Environmental Assessment

for the

Expansion of the Munitions Storage Pad

at

Eielson AFB, Alaska

354 CES/CEVP
Eielson AFB, Alaska
June 2006

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FINDING OF NO SIGNIFICANT IMPACT (FONSI)
and
FINDING OF NO PRACTICABLE ALTERNATIVE (FONPA)
for the
Construction of a Munitions Storage Pad Environmental Assessment

Introduction

Eielson AFB is proposing to expand an existing munitions storage pad to provide an area adequate in size to handle 120-foot-long munitions containers. Live munitions are shipped to Eielson on barges that come out of the Port of Seattle twice a year. The barges unload the munitions at the Port of Valdez in Alaska and are then transported in containers by truck to Eielson. These container trucks are 120-feet-long and need the appropriate sized area to stage and unload the containers. These container trucks are currently staged on the flightline taxiways and unloaded. This is not an efficient use of flightline space.

Description of the Proposed Action

The Proposed Action will result in the expansion of an existing 244-foot by 222-foot munitions storage pad to a larger size of 404-feet by 240-feet. The new pad size would accommodate the l20-foot munitions containers. The project will result in the filling and alteration of 1.6 acres of black spruce wetlands.

Alternatives to the Proposed Action

Only one other alternative was identified for this project. This alternative would utilize existing munitions facilities located at the Quarry Hill conventional munitions facility in lieu of the current holding area. Containers would be hauled to Quarry Hill, off-loaded and stored at this facility until required for loading on aircraft. The conventional munitions facility is over 3 miles by unimproved road from the flight line where aircraft are staged for loading munitions. With a maximum munitions tow speed of 15 mph, even if sufficient space were available at Quarry Hill, the delay in munitions delivery could slow aircraft generation, by as much as 45 minutes per aircraft.

No Action Alternative

The No Action Alternative would result in no new munitions storage facilities being built and the continued use of flightline taxiways for staging and unloading of munitions containers. .

Environmental Impacts of the Proposed Action

Wetlands

The Proposed Project will result in the loss of 5.42 acres of black spruce wetlands. These wetlands provide moderate to low value habitat for several species of wildlife. Due to the preponderance of this type of wetlands in the area, wildlife currently using the wetlands will be displaced to adjacent habitat, likely resulting in no population level impacts.

Biological Resources

Impacts to biological resources from the Proposed Project are expected to be minimal. The most significant will be the loss of wetland vegetation in the 1.6-acre footprint of the project. There are large continuous tracts of similar habitat immediately adjacent to the project area and it is likely that species that use the habitat that would be eliminated by the project will relocate to these areas.

Threatened or Endangered Species

There are no threatened or endangered species in the project area. The project area is not suitable habitat for any of the threatened or endangered species occurring in the Alaskan interior.

Historical or Cultural Resources

Most archeological sites on Eielson AFB lands have been identified and mapped. The Proposed Project is not associated with any known sites. In the event that historic or cultural sites are discovered during project construction, activities will be halted and a professional archeologist will evaluate the find.

Air Quality

The proposed actions will have minor air quality impacts during construction due to fugitive dust and machinery exhaust. Such impacts will be highly localized and temporary in nature.

Mitigation

No mitigation was required by state and federal agencies for any aspect of the proposed work**.**

Public Comment

No public comment was received from the public noticing of the EA/FONSI/FONPA or the Corps of Engineers Permit for this project.

Findings

Pursuant to the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) implementing regulations for NEPA (40 CFR Part 1500-1508), and Air Force Instruction (AFI) 32-7061, *Environmental Impact Analysis Process* (32 CFR Part 989), the Air Force has conducted an EA for the expansion of an existing munitions storage pad. This FONSI/FONPA has been developed pursuant to information provided in the accompanying EA.

Finding of No Practicable Alternative: Eielson AFB is an Air Force facility that operates, maintains, and trains combat forces in close air support of military operations worldwide. Eielson AFB must have adequate facilities to supply and arm aircraft that are part of the base's mission. Taking all the environmental, economic, and other pertinent factors into account, pursuant to Executive Order 11990, the authority delegated by SAFO 780-1, and taking into consideration the submitted information, I find that there is no practicable alternative to this action and the Proposed Action includes all practical measures to minimize harm to the environment.

Finding of No Significant Impact: Based on this environmental assessment, which was conducted in accordance with the requirements of NEPA, CEQ, and Air Force Instructions, I conclude the expansion of an existing munitions storage pad will not result in significant impacts to the environment. I also find that the preparation of an environmental impact statement is not warranted.

JUN 2 8 2006

WILLIAM M. CORSON, Colonel, USAF
Director, Installations and Mission Support

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for the
Expansion of the Munitions Storage Pad

1.0 Purpose and Need for Action

Section 1 provides a description of the purpose of and need for the Proposed Action.

1.1 Background and Objectives for the Proposed Action

1.1.1 Eielson Air Force Base (Eielson) is proposing to expand an existing munitions storage facility to allow it to handle larger munitions containers. The existing storage facility is 200- by 200-feet and it would be expanded to 360- by 260-feet.

1.1.2 Eielson was established in 1944 and is currently part of the Pacific Air Forces (PACAF) Command. The 354th Fighter Wing (FW) operates, maintains, and trains combat forces in close air support and interdiction missions in support of the war plans in three operational theaters. The 354 FW's mission is to train and equip personnel for close air support of ground troops in an arctic environment. The 168th Air Refueling Wing (ARW) is the primary tanker unit of the Pacific Rim, annually transferring over 17 million pounds of fuel in flight to predominantly active duty aircraft.

1.1.3 Eielson also supports PACAF's Red Flag-Alaska exercises. Currently there are four exercises held annually that are approximately 10 days in duration and provide scenarios designed to replicate real world combat conditions. The core of each Red Flag-Alaska exercise is comprised of PACAF fighter units, with Air Combat Command, other U.S. services, and friendly nations providing aircraft and crews on a space-available basis. In addition to these exercises, Eielson aircraft conduct year-round training that is vital to the stated mission of maintaining aircraft in a ready state to respond to national security requirements.

1.1.5 As part of their training, aircraft at Eielson must carry and use live munitions. Live munitions are shipped to Eielson on barges that come out of the Port of Seattle twice a year. The barges unload the munitions at the Port of Valdez in Alaska and are then transported in containers by truck to Eielson. These container trucks are 120-feet-long and need the appropriate sized area to stage and unload the containers. At the present time these containers are brought to Eielson and are staged on the flightline on taxiway ramps. This is the only place large enough to store the containers. Utilizing the flightline for this purpose disrupts normal use of these areas due to the explosive safety distance criteria that applies to the storage of ordnance. To alleviate this conflict, Eielson is proposing to expand an existing munitions storage facility to a size that can accommodate the 120-foot-long containers.

