake. The DOF installed a gate per DNR Parks specifications at the entrance to the park for this timber sale as required in the signed MOA with parks. This project gates the road to the campground limiting access in the winter when winter harvest activities are occurring and will be controlled by the DOF. This will potentially be one of the main access points for the timber sale for all winter road building and harvest activities. The winter road starts on the frozen Moon Lake and proceeds across Tanacross, Inc. lands via the Temporary Easement and Road Use Agreement. Road location's intent is to make access impossible outside of the winter frozen conditions. Upon closure of the timber harvest operations the road will be closed out and made unpassable for winter travel.

The second access point is a State of Alaska DOT rock pit known as the Yerrick Creek Material Site (M.S 62-2-176-2), less than one mile west of Yerrick Creek at Mile Post 1335 of the Alaska Highway. Current access to the pit is down the section line and is not the authorized location for the 17B easement but as stated in the letter from Tanacross, Inc. January 27, 2013 (attached as an appendix), "we propose that Tanacross, Inc. and the State of Alaska jointly petition BLM to recognize the existing access as fulfilling the intent of EIN23 and moving the location of the EIN to the existing location." This access will be the main access point off the Alaska Highway west of Yerrick Creek for salvage harvest of all timber south of the Tanana River and west of Yerrick Creek. At this time the legal access by way of the rock pit for timber harvest operations of this sale across Tanacross, Inc. lands are pending. This harvest area will be harvested once legal access has been established.

The third access road is Eagle Trail starting at MP 1324.7 Alaska Highway or MP 117 Tok Cutoff Glenn Highway. This trail is a one lane gravel and sometimes muddy road capable of highway vehicle traffic at various times of the year depending on ground conditions. Many portions of the road have overburden on the running surface of the road creating the muddy condition. This overburden needs removed to the underlying gravel base. The road needs maintenance including clearing of wind thrown trees and over growth, blading, shaping, and ditching. This public easement is used for dog mushing, subsistence hunting and trapping, firewood harvest, and other recreational activities. The Eagle Trail road is the main access into the Tanana Valley State Forest and other state lands in the area. This timber sale would upgrade the road and routine maintenance would be performed on the road. The 2012 blowdown timber patch southwest of Tok will be accessed from this road and the cleared section line from the end of Midnight Sun road that runs east west, south of 8 sections. This section line road will require minimal clearing and blading

and will necessitate co-use in the winter with dog sleds and log truck and pickup truck traffic. This road is currently usable for pickup traffic.

Multiple trap lines and recreational dog and ATV trails are within the general vicinity.

E. Background and Description of Proposal

May 26, 2010, a lightning strike two miles south of the Alaska Highway at MP 1325 ignited the Eagle Trail Fire. The fire burned for 30 days and included a total of almost 19,000 acres of forest on State of Alaska, and Tanacross Village, and Tanacross, Inc. lands. This fire was a fast moving and dangerous fire with most of the acreage burning in just 6 days.

September 16th 2012, a strong weather system produced high winds throughout much of eastern interior Alaska that resulted in widespread wind and flooding damage to hundreds of thousands of acres of forests. On September 21, Governor Sean Parnell issued a disaster declaration and the event later was declared a National Disaster by President Obama to be administered through FEMA. The immediate consequence of this storm was trees blown onto homes and roads, trails were made impassible with layers of downed trees causing substantial damage. In the forest immediately surrounding Tanacross 90% of the trees were damaged or destroyed. The long term outlook is for these areas to have an increased wildland fire danger and potentially increased adjacent tree mortality from forest insects. In the Tok and Tanacross area the DOF is proposing to mitigate some of these issues and salvage the downed wood while it is economically practical through salvage operations.

June 25, 2013, a lightning strike in an area of 2012 blowdown, 11 miles to the west of Tanacross was the start of the Moon Lake Fire. This fire burned for 75 days consuming nearly 22,000 acres of forest mostly on State land and Tanana Valley State Forest lands. A portion of this fire reburned a portion of the Eagle Trail fire and is included in this sale. The fire at times demonstrated extreme fire behavior and presented a dangerous and difficult fire to suppress in the areas of the 2012 blowdown. Following the fire, DOF reviewed existing land use plans, considered markets for the burned timber, and designed this proposal, while protecting the fish, wildlife, water resources, and avoiding impacts to local access, recreation uses, and archaeological sites.

1. Timber volume and sustained yield:

The salvage timber sale area is 18864 gross acres with an estimated net harvest unit acreage and volume of approximately 5,800 acres of state land and contains an estimated, 5.6 MCF or 10.7

MMBF (Net) saw log or 108,707 standing tons of salvageable wood biomass. The Tok Area Annual Allowable Cut (AAC) is approximately 2,370 acres of harvest annually. The Sustained Yield (SY) volume is calculated at over 3,299,068 cubic feet annually. Harvest duration for this proposal is expected to occur over a 10 year period. This action alone or in combination with timber sales (proposed or sold) will not exceed the Tok AAC or SY volume due to the proposed harvest duration or anticipated sale schedule.

2. Harvest unit design:

Unit size is anticipated to range between 0.5 acres and 200 acres. Sale unit boundaries will be located along the fire perimeter and naturally occurring vegetative type changes within the burn and or blow down areas.

The sale areas will be designed to encourage harvest of all species and sizes of burned and or blowdown trees within the designated harvest units. All harvests, commercial and personal use, shall be managed on the landscape with the intent to minimize impacts to the designated uses listed in the TBAP. Harvests will be subject to the Forest Resources and Practices Act and regulations.

3. New access design and construction:

Roads constructed during timber harvest operations are designed and utilized as temporary access routes to conduct specific harvest and silvicultural activities on the land. Ancillary use of the roads by the general public occurs, but must be managed as a matter of safety during silvicultural operations or to protect the resource values of the area. Proposed forest access roads will initially be constructed to a secondary winter road and all season standards. The roads will be constructed with two separate methods and techniques. Winter road construction will be by removing trees and vegetative material and creating a flat service on the frozen ground or water body. The all season will be by removing the trees and vegetative mat using cut and fill excavation with earth moving equipment producing running surfaces 12-16 feet wide.

Proposed road locations are generally on flat and/or rolling topography with low potential to erode during spring break-up and rainy weather. Roads will be built and maintained consistent with the best management practices in the Alaska Forest Resources and Practices Regulations (11 AAC 95) and Tanana Valley State Forest Management Plan (Appendix A).

Timber sale contracts will require measures to prevent erosion including installation of water bars, sediment barriers, fiber mats, and placement of culverts where needed. The proposed access routes do not cross any stream north of the Tanana River but will cross seasonal drainages. Cross

drains, rolling dips, wing ditches or water bars will be placed or constructed where necessary to prevent erosion on any all season roads.

Road maintenance and road closure actions will be conducted consistent with the best management practices in the Forest Resources and Practices regulations.

DOF proposes to extend access by constructing winter and all season roads from the existing Moon Lake Campground, Yerrick Creek Material Site and the Eagle Trail. The attached map shows approximately 54 miles of winter road and 8.7 miles of all season that could potentially be constructed if all salvage areas were harvested. Access controls are an important feature of this timber sale. Moon Lake campground is gated and will only be accessed in the winter via Moon lake winter road. The other roads will be tank trapped or gated to control access to prevent damage to the environment or trespass onto neighboring private lands. In all cases, harvest activities and roads will be managed to not preclude or obstruct existing public access and uses.

4. Appraisal method:

Based on transactional evidence and market demand for saw logs/cabin logs and fuel wood volume, the DOF will apply a likely value for those delivered products. The State will be compensated based on that market rate minus the estimated total harvest cost and fees from the Temporary Easement and Road Use Agreement. The DOF will factor in local demand, timber type, amount of decay, difficulty of harvest and road construction, economies of scale and other factors in its decision to differentiate the cordwood from the sawlog volumes. The method of payment will be based on standardized scaling methods for weight and volumes. Access will only be permitted through the Moon Lake Campground with signed personal use and timber sale contracts that will compensate Tanacross Inc. per the Temporary Easement and Road Use Agreement. Anticipated stumpage revenues are forecasted to be optimistically moderate. It will however, generate significant revenue to the local economy in the Tanana Valley.

