



U.S. Department of the Interior Bureau of Land Management

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Environmental Assessment
Glenn Highway / Eagle Glenn Subdivision Area Drainage Project, PM&E No. 07-46
Municipality of Anchorage
(Case Files AA-092682, AA-092783, & AA-092682A)
DOI-BLM-AK-A010-2011-0001-EA



Location:

Seward Meridian, Township 14 North, Range 2 West, Section 2,
S $\frac{1}{2}$ S $\frac{1}{2}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ N $\frac{1}{2}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$, W $\frac{1}{2}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ (within)

Prepared By:

Kinney Engineering, LLC and ARCADIS U.S., Inc. on behalf of
Bureau of Land Management, Anchorage Field Office
February 7, 2011

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I. INTRODUCTION

The Municipality of Anchorage (MOA), Planning Management & Engineering (PM&E) department is proposing improvements to reduce the frequency and impact of flooding within the Eagle Glenn East Subdivision (Subdivision) and Glenn Highway right-of-way (ROW) in Eagle River, Alaska.

The public lands affected by this proposal are withdrawn by the military and managed by the Bureau of Land Management (BLM) for rights-of-way not related to military activity. Military activities on the Military Reservation were formerly managed by the United States Army Garrison, Fort Richardson (USAG FRA). A 2005 decision under the Base Realignment and Closure (BRAC) initiative created a new managing entity called Joint Base Elmendorf-Richardson (JBER), which combined management functions of the former Elmendorf Air Force Base (EAFB) and the USAG FRA. JBER includes all real property formerly controlled by both EAFB and USAG FRA. JBER reached Full Operational Capability on October 1, 2010.

In 2007, the MOA started PM&E Project Number 07-46 to identify drainage issues and identify potential solutions in the area of the highway and Subdivision. There are three components of the project area and existing drainage conditions, which include, a) public lands, b) Eagle River Loop Creek, and c) the Subdivision. These areas are described below and are shown in Figure 1.

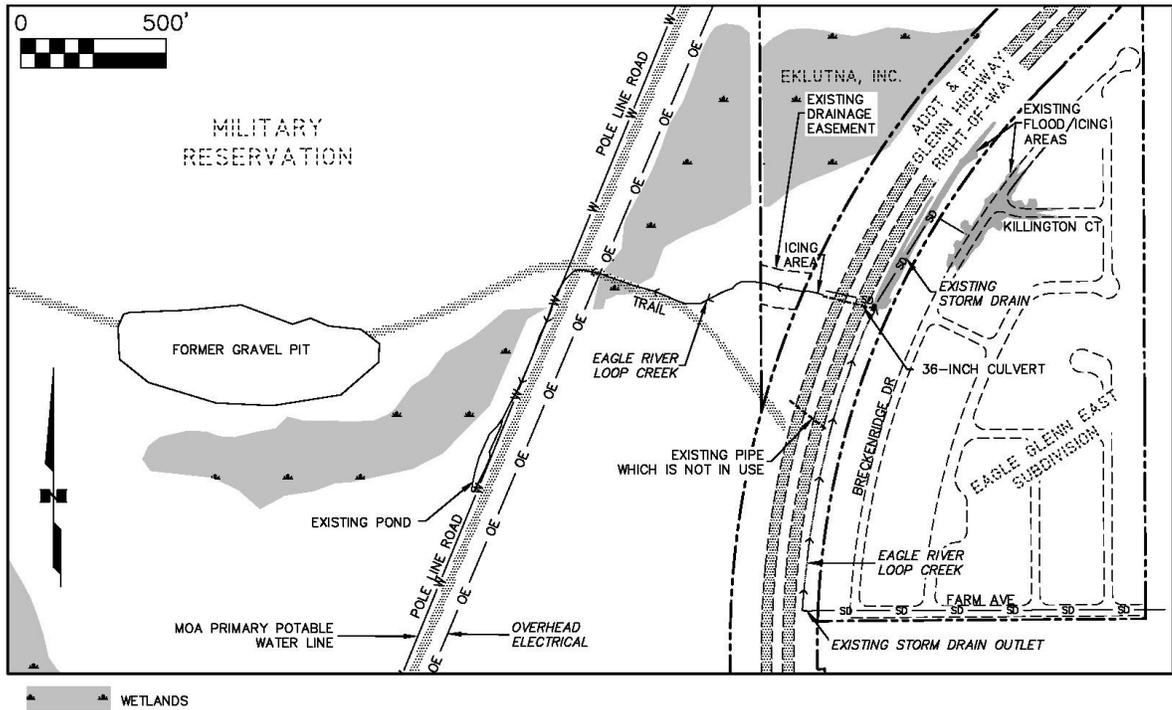


Figure 1 – Vicinity Map and Existing Conditions

On the Military Reservation, the BLM permitted the Alaska Department of Transportation and Public Facilities (ADOT/PF) to construct and operate a gravel pit in May and June of 1966. Drainage on the Military Reservation has been modified by this development of this gravel pit and construction of water and electrical utilities. The existing Eagle River Loop Creek drainage on the Military Reservation flows over old roads and access trails and pools in an area that is adjacent to the MOA’s primary potable water line. During high flow events, storm water reaches area wetlands.

Upstream of the Military Reservation, Eagle River Loop Creek discharges water from an upland watershed area of approximately 686 acres via the Farm Avenue storm drain to the east side of the Glenn Highway. From this point, the water flows north for 1,075 feet in a ditch parallel to the Glenn Highway and then crosses (west) under the highway in a 36-inch drainage culvert. Flow continues west, through an existing drainage easement on Eklutna, Inc., (an Alaska Native Claims Settlement Act Corporation) property before reaching the Military Reservation. The 36-inch drainage culvert is too small to accommodate peak flows in the summer. In the winter, ice damming of the drainage culvert will make the drainage slow or even stop. Ice accumulation has been thick enough in the highway ditch to reach the highway pavement and cause dangerous conditions for highway travel.



Figure 2 – Existing Winter Conditions, Glenn Highway ROW, East Side Ditch, Looking North, February 2009

The Subdivision upgradient of public lands, has a low point with a similar elevation as the highway’s low point. Therefore, if the water pools to a sufficient depth in the highway ROW water will flow into the Subdivision. The pooled water in the subdivision has the potential to collect household contaminants, overtop electrical utility pedestals, and the water depth itself is a risk to public safety. The Subdivision’s storm drain is too small to accommodate peak water flows, especially when water from Eagle River Loop Creek flows into the Subdivision.



Figure 3 – Subdivision Flooding, Breckenridge Dr. Low Point (Flood Crested at 2.5' Depth)

A number of project alternatives were considered that did not affect public lands prior to January 2009. These alternatives were not analyzed in detail due to technical feasibility issues. After record winter flooding and icing in January of 2009, the MOA held a public meeting and after hearing the public's concerns decided to expand the project area under evaluation to include the Military Reservation. The MOA first approached the Military Reservation at the end of January 2009 with the proposed action. On July 9, 2010, the MOA approached the BLM, Anchorage Field Office with the Proposed Action and Plan of Development (Appendix A).