1.2 Location of the Proposed Action

1.2.1 Eielson is located in the Tanana River Valley on a low, relatively flat, floodplain terrace that is approximately 2 miles north of the active river channel. Other communities near Eielson AFB include Moose Creek to the north and Salcha to the south.

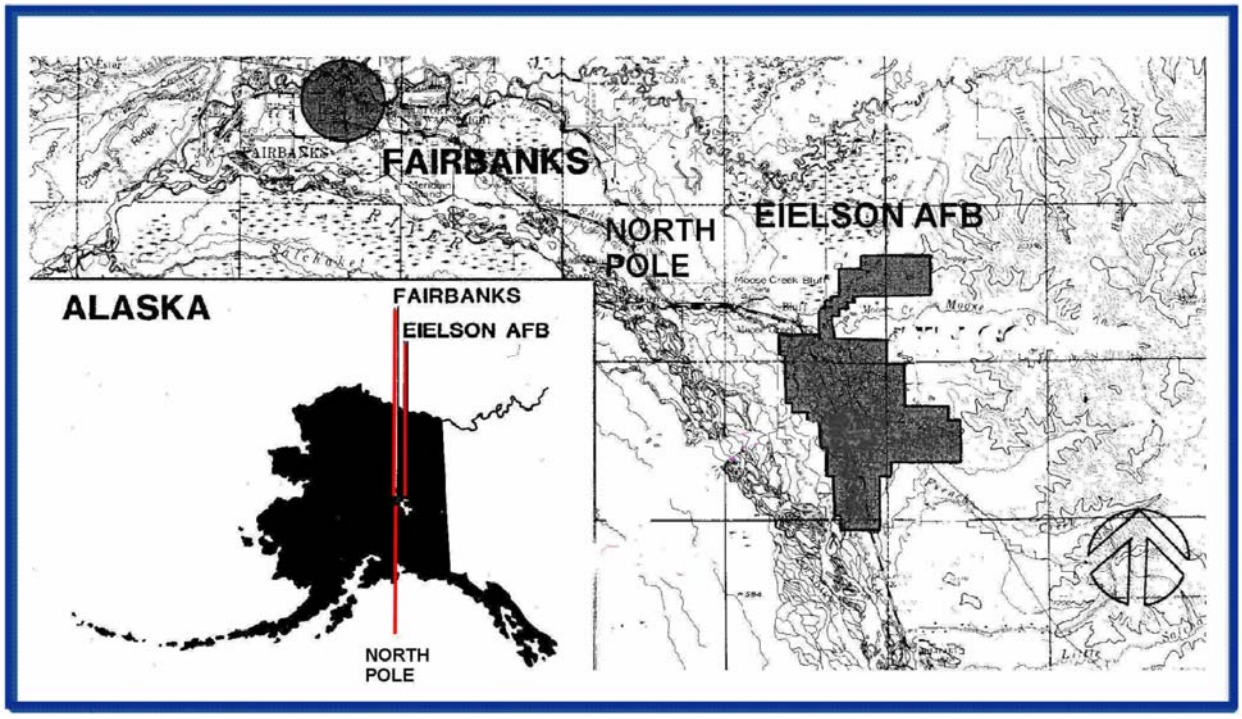

Figure 1-1 Base Location Map

1.2.2 Base lands include 19,790 contiguous acres bounded on the west by the Richardson Highway and on the north and east by Army lands (Yukon Training Area). To the south, the community of Salcha borders Eielson AFB. The developed portion of Eielson AFB is primarily an area filled by gravel to elevate potential building sites above the 100-year floodplain of nearby watersheds. In addition, more than 90 percent of the lands that constitute Eielson AFB were at one time wetlands. Of the remaining undeveloped portions of the base, 79 percent are wetlands (see Figure 1-2). As a consequence, land planning and utilization of Eielson AFB lands becomes very difficult if one is to entirely avoid siting facilities in wetlands and floodplains.

1.2.3 The proposed expansion of an existing munitions staging pad would be located in the southeast portion of the base near Mullins Pit. The project would impact approximately 1.6 acres of black spruce wetlands.

1.3 Decision to be Made

1.3.1 As required by Air Force Instruction 32-7061, an *Environmental Impact Analysis Process* must be completed to determine what are the environmental consequences of the expansion of

the munitions storage pad near Mullins Pit. The completion of this EA is intended to satisfy these requirements. The proposed action, alternative 1, and the no action Alternative will be addressed in detail in Section 2.0 of this document. A description of the resources involved with each alternative is provided in Section 3.0, and the impacts that could result from each one are discussed in Section 4.0.

1.3.2 The EA, a draft FONSI (if applicable), and all other appropriate planning documents will be provided to the Pacific Air Forces (PACAF) Installation and Mission Support Commander, the decision maker, for review and consideration. If, based on a review by the decision maker of all pertinent information, a FONSI is proposed, a notice of intent (NOI) will be published in accordance with 40 CFR 1506.6. All interested parties will have 30 days to comment on the decision to the Air Force. If, at the end of the 30-day public comment period, no substantive comments are received, the decision maker will sign the FONSI.

1.3.3 Two Executive Orders (EOs), 11988 (Floodplain Management) and 11990 (Protection of Wetlands), require the heads of federal agencies to find that there is no practicable alternative before the agency takes certain actions impacting wetlands or floodplains. To address this requirement, the Secretary of the Air Force's designated agent, HQ PACAF/A7 will sign a document that addresses the issues of wetlands and floodplains that may be associated with actions the Air Force proposes to take. This document, known as a Finding Of No Practicable Alternative (FONPA) will state which alternative, the proposed action, alternative 1, or the no action alternative will be selected as the appropriate course of action. The FONPA will be combined with the FONSI into one document. It will contain documentation that all practicable measures to minimize harm to wetlands and/or floodplains have been taken, and that all appropriate mitigation will be incorporated into the project design or otherwise authorized.