F. Resources and Management

1. Existing timber stand composition and structure:

The forest stands to be salvaged were a mixture of fully mature white spruce, aspen, poplar, and birch saw timber and pole timber prior to the fire and blow down events. The target timber stands either burned by the forest fires or sustained severe wind damage in the form of wind throw, main stem breakage, and tipped where the root wad is partially uprooted and the tree is leaning. This condition, termed "stump-jacked", is wide spread throughout the salvage area creating thousands of hazardous trees. Some timber was burned, then wind thrown, and again burned again. Eventual

mortality rate of these stump-jacked and leaning trees remains unknown but is anticipated to be high based on past experience. Of the area identified in this FLUP, the DOF estimates that more than 90% of the trees have been killed and/or mortally damaged. Surviving trees will be stressed from exposure to wind, sun, and beetles. This type of stand condition is prone to a beetle infestation. Because of the physical difficulty in traversing jack-strewn and stump-jacked timber, volume estimations were determined through aerial reconnaissance flights and existing inventory data. Without active management, the stand remnants will likely continue to decline in vigor and growth for the foreseeable future—such areas do not contribute to the annual allowable cut. Stands exhibiting this type of damage can take a long time (70-100 years) to recover to conditions observed prior to the wind event. The wind event has created denser and horizontally realigned wildfire fuel conditions than is typically found in stands of this class. The stand will likely be more volatile if burned due to vertical continuity of the fuels and dryer conditions caused by lack of shade. The likely natural forest progression for this type condition is for it to burn. The stand will then go to an early successional stand of aspen, birch, and/or balsam poplar commonly with spruce regeneration in the understory.

2. Stand Silviculture:

a. Stand Goals

The conversion to an early stage successional stage stand as rapidly and economically as possible without the use of wildfire or adjacent stands damage.

b. Specific Management Objectives

Protect undamaged forest conditions by preventing outbreaks of deleterious insects specifically engraver beetles and spruce bark beetle by treatment of slash and removal of dead green material for the blow down portion of the sale. White spruce damaged by fire attracts infestations of the large white spotted sawyer (*Monochamus scutellatus*). These are large black flying insects with a small white patch on the back behind the head and long black antenna. They are common in the Tanana Basin during July. The beetles can be easily heard boring holes to lay eggs that will hatch next summer. White spruce with large sawyer beetle infestations will be riddled with 3/8" sized holes in the wood, devaluing its marketability as sawlog products within the next several years.

c. Harvest Methods

Due to the existing conditions, mechanical harvest methods are the only viable and safe option. Commercial logging in the area typically consists of tracked harvesters with processor heads and rubber tired grapple skidders. Because of the complexity of the stand conditions, the salvage operations are expected to cost far more than normal. Live, healthy and undamaged trees in clumps or islands of trees throughout the harvest area will be a priority. Leaving individual trees alone will not be favored as the potential for long term survival is low. Decking of timber throughout the sale will be allowed due to the seasonal market demand for biomass and green fuel wood. Slash will be generally scattered through the sale area. This sale has areas that are considered to be good ground for summer and or winter harvest of timber. For example, units south of the Alaska Highway are good for either summer or winter harvest, while access through

Moon Lake would be winter only. Winter harvest may not provide the required scarification to ensure good mineral soil exposure for seeding.

d. Regeneration

Passive, natural reforestation will be used due to expected recolonization of the area by hardwood species. Birch is expected to establish in the upland locations and aspen and balsam poplar will recolonize the lowland and moist sites. White and black spruce will naturally regenerate as well. This methodology has been proven to be a successful burn area reforestation strategy in the Tok area as evidenced on the 1988 Porcupine Creek, 1990 Tok River and 2004 Taylor Complex Fires. Good seeding from hardwood of birch and poplar from the stream area and surrounding area is expected due to the root mass disturbance and logging activity. With scarification of the soil, both birch and white spruce will regenerate more successfully from natural seed dispersal. The size and shapes of the blow down areas allow for natural regeneration to have a predicted high degree of success due to the fact that there is a high percentage of stand perimeter compared to total acreage. Areas that fall below recommended stocking levels (450 stems/acre) will be hand planted. Stand regeneration is expected to have a higher percentage of aspen which will further add to the safety of the public from impending wildfire danger. Where aspen is present, the total removal of the aspen and spruce over story will promote aspen's natural reaction to grow new shoots from its roots – a common practice where aspen is managed as a forest crop. Logging equipment crushing existing aspen without destroying the root systems will encourage coppice regeneration and increase the stems per acre. High utilization of browse by moose and hares at the time of stand establishment may have a strong effect on successional trajectory, potentially reducing hardwood biomass and increasing spruce dominance (and fire risk) at the desired rotation period. Depending on site specific management objectives, logging debris such as non-merchantable tops can deter or reduce browsing of seedlings and small saplings by ungulates to allow survival of hardwoods to the free-to-grow stage, and hunting of moose and hares in the areas of new road access could be encouraged among local residents. Spruce is shade tolerant and if given time will outlast the shorter lived hardwoods and dominate the site. Spruce stands outside the desired fire resistant buffers described above will not be discouraged in order to provide the forest mosaic needed for a diverse wildlife habitat. A mature stand of burned spruce or mixed spruce and aspen/birch typically reforests to aspen or birch as the primary species after the fire. Birch and aspen stands typically recolonize burned areas within 4-6 years.

3. Soils and Topography :

Topography:

Topographically the salvage area consists of three units: south of the Tanana River on the Tok outwash fan, northeast of the River on the Yukon-Tanana Upland, and to the northwest in the Yerrick creek area.

The area south of the Tanana River on the Tok outwash fan is relatively flat and gently sloping toward the River to the north. This area has a loess cap overlying outwash gravels. The area north of the River is hillier with a loess cap over granitic bedrock (slightly weathered). The area south of the River to the west of the Tok River Fan (Alaska Range easternmost ridge) is more complex and consists of fluvial, glacial, colluvial materials interspersed with organic landforms.

Soils:

The area encompassing the Eagle Trail Fire and Blow-down Salvage Sale does not have a soil survey listed by the NRCS. The closest area with a soil survey is Gerstle River Soil Survey. A Custom Soil Resource Report was created using the NRCS web soil survey and is included in the file and available on request. Although there will be differences between the two sites there are many geographic, and timber type similarities which could allow direct comparisons of sites. At the Dry Creek survey there are rivers and creeks that drain into the Tanana River similar to the Yerrick creek drainage. Listed are the soil types from the Dry Creek area that are geographically similar to areas to the proposed sale.

Soils in the proposed sale area are not typical of the more westerly interior Alaska lowlands and upland series. Area soils are generally silt loams over coarse sand and/or gravel (loess over alluvium). They range from well drained to poorly drained, and are mostly shallow soils.

219 Moosehead Soil Series (Coarse-loamy over sandy or sandy-skeletal, mixed, super active Fluventic Haplocrypts), found on Interior Alaska Lowlands on alluvial plains and terraces in broad valleys, are deep, moderately well drained soils found on gentle slopes (1-3%). Parent materials are stratified silty and sandy alluvium overlying sand and gravel. Depth to seasonal high water table is usually more than 6 feet; a perched water table is near the surface in spring. The soil series is of limited extent on Interior Alaska Lowlands. This soil series is among the most productive (White Spruce Site Index₁₀₀ = 82) series in the area and supports forests containing white spruce, balsam poplar, black spruce, Alaska birch, and aspen. If undisturbed for a long period, forest succession may lead to the buildup of a thick O horizon and permafrost may become established. Cleared areas are used for small grains, forages, and vegetables. Equipment limitations: Avoid when wet, especially during spring thaw.

222 Salchaket Soil Series (Coarse-loamy, mixed, super active, nonacid Typic Cryofluvents), found on Interior Alaska Lowlands on floodplains, are very deep, well drained soils found on flats and gentle slopes (0-4%). Parent materials are stratified silty and sandy alluvium. Depth to seasonal high water table is more than six feet. The soil series is extensive on Interior Alaska Lowlands. This soil series is among the most productive (White Spruce Site Index₁₀₀ = 80) series in the area and support forests containing white spruce, balsam poplar, black spruce, Alaska birch,

and aspen. These soils are subject to occasional flooding; permafrost is uncommon to none. Cleared areas are used for small grains, forages, and vegetables. Equipment limitations: Avoid when wet, especially during spring thaw and flooding.