A. Purpose and Need

The purpose of the action is to address public safety issues over water drainage and icing conditions within the Subdivision and Glenn Highway ROW. The Bureau of Land Management (BLM) has an obligation under Title V of the Federal Land Policy and Management Act (FLPMA) of October 21, 1976 (90 Stat. 2776; 43 U.S.C. 1761), as amended, in accordance with regulations found at 43 CFR §2800 to address applications for rights-of-ways on public lands. The MOA filed an application with the BLM Anchorage Field Office (AFO) to obtain authorization to construct and maintain a drainage system on public lands to address the public safety issues. The MOA's proposal (Proposed Action) is to install culverts to channel water, improve an existing access road into an authorized gravel pit, and improve the gravel pit to drain water from the Subdivision and the Glenn Highway ROW. The decision to be made by BLM is whether to authorize the Proposed Action with stipulations to protect public lands, modify the Proposed Action, or deny the Proposed Action.

B. Land Status

The Proposed Action is located on public lands in the Municipality of Anchorage, Alaska described as Seward Meridian, Township 14 North, Range 2 West, Section 2, S $\frac{1}{2}$ S $\frac{1}{2}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ N $\frac{1}{2}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$, W $\frac{1}{2}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ (within). The lands are within the Joint Base Elmendorf – Richardson (JBER). The lands were withdrawn for military purposes by Public Land Order 95 on March 12, 1943. BLM retained authority to issue non-military authorizations over the lands with concurrence of the military.

Other authorizations granted by BLM on the affected lands are listed below:

- Case File AA-51163 granted to the Municipality of Anchorage for a water transmission line
- Case File AA-7013 granted to the Municipality of Anchorage for a power line (as purchaser of Eklutna power)

- Case File AA-80567 granted to GCI for a telephone line
- Case File AA-8455 granted to the Alaska Department of Transportation and Public Facilities (ADOT/PF) for a material source pit

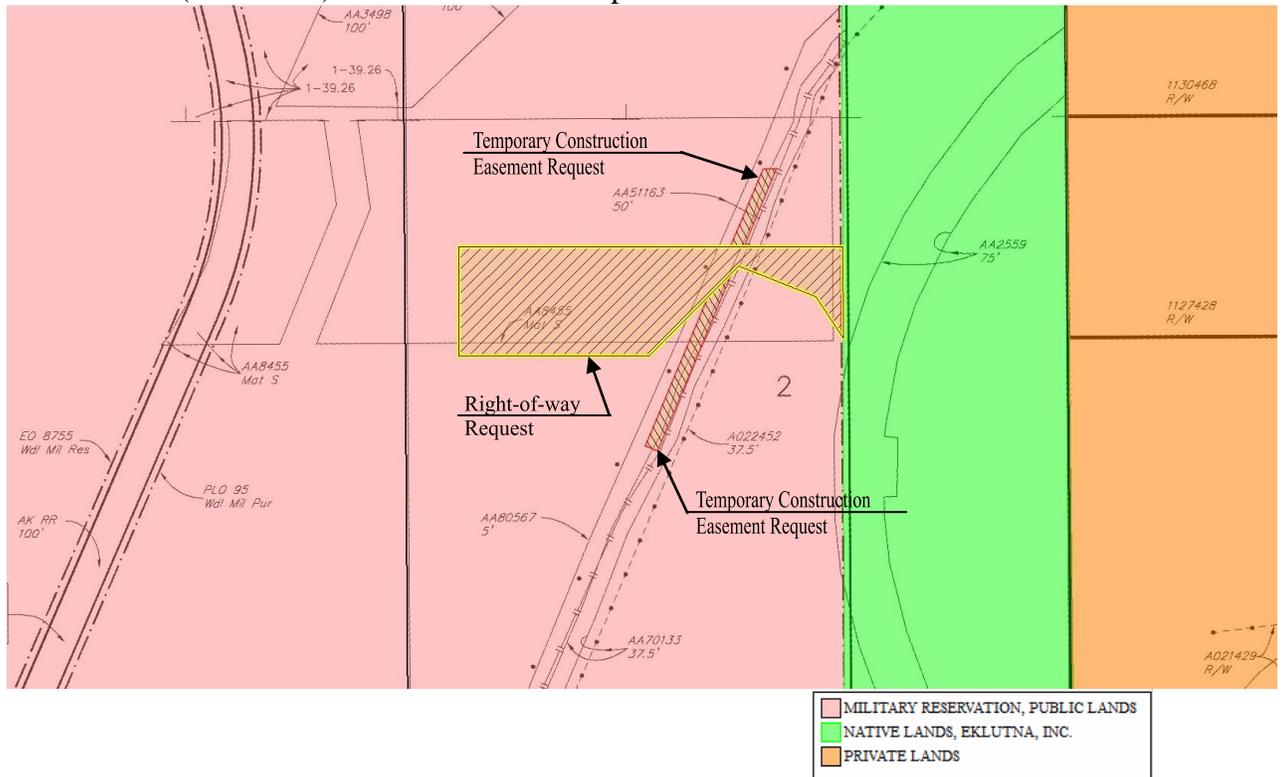


Figure 4 – BLM Master Status Plat & Location of Requested Right-of-way

On July 29, 2010, the Department of the Army granted the United States Army Garrison, Fort Richardson (USAG FRA) the authority to concur to the Bureau of Land Management (BLM) issuing an Easement of Fort Richardson to MOA for a 25-year easement to construct and maintain a drainage improvement. The decision is based on the U.S. Army Garrison’s National Environmental Policy Act (NEPA) Review Form, dated May 25, 2010; Record of Environmental Consideration, dated May 25, 2010; and the Report of Availability, dated June 3, 2010 (Appendix B).

C. Scoping and Public Involvement

The BLM became involved in the project in August of 2010 when the MOA officially filed an application with the BLM Anchorage Field Office (AFO) to obtain authorization to construct and maintain a drainage system on public lands.

Prior to understanding the need for improvements on Public Lands the MOA established

a public involvement plan, dated April 2008 (Appendix C). The BLM was not part of these initial meetings because the MOA project scope did not include work on public lands. In accordance with the 2008 plan, the MOA conducted two public meetings and notified all landowners in and adjacent to the project area. The project is located within the Eagle River Community Council area, and therefore the MOA presented the proposal to the Council and to the Chugiak, Birchwood, Eagle River Rural Road Service Area Board (CBERRRSA). Communication methods included: Public Meetings; Door to Door Interviews; Mailings; Personal Contact with the Community Council; the Road Board; and local Assembly members.

An extensive question, answer, and comment session followed each presentation. Many of the discussion items pertained to the topic of responsibility for prior flooding, project funding, and how the preferred alternative would be selected. The majority of the public comments focused on frustration that nothing had been done about the floods occurring in the Subdivision and the costs associated with the damage to personal property.

The MOA identified the need for external scoping beyond the original project limits due to numerous complaints from landowners within the Subdivision, the complexity of public safety issues, water quality and the mixed land ownership. After the MOA applied for an authorization to construct improvements on Public Lands an additional scoping meeting was held on October 19, 2010 to solicit input on the proposed action.

Specific comments received included those from Glen Pomeroy, a resident whom wrote; “The proposed alternative appears to re-establish the natural drainage of the area that was disrupted by the construction of the Glenn Highway. Directing the outflow to the infiltration basin appears to provide sufficient retention to handle periodic high flow events. I support this alternative.”.

Linda Kovac, Chair of the Chugiak-Birchwood-Eagle River Rural Road Service Area Board of Supervisors, also wrote to provide a written letter documenting the board’s unanimous support of the proposed action.