1.4 Project Scoping/Significant Issues

This section provides a summary of all issues raised during the scoping process and considered significant enough to be addressed in the EA. The scoping process typically involves meeting with potentially interested parties, including state and federal regulatory agencies that have oversight authority, and base groups that have responsibility for munitions handling. For this project scoping process, all potentially interested parties were contacted. However, no parties other than Eielson AFB groups chose to participate beyond providing comments to the U.S. Army Corps of Engineers on the 404 wetlands permit. The following issues were identified during the scoping process:

1) *Explosive distance siting criteria*: A facility that stores live munitions requires minimum distances from certain types of facilities such as fuel storage, fuel pipelines, or other highly explosive or combustible materials. This pad requires strict siting criteria.

2) *Size of pad:* The pad should be designed to accommodate trucks and large munitions containers that can be efficiently off-loaded.

3) *Wetland resource impacts:* The proposed site for the facility is in wetlands. This circumstance complicates the design process and lengthens the environmental impact assessment process.

1.5 Federal, State, and Local Permits or Licenses Needed for Project Implementation. A U.S. Army Corps of Engineers 404 wetlands permit is needed for this project.

2.0 Description of the Proposed Action and Alternatives

Section 2.0 provides a description of alternatives considered that would achieve the purpose and need described in Section 1.0. The proposed action, an action alternative, and the no action alternative are addressed.

2.1 Criteria Used to Develop Alternatives. As previously stated in Section 1.2, there are criteria that must be met for an action alternative to achieve the requirements of the stated project purpose. The following is a list of the required design and function criterion that were used to develop a proposed project and alternatives.

2.1.1 *Facility size that allows handling and unloading of munitions containers:* Munitions containers that arrive at Eielson are normally 120-feet-long and the must have adequate space to unload. Siting the facility at Quarry Hill would make handling the containers difficult to handle.

2.1.2 *Proximity to aircraft and flight line:* This is a critical requirement for the siting of a facility. Munitions must be ready to load on an aircraft quickly. Thus, the location of a facility close to the flight line is essential, especially during peak demand periods such as during Red Flag-Alaska exercises. The proposed action meets this essential requirement but alternative 1, storage at the Munitions Facility near Quarry Hill, does not.

2.1.2 *Explosive distance siting and safety criteria:* Due to the nature of the materials being stored at this facility (live munitions), strict siting safety issues must be addressed. These include requirements related to facility security as well as distance from other facilities that could contain flammable or explosive materials. Facilities that involve fuel handling and storage are prime examples. The distance guidelines applied to a munitions storage area is a minimum of 1,250 feet from adjacent facilities that contain flammable or explosive materials.

2.2 Proposed Action – Expand Existing Munitions Storage Pad

2.2.1 *Strip Vegetation from area and prepare site:* Clear all organic material including trees, shrubs, and stumps from the proposed site and dispose of at an approved upland disposal area. Next, excavate pad footprint area to a depth of 3-feet below grade to remove any frost susceptible material.

2.2.2 *Haul gravel for pad construction:* Gravel fill for construction of the pad will be hauled from nearby Mullins Pit gravel mine. Approximately 8,000 cubic yards of gravel will be used to construct the pad expansion.

2.2.3 *Place and compact fill material:* Geo-textile material would be laid on the excavated area and then gravel fill would be placed and compacted. The gravel pad's edge would have toe slopes that are 4 to 1.

2.2.4 *Cover toe slopes with 6 inches of top soil:* The pads toe slopes would be covered with top soil and seeded to prevent erosion.

2.2.5 *Place recycled asphalt on surface of pad:* The pad's gravel surface would have a 6-inch layer of crushed asphalt applied to it.

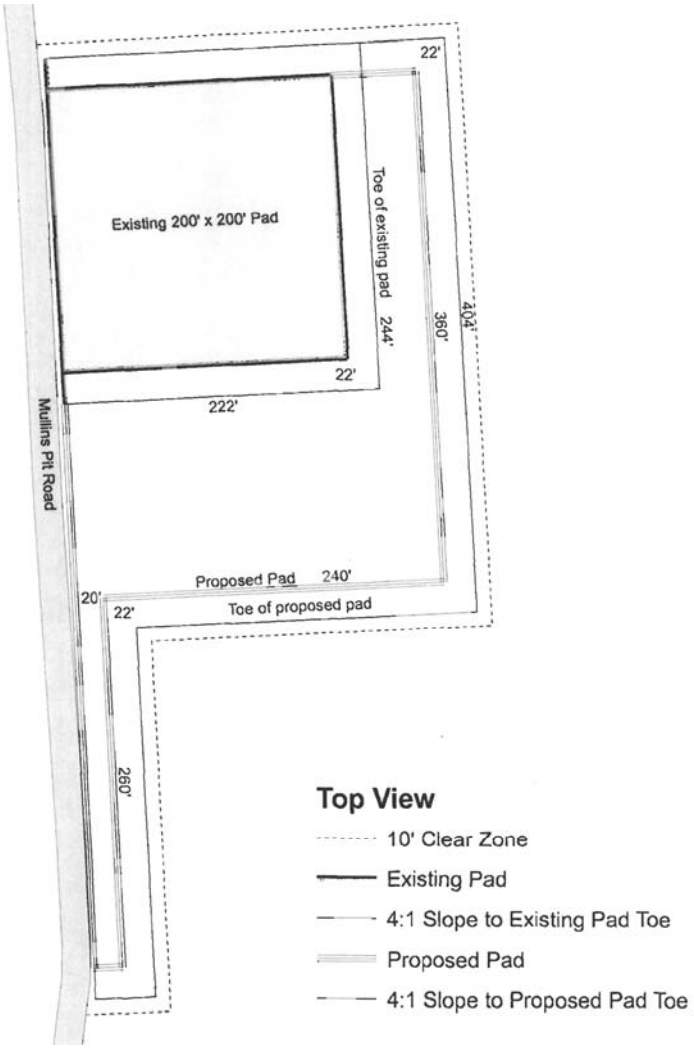

Figure 2-1 – Proposed Pad Expansion

2.3 Alternative 1 - Assemble and Preposition Munitions at Quarry Hill

This alternative would utilize existing munitions facilities located at the Quarry Hill conventional munitions facility in lieu of the current holding area. Munitions would be transported to this facility for stockpiling and processing. When the munitions are ready for loading on aircraft they would be transported back to the flightline. Time to transport munitions from this location to the flight line is approximately 45 minutes.

2.4 No Action Alternative

This alternative would result in the continued use of the flightline taxiways for munitions storage and handling. No additional munitions storage capacity would be constructed.

3.0 Affected Environment

This section describes relevant resource components of the existing environment that might be impacted by the proposed project and its alternatives. Only environmental components relevant to the issues and objectives of this EA are described.