223 Tanacross Soil Series (Coarse-loamy, mixed, super active, subgelic Typic Histoturbels) found on Interior Alaska Lowlands floodplains and floodplains on alluvial flats, on alluvial fans, and on terraces, are shallow to deep over permafrost, poorly drained to very poorly drained soils found on flats and gentle slopes (0-5%). Depth to seasonal high water table is 0 to 1 foot and more than 5 feet in cleared areas. Parent materials: Organic materials over micaceous loamy alluvium that have in some areas a loess mantle over alluvium. The soil series is of moderate extent on Interior Alaska Lowlands. This soil series has very low productivity and is dominated by open-grown, stunted black spruce. Depth to continuous permafrost is 10 to 25 to 60 inches; greatest depth for cleared areas. Equipment limitations: winter road/ice roads only acceptable access for crossing.

226 Tetlin Soil Series (Coarse-loamy, mixed, super active, subgelic Typic Aquiturbels) found on Interior Alaska Highlands bedrock-cored hill-slopes, are shallow to deep over permafrost, poorly drained soils found on gentle to steep slopes. Depth to seasonal high water table is 0 to 3 feet. Parent materials: Micaceous loess or colluvium derived from loess. The soil series is of limited extent on Alaska Interior Highlands. This soil series has good productivity (White Spruce Site Index₁₀₀ = 71) and supports white spruce and black spruce with an alder understory. Depth to continuous permafrost is 10 to 60 inches. Equipment limitations: Steep slopes, wet moisture regime; probably limited to winter logging.

232 Volkmar Soil Series (Coarse-silty over sandy or sandy-skeletal, mixed, super active Aquic Haplocryepts) found on Interior Alaska Lowlands in slight depressions on outwash plains, terraces, and stream terraces, are very deep, moderately well drained found on flats and gentle slopes (0-5%). Depth to seasonal high water table is more than 6 feet; in spring water table is held up by seasonal frost. Parent materials: Micaceous silty loess overlying sand or sand and gravel. The soil series is of moderate extent on Alaska Interior Lowlands. This soil series supports forests dominated by black spruce, white spruce, and paper birch. Cleared areas are used for small grains, grasses, and vegetables. Permafrost is not present. Equipment limitations: Avoid activity during spring break and while seasonal frost creates a perched water table.

4. Wildlife Habitat and Harvest:

Moose, caribou, black and grizzly bear, several raptors, sharp-tailed and ruffed grouse, and a multitude of furbearing animals as well as all the normally occurring species within the Tanana

Valley that exist at this elevation are expected to be present. USF&W has provided a map of known raptor nesting sites and territories within the sale area. The Peregrine falcon nests are on bluffs and these sites, including adequate buffers, will be excluded from the sale. Additionally the nesting sites will be vacant during the winter logging, thus negating logging disturbances during the nesting periods. Current stand conditions impede mega fauna (moose) travel. Silvicultural treatments proposed for this sale should significantly improve habitat for moose. ADFG recommended that an adequate number of larger diameter trees snapped mid stem be left in place to facilitate late seral bird nesting opportunities. Harvest unit design will be developed to recover damaged and stressed timber while promoting a natural varied edge. This type of layout creates a greater perimeter distance enhancing the edge effect beneficial to many wildlife species. The basis for wildlife habitat protection and enhancement on state land is provided in AS 41.17.010(1) and AS 41.17.060(c) (7), and on the Tanana Valley State Forest is provided in AS 41.17.400(e). The following section is provided by the Department of Fish and Game for the Tok BIF and is deemed pertinent information for this document

“The term wildlife broadly includes birds and mammals in Alaska. Some resident wildlife is managed by the Alaska Department of Fish and Game (ADF&G) on the sustained yield basis for harvest, such as moose, caribou, and gallinaceous birds (grouse, ptarmigan). Migratory wildlife is managed by the U.S. Fish and Wildlife Service (USF&WS) under international treaties; in forested ecosystems this includes waterfowl harvest and songbird conservation. Per FRPA a no-harvest radius of 330 feet will be planned for and established to protect the nest site of bald eagles. The USF&WS will be notified about nest locations discovered during sale layout.”

Most common species of wildlife that are normally found in interior Alaska forests inhabited the area prior to the fire. Large animal species may be displaced from the burn areas until sufficient hiding, thermal cover and sufficient browse is available. Timber harvest in burn areas is not expected to diminish available cover for these species. A potential for moose foraging on hardwood regeneration in fall (leaf-stripping) and winter (browsing), which in extreme cases can accelerate or facilitate transition from hardwoods to conifers possibly reducing biomass yield in the short term. Timber harvest may reopen areas for hunting access as most of the burn areas are currently a tangle of toppled trees.

Small animal species typically recolonize a burn area quickly. Long-time trappers have stated that some of the best trapping can occur in burn areas, especially for lynx and coyote due to the resulting high vole populations. Grouse and other birds use new growth in the burn areas for food and habitat as well.

Hunting and trapping occur in the area. Active trap lines are located within and in the vicinity of the proposed salvage areas. Historically, there has been significant hunting activity in the area due to relatively high moose density and close proximity to Tok and Tanacross.

Projected Habitat: Fire suppression and limited timber markets presently hinder maintenance of early seral hardwood trees and shrubs for wildlife habitat near settlements in interior Alaska (Haggstrom and Kelleyhouse 1996). Future amount and distribution of habitat in the sale area is expected to be influenced primarily by forest management (including hazardous fuels reduction) and wildland fire on upland sites and fluvial action in active riparian areas. Mineral development and other surface activities may also influence vegetation. Trends in climate may influence the rate of vegetative response to disturbance through potential effects on nutrient cycling, growing season length, soil moisture, and other ecological effects.

Regeneration of shrubs and hardwoods on harvested spruce sites may require mechanical or prescribed fire scarification where grass (especially *Calamagrostis Canadensis*) exists and its dense regeneration can hinder woody species. Maintenance of late-seral features (snags, cavity trees, spruce rust brooms), particularly the larger, more rare features in the landscape, will require operator education to identify them for avoidance.

Subsistence: By harvesting, the area will revert to younger early successional plant species, which will in turn support wildlife adapted to those plant communities such as moose and ruffed grouse, allowing for a potential increase in those wildlife populations and increased hunting opportunity. Required riparian and wetland zones will keep habitat required by species needing an older forest. Furbearer trapping success may vary for a period of time and will likely be better sooner than if nothing is done with the existing condition. Berry picking should increase as stands are opened up allowing existing plants to multiply. With adherence to the FRPA best management practices of water bodies, no noticeable effect on fishing should be evident by the proposed harvest activities.

The few roads resulting from harvest operations will increase access. These temporary roads will be closed once harvest and regeneration activities are complete. Highway vehicles may not be able to use the closed roads but ATV's, snow machines, and mushers will likely take advantage of the closed roads in the Eagle Trail area rather than have to brush their own trails.

5. Fish Habitat and Harvest, Water Resources, and Water Quality:

The Forest Resources Practices Act (FRPA) and its Regulations establish standards for timber harvest and forest road construction and maintenance. The sale areas are designed and operations will be conducted in a manner that is in compliance with the Alaska Forest Resources and Practices Act (FRPA). To maintain water quality during road construction and harvest operations, the Division of Forestry will mandate implementation of FRPA's Best Management Practices in the timber sale contract; this includes a combination of retention areas, directional felling, partial suspension of logs, split-yarding, and removal of logging debris from stream channels. These

standards are designed to minimize the potential for significant adverse effects to water quality due to forest harvesting activities.

The FRPA BMPs have been determined to provide adequate protection from potential water degradation. Information from field inspections, compliance monitoring, and the State's Alaska Clean Water Actions database indicate that FRPA is effective in protecting water quality. The annual report from the Alaska Department of Environmental Conservation (DEC) on the effectiveness of FRPA concluded that, "when properly implemented, the BMPs are effective at protecting water quality."

The Tanana River, including its side channels and Little Tanana Slough, provides habitat for anadromous and high value resident fish species including chum and coho salmon, round whitefish, burbot, northern pike, and Arctic grayling. With its glacial characteristics, it is a Type III-B water body under FRPA. Type III-A water bodies providing habitat for high value resident fish species include Yerrick Creek (Arctic grayling and Dolly Varden) and Moon Lake (Arctic grayling). Appropriate riparian buffers will be placed along these water bodies.