Appendix C contains the letter, comment forms, and information regarding the meeting outcomes and issues identified.

D. Conformance with and Relationship to Statutes, Regulations, Policies, Plans or Other Environmental Analyses

The Proposed Action may be authorized by the BLM under the authority of Title V, of the Federal Land Policy and Management Act (FLPMA) of October 21, 1976 (90 Stat. 2776; 43 U.S.C. 1761), as amended in accordance with regulations found at 43 CFR §2800. Under 43 CFR §2805.12 an applicant must, to the extent practicable,

comply with all existing and subsequently enacted, issued, or amended Federal laws and regulations and state laws and regulations applicable to the authorized use.

The Ring of Fire Resource Management Plan (RMP), 2008, is the base BLM land use plan for the project area. The Proposed Action, granting a right-of-way to the MOA, meets the activity objective I-2n which states that the BLM may issue rights-of-way for a variety of uses under the authority of Title V of (FLPMA). The Proposed Action also meets the plan's stated goal of providing a balance between land use and resource protection which best serves the public at large (Ring of Fire RMP, Section I-1, Right-of-Way, permits, leases and sales).

The United States Army Garrison, Fort Richardson (USAG FRA) completed a NEPA review on May 25, 2010 (Appendix B) and determined that the Proposed Action would not alter the land use of the area. Currently the project area is used by the military as part of their training range, and the area is restricted to the public. The military determined in the Report of Availability, dated June 3, 2010, that the Proposed Action complies with the installation's master plan and construction directive.

The MOA has identified federal, state, and local laws applicable to the Proposed Action and is in the process of or has secured necessary permits. Table 1 summarizes the MOA's efforts.

Table 1: Environmental Laws and Permits Applicable to the Proposed Action

Regulation/Statute	Permit or Action Required	Status
Clean Water Act, Section 404	Nationwide Permit 14	Application Submitted
Clean Water Act, Section 402	NPDES Permit (Appendix G) MOA Plan review	Completed initial review, final review of plans in March 2011
Alaska Coastal Zone Management & Federal Coastal Zone Management Program	Determine if Project Site Located in Coastal Zone	Project Site Not Located in Coastal Zone
Migratory Bird Treaty Act	Restrict Tree and Vegetation Clearing	Project Mitigation Plan
Bald and Golden Eagle Protection Act	Eagle Survey Conducted	No eagle nests in project area
National Historic Preservation Act	Cultural Resources Survey	No cultural resource sites located in project area
Executive Order 13112, Noxious Weeds	Invasive Plant Species Survey Conducted	Project Mitigation Plan / Best Management Practices (BMPs)
Stormwater Pollution Prevention Plan (SWPPP)	Construction SWPPP	The construction contractor will be required to develop and maintain an approved SWPPP with ADEC. The SWPPP will need to be in compliance with the military's SWPPP.
Drainage Easement	Application Submitted to Eklutna, Inc.	Anticipate in 2011
Work within State Right-of-way	Review of Plans by the Alaska Department of Transportation & Public Facilities	Review Performed in December 2010
Minerals Act of 1947, as amended (U.S. Code 601 et seq.)	Free Use Permit	Anticipate in 2011

II. PROPOSED ACTION AND ALTERNATIVES

A. Description of Proposed Action

The Proposed Action is to construct and maintain a drainage control system on public lands consisting of drainage conveyance channels, a culvert under Pole Line Road, and a detention/retention basin. This Proposed Action would resolve flooding and icing issues on the highway and in the Subdivision which causes a hazard to the public.

The total area of the right-of-way requested for the Proposed Action is 25 acres. In addition, Temporary Construction Easement (TCE) work areas are requested for the construction. There are two segments of the Pole Line Road where TCEs are requested with dimensions of 75 feet wide by 500 feet long, north of the proposed right-of-way and 80 feet wide by 1,065 feet long, south of the proposed right-of-way. These TCE's would be used for staging of materials and equipment.

The drainage conveyance on BLM land is proposed to be approximately 2,000 feet long, four feet deep, and 15 feet wide and would drain into the former gravel pit area. The former gravel pit has existing contours that will serve as a water detention / retention area that would encompass approximately three acres (approximately 800 feet long, 300 feet wide). Excess gravel material from the pit (2,300 cubic yards) would be placed along the perimeter of the drainage conveyances to a depth of approximately four feet high to contain high flows and provide a trail for maintenance vehicles on one side (approximately 4 feet deep, 3000 feet long, and 15 feet wide over 1 acre).

The old access road for the gravel pit will be used to transport material during the construction phase of the project. The existing Pole Line Road will also be used to transport construction equipment to and from the proposed construction area.

Approximately four acres of existing vegetation would be removed from the alignment of the drainage conveyances and gravel pit area to allow for the construction of the drainage improvements. An additional 0.08 acres of vegetation would be removed within the proposed Eklutna, Inc., easement and 0.2 acres within the ADOT/PF ROW. Tree trunks and limbs with a diameter of six inches or greater would be transported, via trucks, to the JBER Department of Public Works firewood site for free public use. There are approximately 300 trees that would be removed and disposed of in this manner (Appendix K).

In disturbed wetland areas, four inches of topsoil and seed would be applied to all disturbed areas. A bonded fiber matrix or jute mesh would be applied over the topsoil

and seed to prevent erosion of the drainage conveyance. Seed mixes would meet Municipality of Anchorage Standard Specifications (M.A.S.S.) Schedule C: Wetland Seed Mix or Schedule D: Unmowable Seed Mix outside of wetlands areas. Topsoil, seed, and/or compost materials would all be certified, weed-free products and therefore would not contribute to the spread of non-native invasive species.

The Proposed Action would move Eagle River Loop Creek away from the Pole Line Road and the trails that the drainage currently flows over and on. Moving Eagle River Loop Creek into the proposed drainage conveyance channels will also provide additional separation between the creek and the MOA potable water line.