3.1 Physical Environment

Eielson AFB encompasses approximately 19,790 acres and is isolated from major urban areas. The portion of Eielson AFB that contains the project areas associated with the Proposed Action and Alternative 2 lies on the abandoned floodplain of the Tanana River, with elevations ranging from 525 to 550 feet above mean sea level. The surface of the floodplain is relatively smooth and slopes gently downward to the northwest at a gradient of about 6 feet per mile. Alternative 1, the Quarry Hill munitions facility area, is located in a transition area between the level floodplain and the rolling hills of the land to the east of Eielson AFB (Army Yukon Training Area).

3.1.1 Geology

The area in the vicinity of Eielson AFB was not glaciated during the last ice age. The majority of the subsurface geologic formations of the central plateau of Alaska are primarily from the Permian and Devonian periods of the Paleozoic era. The hills to the northeast of the base are composed of Precambrian and Paleozoic-age schists, micaceous quartzites, and subordinate phyllite and marble. These formations have been locally intruded by a series of Cretaceous lower tertiary intrusions.

3.1.2 Soils

Soils in the Tanana River Valley consist of unconsolidated silty sands and gravels, organic and sandy silts, and clays. Floodplain soils nearest the active channels are sandy with a thin silt loam layer on the surface. On higher terraces, the soils become predominately silt from the Salchaket series. Along older river terraces, silt loam soils, which contain significant organic components, often dominate. These soils tend to be cold and wet and are generally underlain by permafrost. Approximately two-thirds of Eielson AFB is covered with soils containing discontinuous permafrost. This preponderance of permafrost soils contributes to the large percentage of vegetated wetlands occurring on undeveloped base lands.

3.1.3 Groundwater

Eielson AFB is located over a shallow unconfined aquifer. The aquifer is approximately 250 feet thick, extends to bedrock, and has a regional gradient of about 5 feet per mile flowing to the north-northwest. The water table varies from the surface in adjacent wetlands to 10 feet below ground level in developed areas. The base uses the local

aquifer for its drinking water and monitors groundwater quality in a number of locations as part of its Installation Restoration Program. Localized contamination of the aquifer has been identified in the industrial area of the base, but the overall quality of groundwater at Eielson AFB is good.

3.1.4 Surface Water

3.1.4.1 Aquatic bodies on Eielson AFB include streams, wetlands, and lakes. There are approximately 28 miles of streams; 10,133 acres of wetlands; 12 lakes (Lilly Lake is natural and the remaining 11 are man-made); 80 ponds (10 naturally-occurring and 70 man-made) totaling 560 acres; and 6,770 acres of floodplains on the main base. The man-made lakes and ponds were created during the excavation of gravel deposits for use as fill material for construction projects on base. Surface drainage on Eielson AFB is generally in a north-northwest direction and parallel to the Tanana River. Five streams flow through the base and discharge into the Tanana River via Piledriver Slough.

3.1.4.2 Approximately 51 percent, or 10,133 acres, of Eielson AFB is classified as wetlands, with 9,391 acres being vegetated wetlands and the remainder being lakes, ponds, and streams. Wetlands and low gradient alluvial streams comprise most of the surface water resources on Eielson AFB, with wetlands dominating the low-lying areas within and surrounding the installation. Most wetland areas were created as a result of surface waters becoming trapped in the thawed layer over the permanently frozen subsurface (permafrost). Flood periods tend to occur during spring snowmelt and during the middle to late summer, when heavy rains or warm air quickly brings glacier fed mountain streams to flood capacity. Several lakes and extensive wetlands surround the airfield in the cantonment area. Among these are Bear, Polaris, Moose, Hidden, Pike, Rainbow, Scout, Grayling, and Tar Kettle lakes. Creeks that can be found in the vicinity of the airfield include French and Moose creeks.

3.1.4.3 Piledriver and Garrison sloughs are the two largest streams in the vicinity of the airfield. Piledriver Slough, which discharges into the Tanana River, is located along the western edge of Eielson AFB and approximately 4,000 feet west of the airfield and parallel to the runways. Approximately 12 miles of Piledriver Slough occurs on Eielson AFB. The slough receives no runoff from the urban developed area of the base and has good water quality.

3.1.5 Noise. Aircraft generate by far the most noise on Eielson AFB. Noise levels associated with aircraft during flying hours can exceed 80 decibels (dB) in the vicinity of the flight line; however, the decibel level drops off to a maximum of 70-dB in the closest residential area, Moose Creek, just north of the base. A 65-dB level is not recommended for housing areas by EPA standards (Noise Effects Handbook, US EPA, 1981). Construction noise is potentially another source of noise, but it is not considered to be a concern due to its temporary nature and relatively low dB level. **Figure 3-1** is a chart that provides a scale of noise levels associated with typical daily activities.