Frozen conditions will be utilized to minimize disturbance in these sensitive areas. The FRPA and its Regulations are designed to protect fish habitat and water quality from significant adverse effects of timber harvest activities. All activity in the streams will be subject to approval from ADF&G. The ADF&G Division of Habitat has been consulted during the process of planning this operation and writing this document. If access requires Title 16 (Fish Habitat) Permits from the ADF&G Division of Habitat to construct access to the project area, they will be pursued as needed and according to statutory requirements.

6. Recreation, Tourism, and Scenic Resources:

Summer and winter recreational use of the area, with the exception of Moon Lake Campground in the summer, is low.

Multiple recreational trails are within the general vicinity with summer and winter use. If any trails are encountered during road construction, contractors will provide for trail crossings as well as post warning signs along the road. No conflicts are anticipated with recreational use of these trails either in summer or winter.

Multiple trap lines utilize the area in the winter; no conflict is anticipated.

The region's scenery includes the lakes and streams that draw recreational users and views south to the Alaska Range. Typical interior Alaska views of forested vistas and mountainous horizons typify this area. Visual impacts from the proposed harvests are not anticipated to be of any

significant concern to the general public due to the nature of the project harvesting firekilled and blowdown areas.

Moon Lake campground is the only known tourism area with close proximity of the sale.

7. Cultural Resources:

DOF received comments from the State Historic Preservation Officer (SHPO) and no known sites were identified. If any archaeological sites are identified, proposed salvage areas and road locations will be appropriately adjusted to avoid conflicts. If any historic or archaeological sites are encountered during road construction or harvest activities, DOF will immediately inform SHPO and take action to protect the findings.

If burials or human remains are found, all land-altering activities that would disturb the burial or remains shall cease and measures will be taken to protect it in place. The Alaska State Troopers, State Historic Preservation Office (SHPO), and the State Medical Examiner shall be contacted for further guidance pursuant to State laws and protocols pertaining to the discovery of human remains within the State of Alaska.

8. Subsurface Resources:

There are no mining claims in the proposed project area.

9. Wildland Fire Management:

Most of the forest stands in the area are the result of past wildfires. After a fire, seeds from surrounding spruce and root sprouts and seeds from hardwoods regenerate the area. The faster growing hardwoods typically dominate the site for many years while the spruce remains in the understory. Early on, the stand is relatively fire resistant as hardwoods offer little fuel for a wildfire. Spruce on the other hand, provide fuel because of their low dead limbs acting as a fuel ladder for ground based fires to reach the explosive needles in their crowns. As the stand ages, these longer lived spruce eventually take over creating conditions ripe for another wildfire and starting the ecological process all over again. Fire management options include allowing wildfires to burn where they do not threaten life or property. Much of the more remote parts of the Tok Forestry Management Area are managed in this manner. Fires are monitored for possible threats. These fires result in a mosaic of forest stands ranging from young stands dominated by hardwoods, to older spruce stands that have not seen fires for a hundred years or more. Management options for wildland fires in and around communities require a more aggressive approach to protect life and property. These fires are suppressed creating after many years an older forest where fire prone spruce dominates the landscape. If these stands are left unmanaged, they can evolve to a level where a fire can become a catastrophic event. Active forest management can reduce the

likelihood of a wildfire becoming a threat to the whole community. The interest in biomass for fuel to produce heat and power has created a use for trees that, not so long ago were considered of little value and communities paid to remove them to alleviate the wildfire risk. Fuels within a hardwood stand are mostly on the forest floor. There are far fewer lower limbs (ladder fuels) on birch and aspen to allow the fire to burn up into the tree tops and create a dangerous fast moving crown fire. Fires on the forest floor tend to be slow moving creeping fires because of higher moisture content and the reduced influence from wind. Stands next to the community will be managed for hardwood by removing the spruce and encouraging hardwood reproduction creating a forest resembling the younger early successional forests present outside the community where wildfires are allowed to burn if they do not threaten life and property.

10. Wildland Fire Historic Costs and Projection:

Fire plays a significant role in the ecology of the Tok Area. Since 1947, the Tok Forestry Management Area has burned 205,600 acres within the Tanana Valley State Forest and forest classified lands- averaging 3,200 acres per year. The operable area is in Full Protection. This protection level requires aggressive firefighting strategies during the most fire prone part of the season. These protection levels are discussed and agreed by all the different private, native, state and federal land managers. Fighting fires is expensive. For example, the last large fire in Tok was the 18,000 acre Eagle Trail Fire in 2010 and cost the State \$9,295,884. Costs associated with large fires threatening communities vary between \$500,000 and \$20,000,000. These fires are typically fueled by white and black spruce and are very difficult to control. Once aircraft and additional crews and equipment are ordered, costs quickly escalate. The following are estimated costs for various resources:

Cost for a load of jumpers: \$9,000/day

Cost for a helicopter and bucket: \$3,500/day plus \$1,250/hour

Cost of air tanker: \$8,995/day plus \$3,000/flight hour

Cost of Type 1 crew: \$9,310/day

Cost of Type 2 crew: \$6,090/day

In addition to the direct costs incurred while fighting fires, the National Institute of Standards and Technology reports, during 2008, the nation suffered the death of 18 people, 257 injuries and a property loss of 3.1 billion dollars as a result of 364,000 wildfires (Hamins et al. 2012). A managed forest will create conditions favorable to the reduction of highly flammable fuels and to more effective and efficient initial response to new fires. The breakup of fuel types by harvesting older spruce stands and encouraging hardwood regeneration will reduce the threat of crown fires and drop fires to the ground where they are more easily managed with existing personnel. An

estimated \$15,000,000 was spent in preparedness and suppression activities in 2013 in the Tok Area.

G. Costs and Benefits

No significant negative economic effects are anticipated upon the timber markets, local or regional, as result of this proposed action. Salvage of the proposed timber volume may provide a short-term benefit to the local economy due to the availability of low-cost fuel for home heating and timber harvesting jobs. DOF may have to close roads to the commercial and personal use timber sales to prevent unauthorized harvest.

The Division of Forestry has provided personal use firewood permits and small personal use sales from this area to ensure an adequate supply of firewood for local residents. Public use firewood demand in this area is expected to be quite high during the winter access period. The Division will continue to issue general use permits and designate areas for personal use sales within the salvage area boundary. Commercial timber salvage harvest operations in portions of the sale near the Eagle Trail, will provide winter road maintenance facilitating public access to the salvage areas

VI. PUBLIC REVIEW

The public and agencies were invited to comment on this Final Best Interest Finding. Objections or comments pertaining to the proposed action must have been received in writing by the DOF Tok Area Office **by 4:30 PM on December 10th, 2014**, in order to ensure consideration for review. Comments were mailed to Jeff Hermanns State of Alaska, Division of Forestry, Tok Area Office, and P.O. Box 10 Tok, Alaska, 99780. Comments were also accepted by email to dnr.fortok@alaska.gov. For additional information the Tok Area Office phone number is 907-883-1400. To be eligible to appeal the final decision, a person must have provided written comment by **4:30 PM on December 10, 2014**.

VII. PUBLIC NOTICE

This FBIF was publicly noticed in compliance with AS 38.05.945. Notice was posted on the Alaska Online Public Notice System, and at the Tok US Post Office Public Notice Board. A person is eligible to participate in any appeal or request for reconsideration to the final finding if s/he has submitted comment to the Final finding and decision during the comment period.

If you have any questions, please contact Jeff Hermanns, Tok Area Forester, at jeffrey.hermanns@alaska.gov or by phone at 907-883-1400.

VIII. ALTERNATIVES AND DISCUSSION

There are four possible alternatives to consider for this project area. A discussion of each of the four alternatives follows. All alternatives are consistent with the area plan and applicable statutes and regulations.

A. Conduct the project as proposed:

This alternative meets the objectives for timber salvage prior to loss of economic value, returning the site to a young productive mixed forest, and providing commercial timber products. It will also provide fuel wood to the local area and commercial dry firewood to the statewide market. Additional employment opportunities associated with salvage operations, saw milling, and value-added processing will result. This alternative has ample room for small modifications while remaining very close the sales objectives.

B. Modify the project by making it significantly smaller or larger

The estimated volume and acreage of timber to be salvaged from the Eagle Trail Fire & 2012 Blow down Salvage as stated in this Best Interest Finding is designed to accommodate the existing market in the vicinity of Tok as well as provide commercial fuel wood to other areas of the state. Little opportunity exists to increase the size of the proposed project because most of the commercial sized timber was included in this proposal. Some commercial stands were left out of the proposal or were not feasible due to access development costs. Decreasing the size of the project substantially would potentially waste valuable, burned timber that could be used in the local economy in the next 1-10 years.