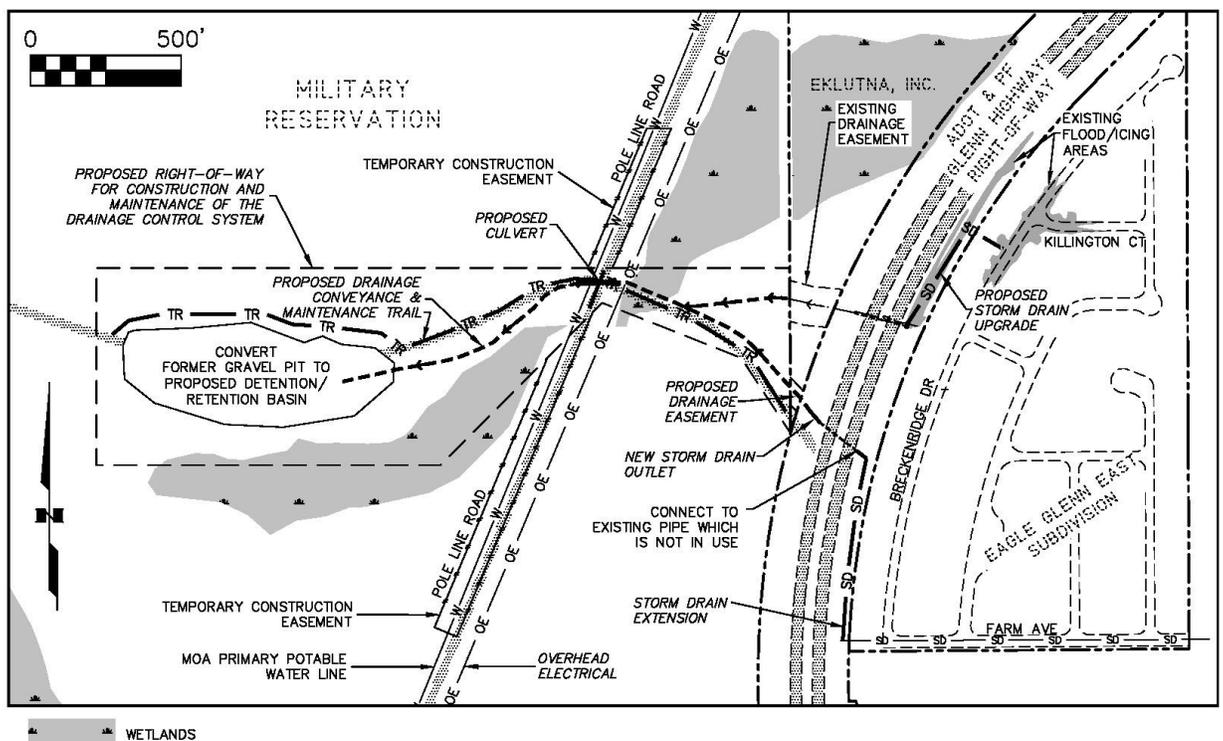


Figure 5 – Proposed Action

To maintain the detention/retention area's ability to infiltrate water, it is proposed that the former gravel pit will be maintained by removing sediment buildup. Sediment material would be removed by bulldozer and loader equipment after the sediment is tested for contaminants. If contaminants are found the material, the material will be trucked to the Hazardous Waste Collection Center (HWCC) located at the Anchorage Regional Landfill (ARL), at the intersection of the Glenn Highway and Hiland road, near the community of Eagle River, Alaska. If there are no contaminants found in the material, the material will then be trucked to the Birchwood Monofill at 20269 Birchwood Spur Road in Chugiak, Alaska.

B. No Action Alternative

Under the no action alternative, the MOA would not construct a drainage conveyance and maintenance access on public lands. Under this alternative, the MOA would not address public safety concerns within the Subdivision and Glenn Highway ROW.

C. Alternatives Considered but not Analyzed in Detail

The following alternatives in Table 2 were considered but not analyzed in detail as due to technical feasibility issues.

Table 2: Alternatives Considered but not Analyzed in Detail

Alternative	Description	Technical Feasibility Issues
A	New Subdivision Storm Drain, Use existing pipes under highway for Eagle River Loop Creek	Does not meet MOA 100-year or ADOT/PF 50-year design flood frequency requirements, and does not remedy winter flood potential.
B	New Subdivision Storm Drain with a Box Culvert, Use existing pipes under highway for Eagle River Loop Creek	Does not meet ADOT/PF 50-year design flood frequency requirements, and does not remedy winter flood potential.
B Modified	New Subdivision Storm Drain with a Box Culvert, Extend Farm Avenue storm drain to existing 36-inch culvert under highway.	Does not fully remedy winter flood potential.
C	New Subdivision Storm Drain with Pump Assist, Use existing pipes under highway for Eagle River Loop Creek	Subject to Mechanical Failure, high maintenance, does not meet ADOT/PF 50-year design flood frequency requirements.
D	Install a full Pump Station for Subdivision, Flow to a Restored Double Pipe Crossing, Use existing pipes under highway plus Install New Culvert Crossing for Eagle River Loop Creek	Subject to Mechanical Failure, high maintenance, does not remedy winter flood potential.
E	Pump Subdivision Flow to Existing Subd. Stormdrain, Install New Culvert Crossing for Highway Flow	Subject to Mechanical Failure, high maintenance, does not remedy winter flood potential.
F	New Box Culvert & Storm Drain to Existing Crossing for Subdivision, Extend Farm Avenue Storm Drain Across Highway in Enclosed Pipe	Meets flood frequency requirements, but does not properly address flow conditions that would be created on Federal Lands.
Additive Alternate G	Purchase Homes subject to flooding	Does not address flooding problem in Glenn Hwy ROW and Subdivision streets, and does not bring any part of storm drain system into compliance with current drainage standards/requirements.

III. AFFECTED ENVIRONMENT

A. Air Quality and Climate Change

The U.S. Environmental Protection Agency (EPA) Office of Air Quality Planning and Standards has set National Ambient Air Quality Standards (NAAQS) for six principal pollutants, called "criteria" pollutants (40 CFR Part 50).

EPA classifies air quality control regions as in attainment of the NAAQS, non-attainment or unclassified. Attainment of the NAAQS is determined by collection of air quality data at monitoring stations in the state. Attainment means a NAAQS is being met. Non-attainment means a NAAQS is not being met. Unclassified indicates that the region cannot be classified and is considered in attainment.

The MOA currently meets standards for all six of NAAQS pollutants. However, levels of PM-10, or coarse particulate, sometimes approach federal standards, especially during spring break-up period and again in the late fall. Most PM-10 in the MOA is from road dust, unvegetated lots as well as natural sources including sources such as volcanoes, glacial silt and forest fires (MOA 2010).

Climate warming in Alaska may be linked to changes occurring in the structure and function of terrestrial ecosystems throughout the State (BLM 2006). Since the 1950s, Alaska has warmed by an average of 4 degrees Fahrenheit (USEPA 2005 as cited BLM 2006). Changes include warming of permafrost throughout Alaska, decrease in area of closed basin lakes in southcentral Alaska, and the altering of the ranges of some bird species (BLM 2006). Additionally, climate change has been linked to changes in disturbance regimes such as fire and insect outbreaks in southcentral Alaska (McGuire 2003 as cited in BLM 2006).

BLM land use management within the Ring of Fire planning area uses management practices that are based on goals and objectives that are established for this area. These established land uses are based on numerous criteria, including land cover and historical land uses. If climate change continues to affect BLM-managed resources and programs, or use changes in the planning area, BLM will re-evaluate the land management status for the given area and adjust management accordingly (BLM 2006).

B. Cultural Resources

Generally speaking, the Military Reservation falls within the traditional lands of the Dena'ina Athabaskan tribes of Upper Cook Inlet. The Dena'ina traditionally pursued a

semi-permanent lifeway establishing permanent settlements in the winter and moving to fishery camps in the summer months (CMMEL 2010).

Several locations on JBER have been identified as areas of traditional use by Dena'ina Athabaskans. Identified cultural resource locations include Clunie Creek, coastal bluff locations north of Eagle River, and the Training Area 1C which is located on the Knik Arm shoreline. The Native Village of Eklutna is conducting a Traditional Cultural Properties study of the JBER area to help identify spiritual and cultural sites of significance (U.S. Army Garrison 2010).

Additional cultural sites have been identified within the JBER Military Reservation associated with what is known as the American Era which lasted from 1867 to 1938. During this time a territorial governmental was established in Alaska. Anchorage was established as the construction camp and headquarters of the Alaska Railroad. The Alaska Railroad, linking Seward, Anchorage, and Fairbanks, was completed in 1923 and a portion of the railroad was located on land which became part of the Military Reservation. A remnant of the Old Richardson Highway is known to be located on the Military Reservation. The highway was constructed in 1935 to access the agricultural colony in the Matanuska Valley from Anchorage (U.S. Army Garrison 2010).