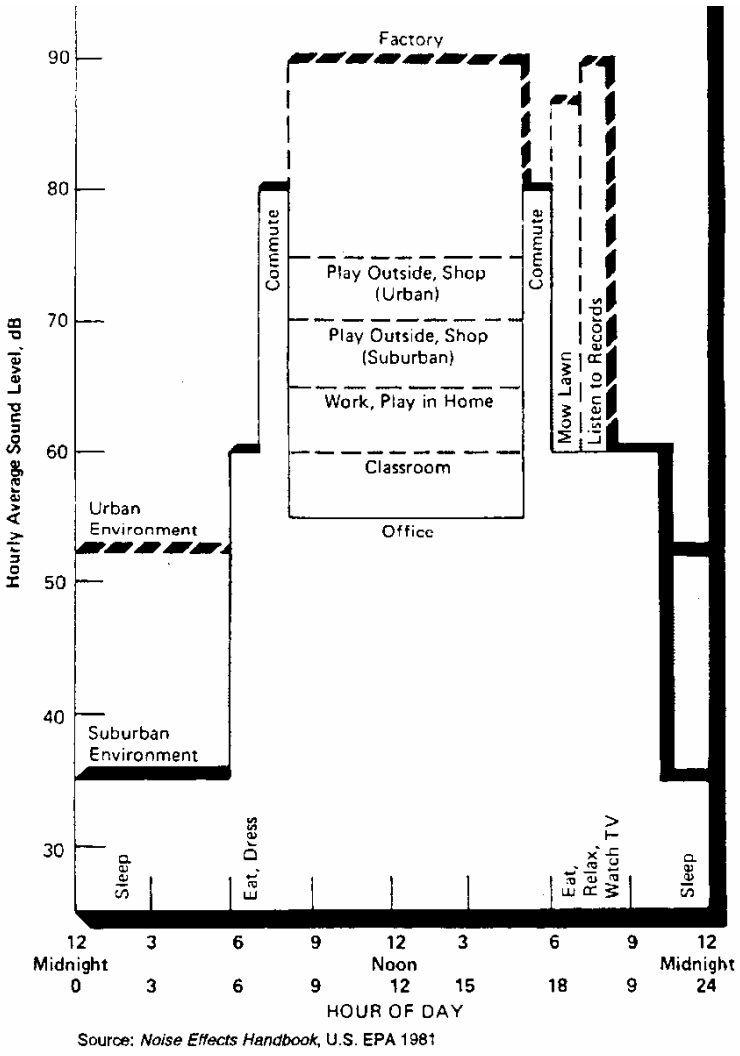

Figure 3-1 - Noise Levels

3.1.6 Air Quality

Air quality is generally good at Eielson AFB. Although portions of the North Star Borough, of which Eielson AFB is also a part, are in non-attainment for carbon monoxide (Fairbanks and North Pole), Eielson AFB is far enough south to not be included or affected. The Clean Air Act designates areas as *attainment, non-attainment, maintenance*, or *unclassified* with respect to their compliance with National Ambient Air Quality Standards (NAAQS). Non-attainment and maintenance areas are locales that have recently violated one or more of the NAAQS and must satisfy the requirements of State or Federal Implementation Plans (SIPs or FIPs) to bring them back into conformity with the applicable air quality standards. Eielson AFB is located in an *unclassified* area, and therefore activities that generate emissions do not need to satisfy the requirements of the EPA ruling *Determining Conformity of General Federal Actions to the State or Federal Implementation Plans.*

3.1.7 Cultural Resources

In 1994, Eielson AFB contracted for the preparation of a predictive model for the discovery of prehistoric cultural resources on base lands. The predictive model was then used to conduct an evaluation of cultural resources on Eielson AFB as required by Section 110 of the National Historic Preservation Act. The areas associated with the Proposed Action and Alternatives 1 and 2 have been determined to not contain cultural or archeological resources. In the event that during project excavation/construction any cultural resources were encountered, activities would cease until the resources were evaluated.

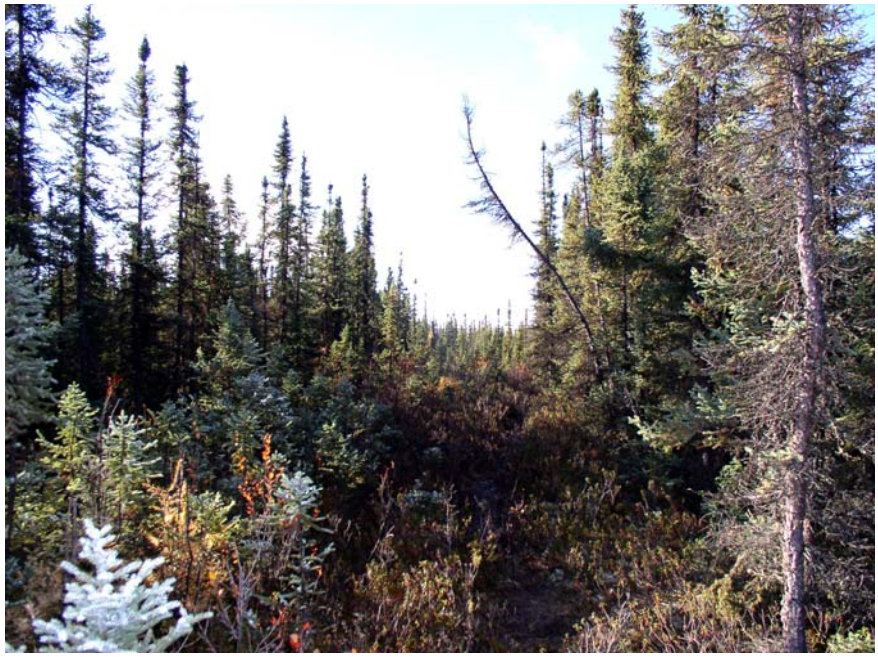

Figure 3-2 – Black Spruce Forest Near the Project Site

3.2 Biological Resources

3.2.1 Vegetation

3.2.1.1 The vegetation of the Tanana River Valley in the vicinity of Eielson AFB is typical of boreal forest or taiga habitats. The boreal forests of Eielson AFB are predominantly evergreen forests dominated by black spruce and white spruce (*Picea glauca*), but also include extensive stands of deciduous forests containing paper birch (*Betula papyrifera*), quaking aspen (*Populus tremuloides*), and balsam poplar (*P. balsamifera*). Extensive areas of shrub and herbaceous vegetation are found in wetlands, lowland areas, and the active floodplain, and are dominated by willows and other shrubs, sedges, and grasses. Bog areas are dominated by black spruce stands intermixed with peat moss (*Sphagnum* spp.) and cottongrass (*Eriophorum vaginatum).*

3.2.1.2 Vegetation in the project area has already been partially hydro-axed as a result of the construction of the original pad.

3.2.2 Aquatic/Fishery Resources

3.2.2.1 Lakes and streams on Eielson AFB contain both native fish and fish stocked by the Alaska Department of Fish and Game. Native fish found in the Tanana River drainage include chinook salmon (*Oncorhynchus tshawytscha)*, chum salmon (*O. keta*), silver salmon (*Oncorynchus kisutch*), burbot (*Lota lota*), arctic grayling (*Thymallus arcticus*), northern pike (*Esox lucius)*, chub (*Semotilus* spp.), several species of whitefish (*Coregonus* spp.), sheefish (*Stenodus leucichthys nelma)*, rainbow trout (*Oncorhynchus mykiss*), and arctic char (*Salvelinus alpinus)*.

3.2.2.2 The Alaska Department of Fish and Game stocks five lakes and one stream on Eielson AFB: Grayling Lake, Hidden Lake, Polaris Lake, 28 Mile Pit, Moose Lake, and Piledriver Slough. Fish stocked by the Alaska Department of Fish and Game includes rainbow trout, arctic grayling, arctic char, silver salmon, chinook salmon, chum salmon, and northern pike. There are no known federally listed threatened or endangered fish species, fish species proposed for listing, or critical fish habitats on Eielson AFB.