C. Defer the project to a later date:

Deferring harvest to a later date would result in lost timber value and potentially increase the threat of a large catastrophic wildfire. Burned timber, especially on the ground, degrades rapidly due to subsequent infestations of insects, sap rot, wind throw, and checking. The value of the timber could drastically decline within the next 12 months for both the industry and the State. Access to the salvage area is only during the winter months; delaying this project would not allow the timber industry to utilize the available saw timber and the local area residents would not have access to firewood that is in extremely high demand.

D. Cancel the project:

Canceling the project would not meet the objectives outlined for this management action. The blow down would continue to be a high fire risk for a catastrophic wildfire. The burned timber would not be utilized, and there would be no contribution to the State and local economies.

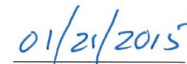
IX. RECOMMENDATION AND FINAL DECISION

After due consideration of all pertinent information and alternatives, the DNR has reached the following Final Decision: To proceed with the sale area of approximately 18,864 acres with the offering for sale of approximately 5,800 acres of fire salvage and blown down timber sale units to provide sawtimber, fuel wood and biomass for commercial sale and personal use to the communities of the Upper Tanana and the surrounding areas of the state as proposed in Alternative A and described in this FBIF. The DOF finds that this Final decision satisfies the objectives stated in this document and it may be in the best interest of the State to proceed with this action under its authority of AS 38.05.035(e) (Powers and Duties of the Director) & AS 38.05.110-120; 11 AAC 71 (Timber Sale Statutes and Regulations).

In addition, the Division finds that salvage sales within this area are emergency sales with respect to AS 38.05.113 (Five-year Schedule of Timber Sales) as defined by 11 AAC 71.010(d). These sales must be expedited to avoid loss of market value of timber that has been damaged by fire and wind. I find that this proposed action may be in the best interest of the State, and approve it to proceed to public notice.



Timothy A. Dabney, Northern Region Forester
Alaska Division of Forestry



Date

X. ATTACHMENTS

Maps: Eagle Trail Fire & Blowdown Salvage Sale Map #1, Map #2, and Sale Area Map

MOA between DNR (DPOR) and DNR (DOF)

Grant of Temporary Easement / Road Use Agreement between State of Alaska DNR Forestry and Tanacross Inc.

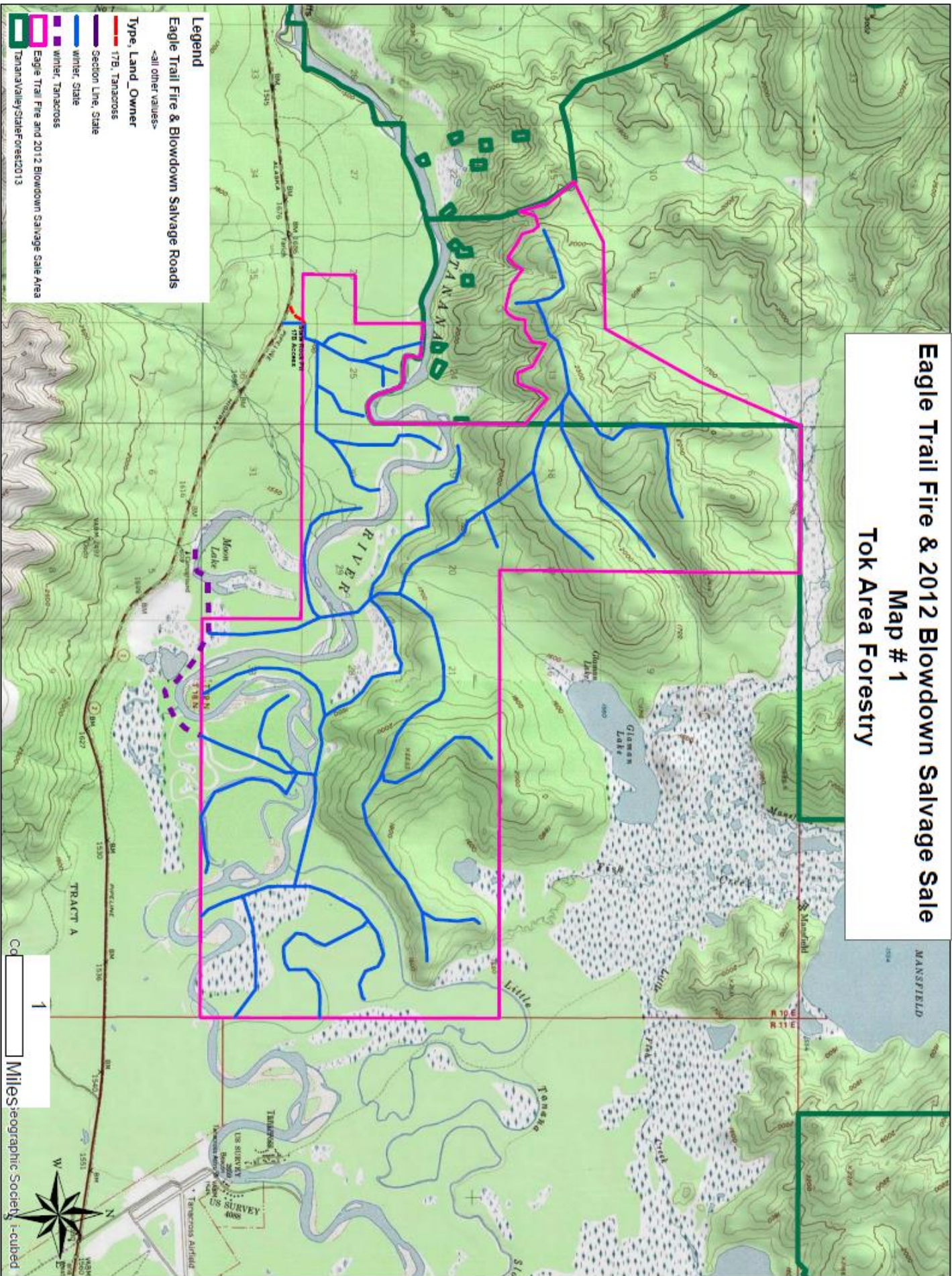
Tanacross letter to DNR January 27, 2013

Appendix A: Tanana Valley State Forest Road Specifications

Eagle Trail Fire & 2012 Blowdown Salvage Sale

Map # 1

Tok Area Forestry



Legend
 Eagle Trail Fire & Blowdown Salvage Roads
 <-all other values>

Type, Land_Owner

- 17B, Tanacross
- Section Line, State
- winter, State
- winter, Tanacross
- Eagle Trail Fire and 2012 Blowdown Salvage Sale Area
- TananaValleyStateForest2013