On May 19-20, 2010, a team of two Colorado State University, CEMML, archaeologists surveyed the proposed project APE. Visual survey coverage, consisting of parallel pedestrian transects spaced at 10-20 meters, covered 100% of the APE. Subsurface testing consisted of three 50cm x 50cm test pits excavated atop a ridge in areas of higher probability for containing cultural resources. No cultural resources were identified within the proposed project area APE.

C. Hazardous or Solid Wastes

There are no known hazardous or solid wastes within the proposed project area. According to the USAG FRA Report of Availability, dated June 3, 2010, and based on a review of existing records and available information, the proposed project and the surrounding area is not known or suspected to contain Munitions and Explosives of Concern. As well, there are no known waste treatment facilities, landfills, or other waste disposal sites in the project area (Appendix B).

The ADOT/PF Central Region Materials Engineer was contacted regarding the history of use at the project site. ADOT/PF provided historical documentation regarding the material site and stated that there were no records to indicate that an asphalt plant had operated at the site (Appendix D).

The Alaska Department of Environmental Conservation (ADEC), Project Manager for

JBER contaminated sites, was contacted. The ADEC Project Manager stated that there are no known identified sites in the area, and that he does not know of any sites located adjacent to or near the site that may have the potential to affect the site (Appendix E).

There are known contaminated sites one mile upgradient from the project area within 200 feet of Eagle River Loop Creek where the creek parallels Spring Brook Drive. According to the ADEC Contaminated Sites Database, the open sites include Laidlaw Bus Barn (ADEC File No. 2107.26.008) and Spring Brook Vacant Property (ADEC File No. 2107.26.009). There are four additional contaminated sites adjacent to Spring Brook Drive that were cleaned to ADEC's satisfaction.

D. Invasive Species

An invasive plant survey was conducted within the project area on September 16, 2010 (Appendix F). Four invasive plant species were found in the previously disturbed areas of the Proposed Action location as shown in Figure 1 of Appendix F.

The four invasive plant species encountered during the survey are as follows:

- Common yarrow (*Achillea millefolium* var. *Millefolium*)
Non-native species in Alaska¹
- Narrowleaf hawksbeard (*Crepis tectorum*)
Non-native species in Alaska¹
- Common dandelion (*Taraxacum officinale*)
Non-native species in Alaska¹
- Clover (*Trifolium* sp.).
Non-native species in Alaska¹

While none of these plants are on the Alaska prohibited noxious weeds list², the Bureau of Land Management is required³ to:

1. Protect and enhance the health of the public lands and environment through various means including the control of invasive species. Protect the health and safety of people involved with other aspects of implementing the invasive species management program on the ground;

¹ AKEPIC-Alaska Exotic Plant Information Clearinghouse. 2005. Invasive Plants of Alaska. Alaska Association of Conservation Districts Publication. Anchorage, Alaska.

² Alaska Administrative Code 11 AAC 34.020

³ BLM Alaska Invasive Species Management Policy, 2010, Appendix C – Annual Weed Prevention and Treatment Schedule – BMPs

2. Ensure that invasive species management activities are integrated into all BLM programs that may be affected by or cause the establishment or spread of undesirable species.

The BLM requires that BMPs be implemented to prevent non-Native invasive plant spread. It also requires that all vehicles, and equipment used in conjunction with the permit/lease must be thoroughly cleaned prior to moving equipment across or onto BLM Managed Lands. Additional information regarding the BMPs which will be implemented at the Proposed Project site can be found in Appendix L.

E. Water Quality (Surface and Ground)

Eagle River Loop Creek is located within the Proposed Action area. Eagle River Loop Creek has been modified over the years by human activities in the area, such as road, storm drain, and utility construction, and has become a constructed drainage. The Eagle River Loop Creek varies in width from two to ten feet on the Military Reservation.

According to the Alaska Department of Fish and Game Anadromous Stream Catalogue, and consultation with ADF&G, the Eagle River Loop Creek is not an anadromous stream (ADF&G 2008). The closest anadromous streams listed in the general area are Carol Creek (approximately one mile to the north of the Proposed Action), and Meadow Creek (approximately one mile to the south of the Proposed Action).

Vehicles that travel the trails and roads on the Military Reservation do so for the maintenance of utilities or military training. These vehicles must drive through Eagle River Loop Creek to perform their work, which does suspend sediment into Eagle River Loop Creek in the area of the Pole Line Road.

When Eagle River Loop Creek overflows into the Subdivision, there is the possibility that the household chemicals within flooded garages could contaminate the water.

ADEC's list of Section 303(d) impaired water bodies does not list any water bodies within or near the project area (ADEC 2010).

Currently Eagle River Loop Creek does not drain into the former gravel pit and the creek follows the existing topography which directs the flow down the Pole Line Road.

F. Wetlands/Riparian Zones

Section 404 of the Clean Water Act (CWA, 33 U.S.C §1344) prohibits discharges of dredge or fill material into waters of the United States, which includes navigable waters and their tributaries, interstate wetlands, wetlands which could affect interstate or foreign

commerce, and wetlands adjacent to other waters of the United States. Section 404 of the CWA is jointly administered by the U.S. Army Corps of Engineers (USACE) and the EPA. The USACE is responsible for administration and permit review, while the EPA provides oversight of the program.

A wetlands delineation was conducted in the project area in May 2010 (Appendix H). Wetlands were found in the southern portion of the project area, below the disturbed area, as well as in two polygons on each side of the stream near Pole Line Road. A jurisdictional determination and Nation Wide Permit to construct drainage improvements within the Type C wetlands adjacent to Pole Line Road were received from the USACE (Appendix I) in November 2010.

G. Migratory Birds

The military has identified approximately 40 species of passerines and neotropical migratory birds and six species of raptors on Military Reservation property.⁴

A bald eagle nest survey was conducted within the project area on September 4, 2009 (Appendix J). No nests or potential nesting trees were observed within or near the project area (MACTEC 2009).

⁴ (Gossweiler 1984; CH2M Hill 1994; Andres et al.2001; U.S. Army Alaska 2002b; Schempf 1995 as cited in U.S. Army Garrison Alaska 2007).

H. Sensitive Species

Table 2 lists species that are listed as BLM sensitive species for South-central Alaska. Only those species that have the potential to occur within the project area are listed.

Table 3: BLM Sensitive Species that May Occur within the Project Area

Common Name	Scientific Name	Preferred Habitat	Preferred Habitat Present in Project Area
Olive-sided flycatcher ¹	<i>Contopus cooperi</i>	Conifer forest, usually associated with openings, including muskegs, meadows, burns and logged areas; and water, including streams, beaver ponds, bogs and lakes	Yes
Gray-cheeked thrush	<i>Catharus minimus</i>	Coniferous forests (primarily spruce), tall shrubby areas in taiga, deciduous forests, and open woodlands	Yes
Townsend's warbler	<i>Dendroica townsendii</i>	Mature conifer forest and mixed conifer forest	Yes
Blackpoll warbler	<i>Dendroica striata</i>	Spruce-alder-willow thickets	Yes
Rusty Blackbird	<i>Euphagus carolinus</i>	Spruce-alder-willow thickets	Yes

¹Have been observed on USAG FRA property (US Army Garrison Alaska 2007).