3.2.3 Wildlife Resources

3.2.3.1 The surrounding Tanana Valley provides breeding habitat for a wide variety of migratory bird species. Bird species found on Eielson AFB include spruce grouse *(Dendragapus canadensis*), ruffed grouse (*Bonasa umbellus*), northern goshawk (*Accipiter gentilis*), sharp-shinned hawk (*A. striatus*), great horned owl (*Bubo virginianus*), red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*). During winter, willow ptarmigan (*Lagopus lagopus*) and rock ptarmigan (*L. mutus*) are common on Eielson AFB. Over 20 species of waterfowl, including geese, ducks, loons, grebes, and scoters use aquatic habitats on the installation.

3.2.3.2 There are 32 species of mammals found on Eielson AFB. Common species include moose (*Alces alces*), black bear (*Ursus americanus*), grizzly bear (*U. arctos*), snowshoe hare (*Lepus americanus*), marten (*Martes americana*), red squirrel (*Tamiasciurus hudsonicus*), beaver (*Castor canadensis*), muskrat (*Ondatra zibethicus*), mink (*Mustela vison*), meadow vole (*Microtus pennsylvanicus*), red-back vole (*Clethrionomys rutilus*), and meadow jumping mice (*Zapus hudsonius*).

3.2.4 Habitat Value

This section provides a summary of the existing habitat quality and function for each of the areas associated with the Proposed Project and alternatives.

3.2.4.1 *Proposed Project*

3.2.4.1.1 The Proposed Project would be sited in a black spruce bog wetlands south of the Loop Taxiway. The black spruce wetlands at this location are typical of those that are adjacent to a defined surface water system (in this case Garrison Slough). In these circumstances, the wetlands exhibit increased surface hydrology (standing water), which results in a more open vegetation canopy. As is shown in **Figure 3-4**, there is a better developed scrub/shrub community with interspersed stands of aquatic grasses and sedges. This type of wetland provides slightly higher quality habitat than the typical black spruce wetland. It is still, however, relatively low-value compared to less homogeneous wetlands that have more areas of standing water. This type of wetland is typically used by wildlife such as small mammals (voles, squirrels, rabbits, and passerine birds) and larger mammals (fox, black bear, and moose) which pass through the area while moving to more preferred habitat. Black spruce wetlands constitute the most common wetland habitat type found in interior Alaska, and by far the most common found on base lands.

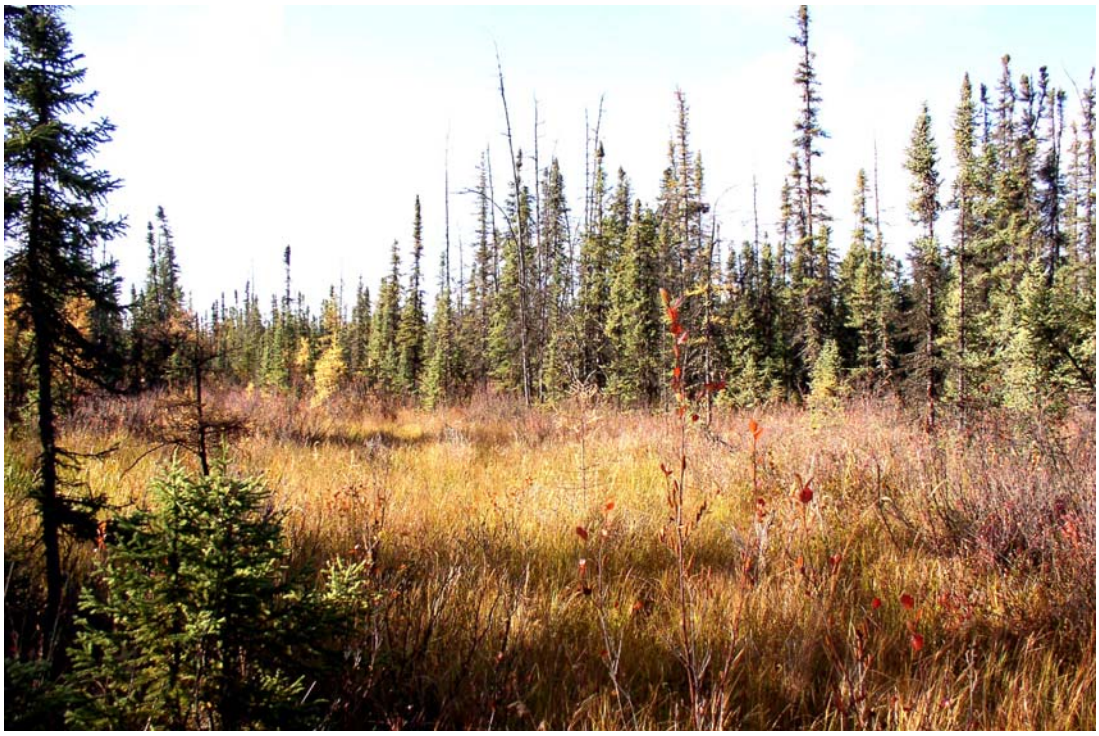

Figure 3-4 – Wetlands in the Vicinity of the Project Area

3.2.4.2 *Alternative 1*

The base munitions facility at Quarry Hill is an existing facility that would be used without additional construction or impacts to surrounding land. No habitat value is currently associated with the developed portion of these facilities.

3.2.4.3 *No Action Alternative*

The area associated with this alternative, the flightline taxiways, are an asphalt covered areas that have no habitat value.

3.2.5 Threatened and Endangered Species

No threatened or endangered species, as designated by the US Fish and Wildlife Service, typically occur in any of the project areas included in the two action alternatives. This was the conclusion of an Eielson AFB contract study entitled *Biological Survey, Final Report 1994,* that addressed the potential for the presence of endangered species on base lands. Recent observations continue to support this likelihood.

4.0 Environmental Consequences

This section discusses the probable impacts for each alternative described in Section 2.0. This section is organized according to resources and a discussion of each alternative action is provided relative to resources identified as relevant in Section 3.

4.1 Physical Environment

4.1.1 Geology/Soils

4.1.1.1 *Proposed Action*: Construction of the project at the proposed location would alter the physical environment mainly by the placement of gravel fill in approximately 1.6 acres of previously disturbed black spruce wetlands. The overall affect of this placement of gravel on the physical environment would be to raise the elevation of the ground approximately 4 feet. This would also alter the existing soils profile wherever the gravel was placed.

4.1.1.2 *Alternative 1*: Use of the existing munitions complex at Quarry Hill would not result in any impacts to the physical environment as no additional facilities would be constructed.