Scale: 1 Mile

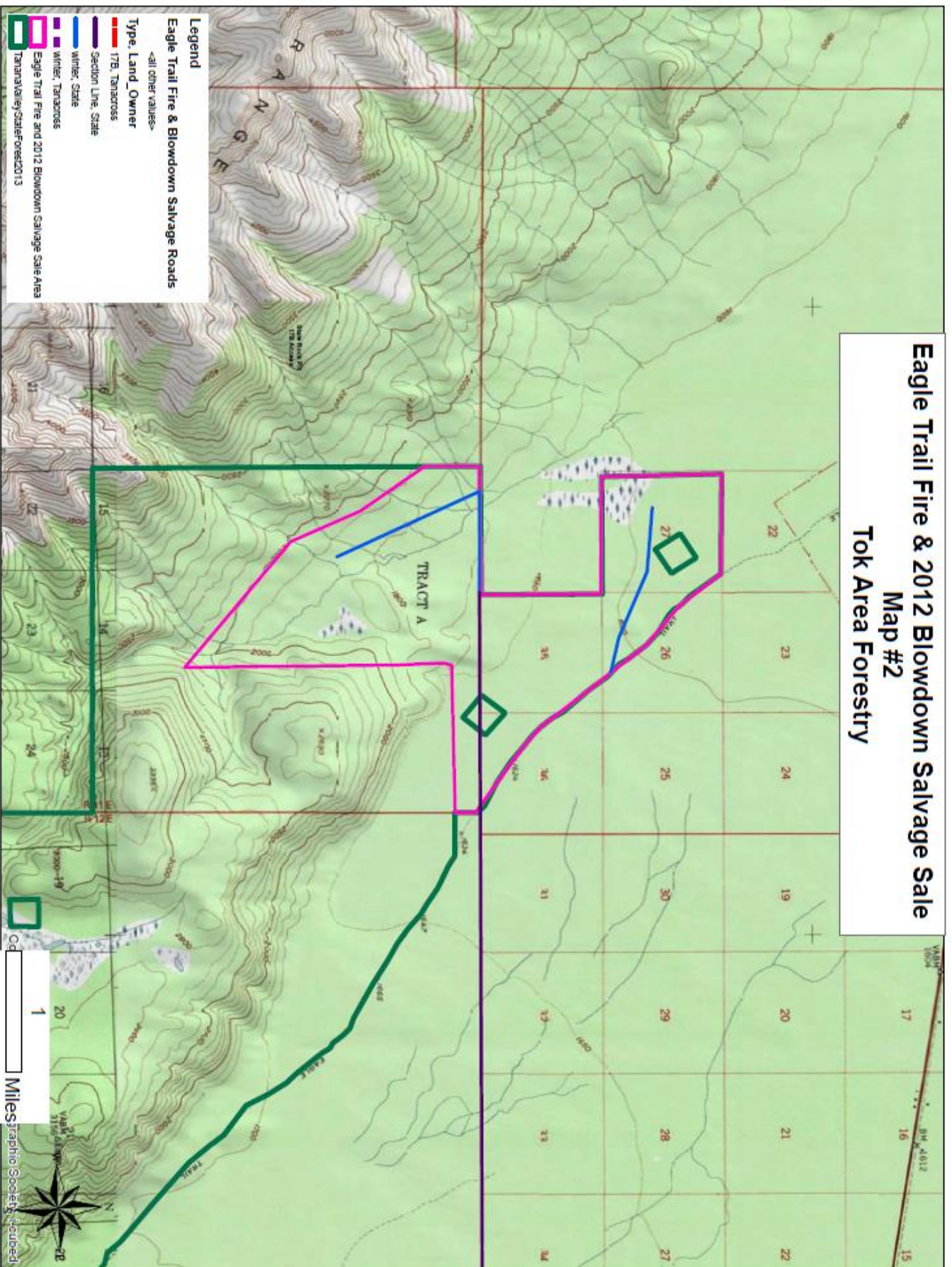
Geographic Society

North Arrow

Eagle Trail Fire & 2012 Blowdown Salvage Sale

Map #2

Tok Area Forestry



Memorandum of Agreement
Between the
State of Alaska
Department of Natural Resources
Division of Parks and Outdoor Recreation (DPOR)

And the
State of Alaska
Department of Natural Resources
Division of Forestry (DOF)

Purpose:

The purpose of this memorandum of agreement is to establish and define the relationship between parties regarding winter access across Moon Lake State Recreation Site for timber salvage operations.

Background:

The Division of Forestry is proposing to offer a salvage timber sale of approximately 5,800 acres. The sales are from lands affected by the 2010 Eagle Trail Fire and the September 2012 High-Wind Event. Moon Lake State Recreation Site at milepost 1332 Alaska Highway will be one of the main access points for all winter road building and harvest activities. Moon Lake State Recreation Site has a short paved road from the highway to the campground and boat launch. The paved road to the recreation site is not gated or maintained in the winter. The site is under private management and will undergo major renovations in 2015 and 2016.

THEREFORE, the parties agree as follows:

DPOR

1. Will permit winter access across State Park Lands by DOF staff and timber sale contract holders.

DOF

1. Will install a double gate using state park standard drawing G-2. Location to be determined by parks design and construction staff.
2. Will repair any vandalism of park furnishings as a result of winter access.
3. Will repair any damage to park roads, park furnishings, and boat launch from winter use by contractor equipment.

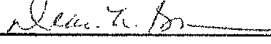
4. Will clean up any snow berms, slash, or garbage that accumulated during winter operations prior to campground opening.

General Terms and Conditions:


1. Amendment This agreement may be amended through mutual agreement of the parties.
2. Cancellation This agreement may be cancelled by either party upon 30 days written notice.

IN WITNESS WHEREOF: The parties to this agreement have in good faith executed this document as testified below:

Approved

By: 
John 'Chris' Maisch, Director
Alaska Division of Forestry

8.28.2014
Date

By: 
Brooks Ludwig, Park Superintendent
Alaska Division of Parks and Outdoor Recreation

8/28/2014
Date

GRANT OF TEMPORARY EASEMENT/ ROAD USE AGREEMENT

This Agreement is made this 16 day of January, ²⁰¹⁵~~2014~~ (herein referenced as the Effective Date), between Tanacross, Inc., whose address is P.O. Box 76029, Tanacross, AK 99776 (herein referenced as the GRANTOR) and State of Alaska Division Department of Natural Resources Division of Forestry, whose mailing address is P.O. Box 10, Tok, AK 99780 (herein referenced as the GRANTEE).

Whereas, the GRANTOR has title to the surface estate of certain lands described as:

Parcel No. 1: Copper River Meridian, Township 19 North, Range 10 East, Sections 5 and 32;

Parcel No. 2: Copper River Meridian, Township 18 North, Range 10 East, Sections 3 and 4;

under Interim Conveyance 1508, recorded in the Fairbanks Recording District at Book 748, Page 682 on May 21, 1992; and

Whereas, the GRANTEE is the owner of

Copper River Meridian, Township 19 North, Range 10 East, Sections 33 and 34; and

Whereas, the GRANTEE wishes to construct, maintain, repair, and use two non-exclusive use temporary access roads for the sole purpose of transporting firewood and associated timber products on said Parcel Nos. 1, and 2, and owned by the GRANTOR as shown in Exhibits A attached hereto and made a part hereof; and

Whereas, the GRANTOR, in consideration of fees in the amount of **TEN DOLLARS AND NO/100 (\$10.00)**, the terms and conditions stated below, and other good and valuable consideration, has agreed to grant the GRANTEE an easement on two routes to construct, maintain, repair, and use temporary roads over said GRANTOR's land for the purpose of access for the harvest of timber;

Witnessed, that in consideration of the terms, conditions and covenants herein, the GRANTOR and the GRANTEE hereby mutually agree as follows:

1. TEMPORARY EASEMENT. GRANTOR hereby grants to GRANTEE, subject to existing rights, a non-exclusive, Temporary Easement on two routes, generally 50 (fifty) feet in total width and more particularly shown on Exhibits A, attached hereto and made a part hereof, referenced herein as "the Property."

2. GRANTEE'S USE. The purpose of this Temporary Easement to allow transportation of firewood and associated timber products and is restricted to non-exclusive, temporary vehicular and heavy equipment access for the transportation of timber and other forest products harvested from the GRANTEE's land. The access routes shall not be used for hunting, fishing, or trapping or for access to GRANTEE'S land for hunting, fishing, or trapping purposes. GRANTEE agrees to repair any damage to GRANTOR'S Property or improvements related to or occurring from GRANTEE, GRANTEE'S agents, operators, buyers, representatives, contractors, employees or invitees' ingress, egress or use of the Property. GRANTEE shall perform all allowed work and activities in such a manner that private improvements, if any, existing on the Property shall not be disturbed or destroyed. In the event that any private improvements are unavoidably disturbed or destroyed, they shall be replaced or repaired by GRANTEE in as good a condition as existed immediately prior to GRANTEE'S entry to the Property. GRANTEE shall not extract or remove any natural resources (other than the minimum needed to construct the stated roads) from the Property without the prior written consent of the GRANTOR. GRANTEE shall not leave, or to allow GRANTEE'S agents, operators, buyers, representatives, contractors, employees or invitees to leave any construction materials, debris or waste materials on the Property.

3. GRANTOR'S USE. GRANTOR reserves (1) the right to use the Property in any manner and for any purpose not inconsistent with the purpose of this Temporary Easement as described above and (2) the right to relocate, at its own expense and to at least comparable standards, the temporary road if further development warrants such action.

4. NON-EXCLUSIVE USE. This Temporary Easement is non-exclusive and subject to compatible uses of the Property by the GRANTOR. Such uses may change without notice.