I. Threatened and Endangered Species

The Endangered Species Act (ESA) of 1973 was enacted to protect endangered and threatened species and to provide a means to conserve their ecosystem. The ESA defines “endangered” as “... any species which is in danger of extinction throughout all or a significant portion of its range...” §3(6). “Threatened” is defined as “... any species which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range...” §3(19). The ESA is administered by the Interior

Department's U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) Fisheries Service (NOAA Fisheries, formerly the National Marine Fisheries Service [NMFS]). The USFWS has primary responsibility for terrestrial and freshwater species, while the responsibilities of NOAA Fisheries are mainly marine wildlife. Section 7 of the ESA requires federal agencies to use their legal authorities to promote the conservation purposes of the ESA and to consult with the USFWS and NOAA Fisheries, as appropriate, to ensure that effects of actions they authorize, fund, or carry out would not jeopardize the continued existence of listed species.

Wildlife habitat within the project area is located on USAG FRA. No federal threatened or endangered species have been found on USAG FRA (U.S. Army Alaska 2002a, b, c as cited in USAG Alaska 2007). Beluga whales (*Delphinapterus leucas*) are listed as endangered under the ESA and live in waters, the Knik Arm, adjacent to military lands and downstream of the Proposed Action.

J. Subsistence

Subsistence, as defined by ANILCA Section 803, is the customary and traditional uses by rural Alaska residents of wild renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of non-edible byproducts of fish and wildlife resources taken for personal or family consumption; for barter or sharing for personal or family consumption; and for customary trade.

Section 810 of ANILCA requires an evaluation of federal management actions on federal public lands for their effects on subsistence uses and needs. The Proposed Action occurs on Federal Public Lands as defined in ANILCA Sec 102(3) and fall under the regulatory authority of the Federal Subsistence Board. The Proposed Action occurs on Federal Public lands of the Military Reservation which is within the JBER Management Area. This area is closed to the subsistence taking of wildlife as per the current Subsistence Management Regulations for the Harvest of Wildlife on Federal Public Lands in Alaska. On general domain lands managed by the BLM, federal fisheries regulations apply only on non-navigable waters. This area is closed to the subsistence taking of fish as per the current Subsistence Management Regulations for the Harvest of Fish and Shellfish on Federal Public Lands and Waters in Alaska.

K. Vegetation

Vegetative communities within the project area consist of deciduous forest, coniferous forest, and disturbed areas. The deciduous forest in the project area is dominated by black cottonwood with some quaking aspen and paper birch. The understory of the deciduous forest is relatively sparse with dominant plants such as prickly rose, lady fern, and

horsetail. The coniferous forest is dominated by black spruce with ericaceous species dominating the understory. The disturbed areas are at various stages of succession and generally consist of grass species, alder shrubs, cottonwood saplings, and aspen saplings.

L. Wildlife

Large mammals on the Military Reservation include black bear, grizzly bear, moose, and Dall sheep. Small game and furbearers include coyote, lynx, red squirrel, snowshoe hare, hoary marmot, pine marten, beaver, river otter, wolverine, red fox, porcupine, mink, beaver, muskrat, and ermine or short-tailed weasel (USAG FRA, Alaska 2007).

Two wolf packs inhabit the east side of the Glenn Highway and another pack probably occupies the west side, near Eagle River Flats (Kellie Peirce, personal communication 2002 as cited in USAG FRA, Alaska 2007). The Ship Creek pack occupies the eastern portion of JBER, and the Eagle River Flats pack occupies the western portion (USAG FRA, Alaska 2007).

Multiple signs of wildlife were observed during biological surveys in the project area. Multiple observations of moose dropping were observed throughout the entire project area. One observation of bear scat was observed in the southeastern portion of the project area, on the edge of the black spruce forest. Possible wolf tracks were observed on the access road that bisects the project area.

M. Human Health and Safety

The Subdivision and the Glenn Highway ROW have two low points allowing water to pool and accumulate, causing dangerous conditions. During cold weather, thick ice buildup causes drainage to slow or even stop; and if the ice accumulation is thick enough the condition cause dangerous icing conditions on the Glenn Highway. This results in a serious safety issue for the public traveling on the Glenn Highway.

IV. ENVIRONMENTAL EFFECTS

1. Direct and Indirect Effects of the Proposed Action

A. Air Quality and Climate Change

The Proposed Action would remove approximately 4.3 acres of vegetation from the total area affected. This loss of vegetation would reduce the ability of the vegetation located in the area to produce oxygen and consume carbon dioxide. Green house gas emissions from burning diesel-fueled engines associated with construction equipment used for this project would take place over the 60-day construction phase of the proposed action.

The table below estimates the quantity of diesel fuel and pollutants that are anticipated to be generated by the proposed action.

Table 4: Estimated Fuel and Pollutant Emissions

Equipment Type	Total Hours	ROG	CO	No _x	So _x	PM	CO ₂	CO ₄
Diesel Bull Dozer	257 hr	20.27	130.16	115.45	0.32	5.84	29,302.29	1.83
Diesel Front End Loader	64 hr	3.57	27.59	18.14	0.08	0.77	6,951.12	0.32
Diesel Dump Truck	129 hr	14.63	78.71	94.05	0.22	4.28	19,528.91	1.32
Diesel Backhoe	129 hr	4.33	46.26	23.96	0.10	0.76	8,616.75	0.39
Diesel Compactor	64 hr	2.62	24.08	16.00	0.05	0.78	4,289.97	0.24
Timber Harvest Equipment	51 hr	2.85	25.94	11.57	0.07	0.44	6,098.54	0.26
Skid Steer/Bobcat	64 hr	1.19	13.47	8.66	0.02	0.12	1,937.54	0.11
Off-Road Trucks	193 hr	22.01	103.92	92.04	0.51	2.75	50,192.58	1.99
Diesel Excavator	257 hr	14.37	130.72	58.32	0.34	2.21	30,731.86	1.30
Gallons of fuel @ 4 gal/hr	4,832 gal	Total Pounds	Total Pounds	Total Pounds	Total Pounds	Total Pounds	Total Pounds	Total Pounds
		85.85	580.84	438.21	1.71	17.95	157,649.58	7.75

Source:

*<http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html>

B. Cultural Resources

A Cultural Resources survey was conducted and submitted to the State of Alaska State Historic Preservation Office (SHPO) office for concurrence. The survey found that there were no cultural resources within a quarter mile of the project area.

SHPO was consulted on April 15, 2009, and made a determination of the absence of historical sites within a half a mile radius of the project area, according to surveys documented on the maps in the AHRS office. The National Register Information Systems (NR) and the Determination of Eligibility (DOE) for Historic Sites were also checked for status of reported historic sites in the project area. No such sites were found within a half of a mile of the project area.

USAG FRA conducted an archaeological survey of the project on May 19 and 20, 2010. No cultural resources were identified within the proposed action's Area of Potential Effect (APE). Additionally, it was concluded that because of the limited viewshed and extensive disturbance from recent use of the area, the APE generally appears to have little probability of containing cultural resources. The USAG FRA determined that no historic properties would be affected by the proposed undertaking. In addition, no cultural resources were noted or discovered within the APE. No indications of burials or other human remains were observed within the surveyed area; barring an unforeseen discovery during the undertaking, there would be no further considerations expected under the Native American Graves Protection and Repatriation Act (25 U.S.C. § 3001 *et seq.*). The SHPO concurred on August 11, 2010, that no historic properties would be affected by the Proposed Action.