4.1.1.3 *No Action Alternative*: No impacts to the physical environment would result from the continued use of the flightline taxiways.

4.1.2 Groundwater

4.1.2.1 Proposed Action: Placement of gravel on the surface of 1.6 acres of black spruce wetlands would have no impact on groundwater. No excavation of soils is proposed and groundwater is at least 6 feet deep in this area.

*4.1.2.2 Alternative 1***:** No impacts to groundwater would result from this alternative action.

4.1.2.3 *No Action Alternative:* No impacts to groundwater would occur if the taxiways were used.

4.1.3 Surface Water

4.1.3.1 *Proposed Action:* Although the 1.6 acres that would be filled with gravel is black spruce wetlands, it is not anticipated that significant impacts to surface water would occur from this project.

4.1.3.2 *Alternative 1*: No surface water would be impacted by this action.

4.1.3.3 *No Action Alternative:* No surface water would be impacted by the continued use of the flightline taxiways.

4.1.4 Noise

4.1.4.1 *Proposed Action:* Noise impacts associated with implementation of this action would be short-term and relatively low decibel compared to ambient noise levels that occur with flight line aircraft operations. Noise would be associated with construction machinery, and would last only for a few weeks during the construction of the pad.

4.1.4.2 *Alternative 1:* The only noise impacts associated with this alternative would be that generated by transport equipment bringing munitions from Quarry Hill to the Loop Taxiway, a distance of over 3 miles. This noise would be year-round.

4.1.4.3 *No Action Alternative:* Noise impacts associated with this alternative would be similar to Alternative 1, as munitions would be transported from Quarry Hill to the flightline for storage prior to loading on aircraft.

4.1.5 Air Quality

4.1.5.1 *Proposed Action*: Some minor, short-term impacts from emissions associated with the operation of construction machinery would result from the Proposed Action.

4.1.5.2 Alternative 1: Although not significant, more impacts to air quality from emissions would result from this alternative due to the transport distance (3 miles) required for transfer of munitions by vehicles from Quarry Hill to the Loop Taxiway.

4.1.5.4 *No Action Alternative:* Impacts to air quality similar to Alternative 1 would result from this alternative.

4.1.6 Cultural Resources

No impacts to cultural resources would result from any identified alternatives. In the event that during construction of the facility, cultural resources were discovered, all activities would cease until a cultural resource specialist evaluated the find.

4.2 Biological Resources

4.2.1 Vegetation

4.2.1.1 *Proposed Action:* To some extent impacts to vegetation have already occurred at the Proposed Action site as a result of hydro-axing that was done in advance of the project. If no further disturbance to vegetation were to occur, most of the hydro-axed vegetation would re-establish itself in 3 to 5 years. However, if the Proposed Project were built, it would result in the total loss of all vegetation in the footprint created by construction of the storage pad and the access road.

4.2.1.2 *Alternative 1:* No impacts to vegetation would result from this alternative.

4.2.1.3 *No Action Alternative*: No impacts to vegetation would result from this alternative.

4.2.2 Aquatic/Fishery Resources

Despite the fact that the Proposed Project site is in wetlands, no impacts to aquatic or fishery resources would result from its construction. The nearest water body is Garrison Slough, approximately 500 feet to the west of the proposed project site. None of the other alternatives would result in impacts to aquatic/fishery resources if implemented.

4.2.3 Wildlife Resources

4.2.3.1 *Proposed Action:* The Proposed Action would result in the loss of 1.6 acres of wildlife habitat. The habitat, black spruce bog, would be covered by a gravel/asphalt pad, resulting in the total loss of habitat value for this acreage. This loss would be partially mitigated by the proximity of comparable habitat that is immediately adjacent to the project area. These adjoining expanses of similar (black spruce bog) habitat would likely provide alternative habitat for species displaced by the loss of habitat at the project site.

4.2.3.2 *Other Alternatives*: None of the other alternatives being considered in this EA would result in loss of wildlife resources. There are no wildlife resources at any of the other sites due to previous impacts and/or a total lack of habitat.

4.2.4 Threatened and Endangered Species

No impacts to threatened and endangered species will result from any of the alternatives considered in this EA.

4.3 Cumulative Impacts

The National Environmental Policy Act (NEPA) process requires that the issue of cumulative impacts be addressed in an environmental assessment.

4.3.1 The Council on Environmental Quality (CEQ) has stated in their NEPA regulations (1508.7) that: "*Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to past, present, and reasonably foreseeable future actions. . .*" and "*. . .can result from individually minor, but collectively significant actions taking place over a period of time.*" Eielson AFB has, over the years, been very cognizant of the issue of cumulative impacts to wetlands. This is due to the fact that the base was, to a large extent, built by filling wetlands, and that expansion of Eielson AFB facilities beyond the original footprint of the base often requires the use of additional wetlands. Of the 19,789 acres that constitute Eielson AFB lands, 51 percent are designated wetlands.

4.3.2 To address the potential for cumulative impacts to wetlands, Eielson AFB has developed an active program of wetland habitat creation and enhancement. Classification of Eielson AFB wetlands according to type and quality (as defined in Cowardin, et al, US Fish and Wildlife Service, 1979) has indicated that 93 percent of Eielson AFB wetlands are of low-quality. Most of these wetlands are classified as black spruce or alder/willow, scrub/shrub wetlands and constitute large, homogenous blocks of land that provide minimal wetland values to wildlife. When Eielson AFB develops a gravel source by excavating alluvial gravel deposits, it is in these black spruce wetlands. As part of the extraction process, wetlands of higher value are created (lake habitat with shallow littoral zones and emergent vegetation) from lower value black spruce and uplands. The type and quality of wetlands are particularly valuable for feeding, nesting, and brood-rearing by waterfowl, the bird species potentially most affected by the proposed project. The wetland creation/enhancement program on Eielson AFB has been going on for several years and has the full and enthusiastic support of local, state, and federal resource agencies. In addition, resource agencies have viewed this voluntary wetlands enhancement program as more than adequate to compensate for losses that occur as part of Eielson AFB construction projects.

4.3.3 The Proposed Project will result in the loss of 1.6 acres of relatively low value black spruce bog. As a result of wetland enhancement projects described above, more than 150 acres of higher value habitat will be developed at Mullins Pit and Cathers Lake, more than compensating for wetland losses incurred by base development projects. It is felt that Eielson AFB's comprehensive wetland management program more than offsets wetland losses and that there is a cumulative net gain in wetland values on base lands.