5. PRIOR EXISTING RIGHTS. GRANTEE shall coordinate its activities with all holders of prior existing rights.

6. HAZARDOUS MATERIAL. GRANTEE, its agents, operators, buyers, representatives, contractors, employees or invitees shall neither cause nor permit any Hazardous Material, to be transported across, stored, or used in, on or about the Property, or adjoining property owned by the GRANTOR, by GRANTEE, its agents, operators, buyers, representatives, contractors, employees or invitees. However, the GRANTEE is permitted to transport fuel and other necessary hazardous materials in quantities only that are required for daily operations being used for individual vehicles and timber harvest and associated road building operational equipment over the Property. If GRANTEE, its agents, operators, buyers, representatives, contractors, employees or invitees breach the obligations stated in the preceding sentence, or if the presence of Hazardous Material on the Property or adjoining property owned by the GRANTOR caused or permitted by GRANTEE, its agents, operators, buyers, representatives, contractors, employees or invitees results in contamination of the Property, or if contamination of the Property or adjoining property owned by the GRANTOR by Hazardous Material otherwise occurs for which GRANTEE is legally liable for damage resulting therefrom, then GRANTEE shall indemnify, defend and hold the GRANTOR harmless from any and all claims, judgments, damages, penalties, fees, costs, liabilities or losses including, without limitation, diminution in value of the Property or adjoining property, damages for the loss or restriction of usable space or of any amenity of the Property, and sums paid in settlement of claims, attorney's fees, consultant fees and expert fees which arise during or after the period in which this Temporary Easement is in effect as a result of such contamination. This indemnification of the GRANTOR by GRANTEE includes, without limitation, costs incurred in connection with any investigation of

site conditions or any clean-up, remedial, removal or restoration work required by any federal, state or local government agency or political subdivision because of Hazardous Material present in the soil or groundwater on or under the Property and adjacent properties. Without limiting the foregoing, if the presence of any Hazardous Material on the Property or adjoining property owned by the GRANTOR caused or permitted by GRANTEE, its agents, operators, buyers, representatives, contractors, employees or invitees results in any contamination of the Property or adjoining property owned by the GRANTOR, GRANTEE shall promptly take all actions at its sole expense as are necessary to return the Property to the condition existing prior to the introduction of any such Hazardous Material to the Property; provided that the GRANTOR's approval of such actions shall first be obtained, which approval shall not be unreasonably withheld so long as such actions would not potentially have any material adverse long-term or short-term effect on the Property. As used herein, the term "Hazardous Material" means any hazardous or toxic substance, material or waste substances which is or becomes regulated by any local governmental authority, the State of Alaska, or the United States Government. Hazardous Material also includes petroleum products and petroleum by-products.

7. TERMINATION. This Temporary Easement shall automatically terminate: (1) if the two temporary roads are not constructed within 5 (five) years of the Effective Date; (2) upon abandonment of GRANTEE'S Improvements, herein defined as non-use for 365 consecutive days; or (3) ten (10) years from the Effective Date of this agreement unless renewed as provided below. GRANTOR shall give GRANTEE written notice of any non-compliance with this Agreement. GRANTEE shall have 24 hours to correct issues regarding environmental, cultural, theft, or trespass issues, and 48 hours to correct other non-compliance issues; all development and harvesting related activities on the Property shall cease until the issue is corrected and approved by GRANTOR. This Temporary Easement may be terminated by GRANTOR at any time, with or without cause, by giving written notice to GRANTEE at least fifteen (15) days before the termination date, or upon the written agreement of GRANTOR and GRANTEE. GRANTEE'S obligations with regard to hazardous materials, insurance, indemnification, repair, payment, damages and restoration of the Property are non-delegable and shall survive termination.

8. RENEWAL. This Temporary Easement may be extended for a like term with the approval of both the GRANTOR and GRANTEE. The GRANTEE shall request a renewal of the term at least one hundred and twenty (120) days prior to the termination date of this Temporary Easement. GRANTOR may agree to or decline any extension in its sole discretion.

9. FEE. The fee for the use of the Temporary Easement shall be equal to the then-current Alaska Division of Forestry fee for firewood for each cord of wood transported across the two access routes, provided, however, that the fee shall in no case be less than \$10.00 (ten and no one hundredths dollars) per cord. The GRANTEE shall provide the GRANTOR with the names, contact information, and harvest records of its contractors and an accounting of the amount of timber and forest products transported across the Temporary Easement on a quarterly basis.


10. PROPERTY RESTORATION. Upon termination of this Temporary Easement, GRANTEE shall, at GRANTEE'S sole expense: (1), restore the Property to a condition consistent with the condition prior to GRANTEE'S use of the Property and satisfactory to GRANTOR, including, but not limited to, putting the road to bed by means of placing root wads, stumps, cull logs and other debris onto the road prism, removing fills and culverts and

preparing the site to naturally regenerate, and (2) block further access across the Property using stumps, tank traps, gates, or other blockages acceptable to the GRANTOR.

11. INDEMNIFICATION. GRANTEE shall perform all of its obligations and carry on all of its operations and activities entirely at its own risk and responsibility. GRANTEE shall indemnify, defend and hold harmless the GRANTOR, its Board of Directors, officers, agents and employees from and against any and all loss, expense, damage, claim, demand, judgment, fee, charge, lien, liability, action, cause of action or proceedings of any kind whatsoever (whether arising on account of damage to or loss of property, or personal injury, emotional distress or death) arising directly or indirectly in connection with the performance, activities or operations of GRANTEE, its agents, operators, buyers, representatives, contractors, employees or invitees hereunder, whether the same arises before or after completion of GRANTEE'S operations or expiration or earlier termination of this Temporary Easement, except for injury resulting from the GRANTOR'S gross negligence or intentional injury. This indemnification shall survive termination of the Temporary Easement.

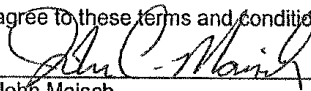
ACKNOWLEDGEMENT:

In witnesseth whereof, Robert L. Brean, President of the GRANTOR, Tanacross, Inc., has set his hand and seal on the day and year first written above.



Robert L. Brean, President *by Bruce Moore*
Tanacross, Inc. *att'y in fact*

On behalf of the GRANTEE, Tok Forestry, I agree to these terms and conditions:

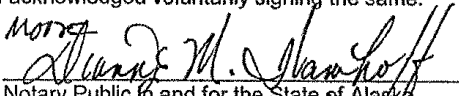


John Maisch
Director
Alaska Division of Forestry

STATE OF ALASKA)
) ss.
THIRD JUDICIAL DISTRICT)

This is to certify that on this 29th day of December, 2014, before me personally appeared Robert L. Brean, President of Tanacross, Inc., who executed the foregoing road use agreement and acknowledged voluntarily signing the same.

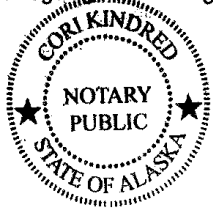


Bruce A. Moore


Notary Public in and for the State of Alaska
My commission expires: 9/1/2015

STATE OF ALASKA)
) ss.
FOURTH JUDICIAL DISTRICT)

This is to certify that on this 16th day of January, 2015, before me personally appeared John Maisch, Director of the Alaska Division of Forestry, who executed the foregoing road use agreement and acknowledged voluntarily signing the same.



Cori Kindred
Notary Public in and for the State of Alaska
My commission expires: w/office

Fairbanks District Recorder:

After recording, please return to
Tok Forestry
P.O. Box 10
Tok, AK 99780

Tanacross, Incorporated
P.O. Box 76029
Tanacross, AK 99776
907-883-4130
fax: 907-883-4129

January 27, 2013

Patty Burns, Natural Resource Specialist
Alaska Division of Mining, Land, and Water
3700 Airport Way
Fairbanks, AK 99709-4699

**Re: ILMA Public Notice
ADL No. 419864**

Dear Ms. Burns:

Thank you for the opportunity to review the proposed Interagency Land Management Agreement with the Alaska Department of Transportation and Public Facilities for a material site located within Copper River Meridian, Township 19 North, Range 9 East, Sections 25 and 26. Thank you also for briefly extending the deadline for comments to accommodate my availability.

Tanacross, Inc. has three areas of concern about the proposed ILMA:

1) Future Use

This location was shown as Borrow Site 62-2-176-2 by the Alaska Pipeline Project in its Resource Report filings with the Federal Energy Commission. Your letter states that, after issuance of the ILMA, the site will be exclusive to DOT for its use. Will the ILMA restrict use of the materials to State transportation projects? Will DOT be authorized to enter into contracts with third parties, such as the Alaska Pipeline Project, for material from the ILMA?