C. Hazardous or Solid Wastes

The contractor selected to construct the proposed project would be required by contract to submit a hazardous material control plan for their construction activities. There is a potential for petroleum products from construction equipment or existing petroleum products on upstream roadway surfaces to enter Eagle River Loop Creek. The MOA would conduct sampling of one to three wet weather events per summer to monitor the water quality.

Should any potentially contaminated soil, debris, or groundwater be encountered during construction of the Proposed Action, the material would be segregated, sampled, analyzed, and containerized in approved containers (specified in 49 CFR 178.500). Soil and groundwater would not be removed from any part of the installation or transported off the installation, regardless of whether it is clean or contaminated without written authorization from an appointed JBER representative. Additionally, spoil, debris, piling, cofferdams, construction materials, and any other obstructions resulting from or used during construction would be removed upon project completion. Additional hazardous waste and solid waste best management practices which will be implemented as part of the Proposed Action can be found in Appendix L.

D. Invasive Species

It is anticipated that the Proposed Action would result in an increase in invasive, non-native species within the project area. While only certified weed-free materials would be used for the topsoil and seed used to reclaim disturbed wetland areas, the fact that non-native invasive species are present and are not being treated, disturbance in the area would lead to the spread of the existing species. Vehicles, bulldozers, excavators, and all equipment used in the construction of the drainage structure would likely come in contact with soil that has non-native invasive plant propagules in it and thus would likely spread

the plant infestation wherever the equipment is worked within the project area.

Observations made during the invasive species survey (Appendix) noted a greater infestation of invasive species along Pole Line Road. Therefore, invasive, non-native species may be transported into the project area via dispersal mechanisms such as wind, pedestrian and vehicular traffic entering from Pole Line Road. Observations during the invasive species survey did not indicate that invasive, non-native species were being dispersed via the waterway. However, it is likely that the proposed ground disturbance and construction activities would result in an increase of the existing non-native invasive plant species, and thus they may be spread into the associated waterway.

E. Water Quality (Surface and Ground)

Vehicular traffic runs through standing water and this causes suspended sediments to enter Eagle River Loop Creek. The Proposed Action would improve water quality by effectively channeling and moving the existing standing water areas along the Subdivision and Glenn Highway ROW into a strategically designed drainage and control system reducing the sedimentation. It is estimated that 100 cubic yards of sediment would be removed from the water over 10 years.

F. Wetlands/Riparian Zones

The Proposed Action would include mechanical land clearing of 4,150 square feet (less than one-tenth acre) of vegetation within wetlands. Approximately 188 cubic yards of fill would be placed into 2,150 square feet (about one-half acre) of wetlands. The MOA has received a Nationwide Permit 14, for Linear Transportation Projects, from the USACE.

G. Migratory Birds

Vegetation clearing would occur outside of the spring nesting season (May 1 through July 15) which would minimize impacts to migratory birds. However, loss of migratory bird habitat may occur due to the removal of vegetation. Should any migratory birds be in the area during vegetation clearing activities, they would be expected to relocate to adjacent habitat.

H. Sensitive Species

BLM sensitive species that have potential to occur in the project area are all avian species. Vegetation clearing would occur outside of the spring nesting season (May 1 through July 15) which would minimize impacts to these species, should they occur in the project area. The Proposed Action would clear the preferred habitat for BLM listed avian species and therefore a loss of habitat would occur due to the removal of vegetation in the gravel pit area. However due to the abundance of adjacent suitable habitat (the

Military Reservation includes 25,000 acres, much of which is undeveloped) and the minimal loss of potential habitat (approximately 4.3 acres), any impacts would be minor.

I. Threatened and Endangered Species

No federal threatened or endangered species have been found on USAG FRA (U.S. Army Alaska 2002a, b, c as cited in USAG Alaska 2007) and therefore no impacts to threatened or endangered species on military lands are anticipated. Beluga whale, an endangered species under the ESA, lives in waters, the Knik Arm, adjacent to the Military Reservation. Due to the distance from the project area to the Knik Arm and that the project area is outside of the Coastal Management Zone, no impacts are anticipated to beluga whale. Additionally, BMPs would be in place during the construction phase that would prevent degradation of water quality. Overall, the Proposed Action is anticipated to have a beneficial impact to water quality due to an anticipated reduction of sedimentation into Eagle River Loop Creek.

J. Subsistence

The public lands located within the project area are within the USAG FRA. Federal Subsistence Management Program regulations (50 CFR 100) which implement the provisions of Title VIII of ANILCA relevant to the taking of fish and wildlife on public land in the State of Alaska apply to public lands other than military, U.S. Coast Guard, and Federal Aviation Administration lands that are closed to access by the general public, including all non-navigable waters located on these lands. Additionally, the Federal Subsistence Board has delineated USAG FRA and Elmendorf Air Force Base Management Area within Management Unit 14. Under special provisions for Management Unit 14, this delineated area is closed to subsistence taking of wildlife (USFWS 2010). Therefore, ANILCA Section 810 does not apply to the public land within the project area.

J.a. Fisheries

Subsistence use of fisheries is unaffected by the Proposed Action as the non-navigable waters are closed to the subsistence taking of fish as per the current Subsistence Management Regulations for the Harvest of Fish and Shellfish on Federal Public Lands and Waters in Alaska.

J.b. Wildlife

Fort Richardson falls within the Anchorage Management Area (GMU 14C), which is closed to the subsistence taking of wildlife as per the Subsistence Management Regulations for the Harvest of Wildlife on Public Lands in Alaska.

J.c. Other Subsistence Resources

The Proposed Action would not appreciably affect any other harvestable renewable resources such as wood, berries, vegetation or water.

K. Vegetation

Approximately 4.3 acres of vegetation would be permanently removed from the project area. This includes 4.0 acres on military land, 0.08 acres within the Eklutna Inc. easement, and 0.2 acres within the ADOT/PF ROW.

The results of a tree survey (Appendix K) of the proposed clearing area on military land indicate that approximately 300 trees have a diameter at breast height of six inches or greater. Tree trunks and limbs with a diameter at breast height of six inches or greater would be transported, via trucks, to the USAG FRA Department of Public Works firewood site.

L. Wildlife

The Proposed Action would result in the long-term modification of approximately 4.3 acres of wildlife habitat out of a total area of approximately 25 acres through the clearing of vegetation within the old gravel pit, access road and drainage conveyance.

Direct effects as a result of the Proposed Action to wildlife may include mortality through crushing by heavy equipment used during construction. Should this occur, this would most likely occur only to small, fairly immobile species such as voles or other burrowing species, and would occur on a short-term basis and at a localized scale. Additionally, it would likely only affect individuals and would not be expected to have an impact on the overall population level due to the small scale of earthwork involved and the availability of undisturbed habitat on military lands.

Wildlife within and adjacent to the project area may be temporarily disturbed from noise associated with construction. Wildlife may disperse from the project area and adjacent habitat during construction activities, but would be expected to return to the general area after construction. These effects would be temporary and are not anticipated to have an impact at the population level.

M. Human Health and Safety

The Proposed Action would increase human health and safety by eliminating the icy road conditions on the Glenn Highway that are a result the inadequate drainage.