4.4 Unavoidable Adverse Impacts

Unavoidable adverse impacts would only result from implementation of the Proposed Action. They would include the permanent loss of 5.42 acres of black spruce bog wetlands and the temporary loss of primary productivity of an additional acre of wetlands that would be hydro-axed to create a 38-foot-wide clear area around the munitions storage pad.

4.5 Relationship of Short-Term Uses and Long-Term Productivity

4.5.1 Short-term uses are those that generally occur on a year-to-year or shorter term basis. The Proposed Action would result in both short-term losses and long-term losses. The construction of the storage pad would result in long-term losses associated with the filling of 5.42 acres of black spruce wetlands. Short-term losses would be experienced in association with the hydro-axing of an acre of wetlands, resulting in reduced primary productivity of the vegetation.

4.5.2 Long-term productivity is the capability of the land to provide resources, both market and non market, for future generations. In this case, the land would provide a long-term storage pad for munitions used by the military to ensure our country's national security is maintained.

4.6 Irreversible and Irretrievable Commitments of Resources

The Proposed Action is the only action considered in this EA that would result in additional irreversible and irretrievable commitments of resources. The resources lost would include 1.6 acres of black spruce wetlands.

4.7 Environmental Justice

4.7.1 President Clinton issued Executive Order (EO) 12898, *Environmental Justice in Minority Populations and Low-Income Populations*, on February 11, 1994. Objectives of the EO, as it pertains to the NEPA process, requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. To accomplish these requirements the Air Force must conduct an environmental justice analysis of all potential impacts that may result from the proposed actions.

4.7.2 The environmental justice analysis must first identify all adverse impacts associated with the project. The next phase is to delineate the potential area of impact for the resources affected. If, within this area of impact, population demographics are such that a disproportionate effect on minority or low-income populations may occur, it should be so identified. These impacts should be documented and mitigation should be developed that can be implemented by the Air Force.

4.7.3 The site for the Proposed Project is immediately adjacent to the Loop Taxiway, which is an industrial area of the base. The closest residential population is base housing, approximately 2.5 miles to the north. Base housing does not exhibit any particular demographics except related to military rank. In the case of this project, the housing that is closest to the project area is officer's housing. Based on the environmental impacts identified in this EA and on a corresponding environmental justice analysis, it is felt that no disproportionate impact to minority or low-income populations would occur from implementation of this project.

4.8 Mitigation

No mitigation is proposed or required as a result of federal and state permits obtained for this project. The only special conditions listed on the issued wetlands permit reflect best management practices that are already incorporated in the proposed design of the project.

5.0 List of Persons and Agencies Consulted

Mr. Brent Koenen, USAF, 354 CES/CEVN, Eielson AFB, ph: 377-5182

Ms. Chrissy Everett, US Army Corps of Engineers, Regulatory Functions Branch, Fairbanks, AK, ph: 474-2166

Mr. Jeff Putnam, USAF, 354 CES/CECB, Eielson AFB, AK, ph: 377-4169

Larry Bright, US Fish and Wildlife Service, Fairbanks, AK, ph: 456-0322

6.0 Glossary

Alluvial - Sediment deposited by flowing water.

Carbon Monoxide - A colorless, odorless gas resulting from the incomplete oxidation of carbon; found, for example, in automobile exhaust or mining operations; poisonous to animals.

Cantonment - The main operational area of a military base.

Culvert - A drain crossing under a road or an embankment.

Environmental Impact Analysis Process (EIAP) - is a set of guidelines (Air Force Instruction 32-7061) that the Air Force uses to comply with the NEPA process.

Decibel - A unit of measurement for describing sound intensity.

Executive Order 11990 - Mandate to federal agencies to follow the NEPA process to ensure the protection of wetlands.

Habitat - The area or environment in which an organism or ecological community normally occurs.

Hydro-axed - A large axing machine driven by hydraulics that cuts down and mulches shrubs and trees.

Mean Sea Level (MSL) - The average surface level for all stages of the tide over a 19-year period, usually determined from hourly height readings from a fixed reference point.

National Environmental Policy Act (NEPA) - Legislation enacted in 1969 mandating that all federal agencies assess the environmental impacts of actions which may have an impact on man's environment.

National Historic Preservation Act - Federal mandate that requires the preservation of prehistoric and historic sites.

Non-Attainment Area - An area exceeding National Ambient Air Quality Standards for one or more criteria pollutants.

Permafrost - Permanently frozen subsoil occurring in perennially frigid areas.

Riparian - Living or located on a riverbank or a natural course of water.

SAFO 780-1 - Secretary of the Air Force Order and reference number.

Seasonally Persistent - Persistence is based on historical records and field evidence that indicates an area is seasonally inundated with water during non-frozen (spring/summer) portions of the year.

Turbidity - Cloudy or hazy appearance in a naturally clear liquid caused by a suspension of colloidal liquid droplets or fine solids.

Understory - A foliage layer occurring beneath and shaded by the main canopy of a forest.

Upland - An area of land of higher elevation, often used as the opposite of a wetland.

Wetlands - Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

404 Wetland - Wetland areas that have been determined “waters of the United States” and thus subject to Section 404 wetland permitting guidelines administered by the Army Corps of Engineers and the US Environmental Protection Agency.

Wetland Functional Value - A methodology that identifies the type, quantity, and quality of an ecosystem, and uses or potential uses of wetlands in the vicinity of a proposed project.

100-Year Floodplain - Based on historical evidence, there is a high probability that the area within the 100-year floodplain will be flooded once every 100 years.

7.0 Project Wetlands Permit

8.0 Public Notice

USAF ANNOUNCES
an
ENVIRONMENTAL ASSESSMENT

In accordance with the National Environmental Policy Act (NEPA), and Air Force Regulations, Eielson Air Force Base has completed an environmental assessment (EA) and Finding of No Significant Impact (FONSI) to evaluate the consequences of the following stated proposed action:

> Construct a 360-foot by 260-foot addition to an existing munitions storage pad. The pad will be used to handle large munitions containers. The project will result in the filling and alteration of 1.6 acres of black spruce wetlands.

PUBLIC COMMENT WELCOME

To review the draft EA and FONSI, copies are available at the Noel Wien Library in Fairbanks. The public is invited to review these documents and make comments during the 30-day comment period from now until July 18, 2006. To get a copy of the EA, to comment, or for more information contact Jim Nolke, Eielson AFB Environmental Flight, at (907) 377-3365, or by mail at 354 CES/CEVP, 2310 Central Ave, Ste 100, Eielson AFB, AK 99702-2299.