2) Cultural Importance

The original name of Yerrick Creek is Daach'indee Ndiig, which means "Escape Creek" or "Where we came down creek" (Craig Mishler, Tanacross Place Names, unpublished manuscript, 1989). The area was, and is, important to the Village of Tanacross not only as hunting grounds, but also as the location of a long historical narrative. Please advise DOT of the probability that important cultural resources may be present in the area proposed for ILMA, and require that operators be instructed as to how to identify cultural resources and the proper steps should such resources be uncovered.

3) Access

We note that DNR identifies two sources of access to the proposed ILMA through land belonging to Tanacross, Inc.: One is the 17b easement EIN 23 for a proposed 100-foot-wide road reserved in the Interim Conveyance 1508 dated July 24, 1991. The other is a section line easement between Copper River Meridian, Township 19 North, Range 9 East, Sections 35 and 36. According to a Google satellite

Comments
ADL No. 419864
Page 2

map accessed on January 3, 2013, only the latter access has been constructed, but its present, usable status is uncertain.

Tanacross, Inc. does not agree that a section line easement exists in this location. First, for a section line easement to exist, the sections must be surveyed. We have not been able to find a survey of sections 35 and 36, but should we be misinformed, please provide a copy of the survey.

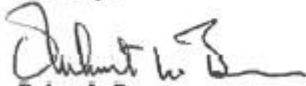
Second, the Village of Tanacross filed a protest of the State's selection of the land encompassing the proposed ILMA and access in 1961 and this protest was not closed until 1972, after passage of the Alaska Native Claims Settlement Act in 1971. Tanacross, Inc. selected Sections 35 and 36 on December 9, 1974. By 1982, BLM had amended the State's TA to segregate sections 35 and 36, among other sections, for Tanacross, Inc. Access within the purported section line easement was constructed sometime after 1978, the date of an aerial photograph in Tanacross Inc.'s possession, and probably after 1984, the date DNK issued the contract for material sale ADL #410305. Please consult your records and those of DOT to provide the date of construction and abandonment for this access.

Finally, public easements on ANCSA land are governed by 43 CFR §2650.4-7. It appears that the State has already selected and reserved a different easement under §2650.4-7(a)(6) for the material site as EIN 23. This easement is identified in writing in Interim Conveyance No. 1508 (F-14943-B) as required by §2650.4-7(a)(2). Thus, EIN 23 appears to be the access recognized by ANCSA. On the other hand, it does not readily appear from Interim Conveyance No. 1508 that the "existing section line easement" identified on your Yerrick Creek map was preserved in that conveyance.

Tanacross has no objection to the State of Alaska accessing the material site via either EIN 23 or the existing access road, but not both. If there are convincing reasons for utilizing the so-called "existing section line easement," we propose that Tanacross, Inc. and the State of Alaska jointly petition BLM to recognize the existing access as fulfilling the intent of EIN 23 and moving the location of EIN to the existing access location.

Please call me at 330-8115 should you like to discuss this matter further.

Sincerely,



Robert L. Brean
President

Cc: Lenore Heppler

Appendix A - Northern Region Forest Road Standards (Tanana Valley State Forest Management Plan)

Design Considerations					
	Level of Use	Curve Radius	Grade	Drivable Surface	Turnouts
Primary all-season road ⁽¹⁾	Moderate to Heavy; Long Term; Year-round	300' normal design 100' minimum ⁽²⁾ Curve widening on minimum radius curves	8% Normal 10% Maximum	16'-20' Width and Rock Surfacing may be Required.	Not Required if Driving Surface \geq 18'. Otherwise 1000' feet Max. interval. Intervisible. 25' ingress, 25' egress, 50' Full. 12' Width
Secondary all-season road	Light to Moderate; Long Term; Year-round	100' normal design 60' minimum ⁽²⁾	15% Max. Favorable 10% Max. Adverse	12'-16' Width.	Same as Above
Spur Road	Light; Short Term	Same as Secondary All-Season Road	20% Maximum	10'-16' Width.	Not Required
Primary Winter Road	Moderate to Heavy; Long Term	Same as Primary All-Season Road	Same as Primary All-Season Road	16' to 20' Width	Same as Primary All-Season Road
Secondary Winter Road	Light to Moderate; Medium to Long Term	Same as Secondary All-Season Road	Same as Secondary All-Season Road	Same as Secondary All-Season Road	Same as Primary All-Season Road
Note (1) - Higher construction standards may be needed for site specific projects and conditions.					
Note (2)- To be applied only under topographically limiting conditions.					

Appendix A - Northern Region Forest Road Standards (Tanana Valley State Forest Management Plan)

Construction Considerations					
	Cut and Fill	Clearing³	Grubbing	Debris Disposal	Permafrost
Primary all-season road⁽¹⁾	Fill slope 1.5 : 1 Max. Cut slope 1:1 Max. excepting Loess soils where vertical cuts are acceptable See also 11 AAC 95.290c.	5' beyond cut and fills or min. 35' width. Merch. Timber cut and decked ahead of Construction.	Removal of Stumps, roots, and organics from road bed to outside of ditches unless tops of stumps under 2' of fill	If ≥ 2' beyond ditches, windrow or place in pushouts. If ≤ 2' bury under min. 1' of fill.	Avoid exposing thaw unstable permafrost through routing or using raised fill construction. If exposed, min. sedimentation w/ effective erosion controls. See 11 AAC 95.290c.
Secondary all-season road	Same as above	5' beyond cut and fills or min. 30' width. Merch. Timber cut and decked ahead of Construction.	Same as above	Same as above	Same as above
Spur Road	Avoid where reasonable and prudent	Min. 12' width. Merch. Timber cut and decked ahead of Construction.	Under Drivable Surface	Use Windrowing or Push-out techniques as appropriate	Avoid exposing thaw unstable permafrost. If exposed, stabilize by treating w/ effective and appropriate measures, sp. Recovering, seeding, drainage struct. And settling basins. See 11 AAC 95.290c., g.; 295 g.
Primary Winter Road	Minimize cuts and fills in thaw-unstable permafrost. Avoid where feasible and prudent, cuts in thaw unstable permafrost; exceptions will be identified in FLUP.	Minimum 16'	Partial removal of surface organics only as needed to provide a level running surface.	Same as Spur Road	Same as Spur Road
Secondary Winter Road	Avoid where feasible and prudent, cuts in thaw unstable permafrost; exceptions will be identified in FLUP.	Minimum 12'	Same as Primary Winter road Road	Same as Spur Road	Same as Spur Road
Note (1) - Higher construction standards may be needed for site specific projects and conditions.					
Note (3)- Minimum is used for safety and snow storage reasons					

Appendix A- Northern Region Forest Road Standards (Tanana Valley State Forest Management Plan)

Maintenance Considerations			
	Ditches	Culverts	Maintenance
Primary all-season road⁽¹⁾	1.0' Min. Depth; 2.0 Min width. Block Ditch on Down hill Side of culvert inlet where needed.	Min.Dia 12" except as stated in 11 AAC 95.295. Installed at or below natural ground line and natural stream gradient.	Grading and Ditching as Necessary
Secondary all-season road	Block Ditch on Down hill Side of culvert inlet where needed.	Same as Above	Grading and Ditching as Necessary. Maintained or Closed after logging use.
Spur Road	As Needed	Same as Above	Closed or treated as per 11 AAC 95.315(c) after logging use
Primary Winter Road	None	Same as Above	Open drainages before breakup.
Secondary Winter Road	None	Same as Above	Closed or treated as per 11 AAC 95.315(c) after logging use. Open Drainages before breakup.
Note (1) - Higher construction standards may be needed for site specific projects and conditions.			

References

Haggstrom, D.A., and D.G. Kelleyhouse. 1996. Silviculture and wildlife relationships in the boreal forest of Interior Alaska. *Forestry Chronicle* 72:59–62.

Hamins, et al. 2012. *Reducing the Risk of Fire in Buildings and Communities: A Strategic Roadmap to Guide and Prioritize Research*. NIST Special Publication 1130, National Institute of Standards and Technology, U.S. Department of Commerce, Gaithersburg, MD. 171 pages