2. Direct and Indirect Impacts of the No Action Alternative

A. Air Quality and Climate Change

There would be no impacts to air quality or the climate under the No Action Alternative.

B. Cultural Resources

No ground disturbing activities would occur under the No Action Alternative and therefore no impacts to known or unknown cultural resources are anticipated under the No Action Alternative.

C. Hazardous or Solid Wastes

There is no known hazardous or solid waste within the project area. Existing conditions are expected to stay the same under the No Action Alternative.

D. Invasive Species

Under the No Action Alternative, the non-native invasive plant species population would increase at slower rate than with the Proposed Action, due to the lack of disturbance to the ground and existing vegetation in the project area.

E. Water Quality (Surface and Ground)

Suspended sediments from vehicles would continue to enter Eagle River Loop Creek and continue to degrade the water quality of the creek.

F. Wetlands/Riparian Zones

There would be no direct impacts to wetlands or riparian areas under the No Action Alternative.

G. Migratory Birds

Under the No Action Alternative, no vegetation would be removed. Therefore, there would be no loss of migratory bird habitat under the No Action Alternative.

H. Sensitive Species

Should sensitive species occur in the project area, there would be no loss of habitat and no short-term impacts associated with construction, such as displacement and noise impacts.

I. Threatened and Endangered Species

As discussed in the Affected Environment section, no threatened and endangered species are known to exist within the project area. Therefore no impacts to threatened and endangered species are anticipated under the No Action Alternative.

J. Subsistence

The project area is within Management Unit 14, which is closed to subsistence activity. Therefore, impacts to subsistence activities are not anticipated under the No Action Alternative.

K. Vegetation

Under the No Action Alternative, there would be no loss of vegetation. Vegetation would continue to grow naturally.

L. Wildlife

There would be no loss of wildlife habitat under the No Action Alternative. Additionally, there would be no short-term impacts to wildlife associated with construction, such as displacement and noise impacts.

M. Human Health and Safety

Icing and flooding of roadways is a safety factor for drivers using roadways in the project area. An increase in vehicular accident rates in the project area may result from the No Action Alternative.

3. Cumulative Impacts

The cumulative effects analysis (CEA) area is generally the area surrounding the project area, including the Military Reservation, drainage easements across Eklutna, Inc., properties, ADOT/PF right-of-way, and the Subdivision. Past actions in the project area include the development of the gravel material site construction of the potable water line, and the construction of primary power lines and Pole Line Road on the Military Reservation. Other actions which affected the project area include the development of the Subdivision, the construction of the Glenn Highway, and the channelization of Eagle River Loop Creek.

Publicly available documents were researched and the only future action identified in the project area was part of a future road network plan by the Anchorage Metro Area Transportation Solutions (AMATS), the federally recognized Metropolitan Planning Organization (MPO) for Anchorage. The *Eagle River CBD and Residential Core*

Circulation Study, MOA Project No. 772880, contains a proposed road on the Military Reservation that is roughly parallel to the Pole Line Road. The plan is currently in a draft stage of development and is scheduled to be completed in 2011 in conjunction with the AMATS, Long Range Transportation Plan (LRTP). If constructed, this proposed road would need to incorporate a drainage conveyance for Eagle River Loop Creek.

The Proposed Action would clear approximately 4.3 acres of vegetation which would add to the fragmented habitat within the CEA area; however this is anticipated to be a minor cumulative impact to vegetation and wildlife, including sensitive species and migratory birds, due to the relative abundance of vegetation/habitat in the general area. Wildlife species impacted by these actions are expected to adapt and utilize similar, adjacent habitat. Fort Richardson encompasses 25,000 acres, much of which is undeveloped.

The Proposed Action would include mechanical land clearing of 4,150 square feet (about one-tenth acre) of vegetation within wetlands and approximately 188 cubic yards of fill placed into 2,150 square feet (about one-half acre) of wetlands. The old material site appears to be developed within an upland area and likely did not result in impacts to wetlands. Wetlands are located on each side of the utility line corridor and therefore the development of the utility line and road likely impacted wetlands. The development of the Glenn Highway and Subdivision may have impacted wetlands. Impacts to wetlands associated with the Proposed Action and impacts associated with the past actions, add to a cumulative loss to wetlands, which is anticipated to be minor.

The Proposed Action would improve water quality impacts to the CEA area from past development of the gravel pit, water, and power lines by providing a culvert crossing of Eagle River Loop Creek at the Pole Line Road. Therefore, no adverse cumulative impacts to water quality are anticipated.

While invasive species do exist within the CEA area, infestations are generally minor to moderate. Invasive species have the potential to be spread during the construction of the Proposed Action. The cumulative impact is anticipated to be minor based on the abundance of other construction activities on private lands in the greater Anchorage area that also have infestations and are not required to address or mitigate non-native invasive plant species.

Unpaved roads are located within the CEA area, including within the old material site and the road within the utility line corridor. The Proposed Action added to the past actions may temporarily decrease air quality within the CEA area by dust being created; however this is anticipated to be a minor cumulative impact because the construction area would be watered to reduce the dust levels during construction of the Proposed Action.

4. Mitigation Measures

Case File No. AA-092682, AA-092783, & AA-092682A
DOI-BLM-AK-A010-2011-0001-EA

Mitigation measures to be incorporated into the Proposed Action are attached in
Appendix L.

V. TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED

Contact: Michael Coy, Directorate of Public Works, Real Estate Office

Purpose: Coordinate proposed improvements with Base Land use.

Contact: Joe White, U.S. Army Corps of Engineers, Anchorage Field Office

Purpose: Nation Wide Permit 14

Contact: Jefferson Johnson, U.S. Army Corps of Engineers, Elmendorf Real Estate Office

Purpose: Provided information for the USACE to evaluate their ROC.

Contact: Newton Bingham, PE, Alaska Department of Transportation & Public Facilities, Materials Section

Purpose: Investigate if the ADOT/PF's contractor used the old material site as a staging area for an asphalt plant or storage for hazardous materials.

Contact: Christopher Garner, U.S. Army, Fort Richardson Natural Resources Specialist

Purpose: Inquire regarding status of Threatened and Endangered Species, Subsistence and Recreational Use in the Proposed Project area.

Contact: Louis Howard, Alaska Department of Environmental Conservation, Contaminated Sites, Federal Facilities

Purpose: Request information regarding identified or potential contaminated sites, and hazardous waste sites within, or adjacent to, the Proposed Project area.

Contact: Francis Mann, U.S. Fish & Wildlife Service

Purpose: Determine if eagle nests exist in and within a mile radius of the Proposed Project area.

Contact: Ms. Mulchay, Alaska Department of Fish and Game

Purpose: Determine if Eagle River Loop Creek is classified as an anadromous stream by the State of Alaska.

VI. LIST OF PREPARERS

1. List of BLM Reviewers

Steve Fusilier, Land Branch Manager

Thomas S. Sparks, Natural Resource Program Coordinator, Lands

Laurie Thorpe, Natural Resource Specialist (Vegetation)

Bruce Seppi, Wildlife Biologist (Threatened and Endangered Species)

Geoff Beyersdof, Natural Resource Specialist (Subsistence)

Merlyn Schelske, Natural Resource Specialist (Fisheries)

Jenny Blanchard, Archaeologist

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VII. REFERENCES

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