



Fort Greely Borrow Pit



Environmental Assessment

13 February 2004

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U.S. Army Garrison Fort Greely
Director of Installation Services
ATTN: Chief, Environmental Office
Box 1289
Delta Junction, AK 99737

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Introduction

The U.S. Army Garrison, Fort Greely, Alaska, proposes to establish and operate one or more sources of borrow materials (aggregate and fill materials) on the installation for installation construction projects beginning as early as March 2004.

Currently, borrow materials required for installation construction projects on Fort Greely are obtained from outside sources or the existing borrow pit located south of Fire Break Road, to the west of the Fort Greely Landfill. This borrow pit was initially established to support the construction activities at the Ground-Based Midcourse Defense (GMD) Validation of Operational Concept (VOC) test site beginning in the year 2000. Current plans at Fort Greely include the installation of security fencing around the GMD VOC test site as previously analyzed. Security access restrictions and current use could limit use of the borrow pit for construction projects outside of the GMD VOC test site.

Proposed Action

The areas at Fort Greely proposed for use as new borrow pits would be cleared and grubbed, as needed. When overburden (material overlying useful mineral deposits or fill materials) is removed, it would be placed in temporary locations within the borrow pit area. All useful borrow materials would then be excavated from each borrow pit, as required.

Temporary locations would be established within each borrow pit area for rock crushing and screening operations. After all useful borrow materials have been removed from a specified portion of the borrow pit, the previously removed overburden would be placed back in the excavated area of the borrow pit, the area would be properly graded, and vegetation would be re-seeded. Best Management Practices would be implemented during the establishment, operation, and closure of each area of the borrow pit in order to minimize the potential for environmental impacts. These borrow material sources would be activated and used on a project-dependent basis and would not be ongoing, permanent operations.

The following alternatives are analyzed in this environmental assessment as potential sources of borrow materials for Fort Greely:

- Alternative 1—Allen Army Airfield Borrow Pit
- Alternative 2—Directorate of Public Works (DPW) Borrow Pit
- No-action Alternative—Use of the existing borrow pit or procurement of borrow materials from an outside source

Alternative 1 would establish a new 49-hectare (120-acre) borrow pit northwest of Allen Army Airfield to provide borrow materials for the Allen Army Airfield reconstruction project. Borrow materials would be removed from the pit in increments of 16 hectares (40 acres) up to a maximum depth of approximately 3 meters (10 feet). After the completion of the airfield reconstruction project, the proposed borrow pit could be used, as needed, for any future projects in adjacent areas.

Alternative 2 would establish a new 40-hectare (100-acre) DPW Borrow Pit southeast of the main cantonment area on Fort Greely between East Post Road and Landfill Road. The DPW Borrow Pit would be excavated in small sections, or "cells," each measuring approximately 4 hectares (10 acres). Borrow materials would be removed from each cell up to a maximum depth of approximately 6 meters (20 feet). The DPW Borrow Pit would be used for current and future public works projects at Fort Greely.

Under the No-action Alternative, the U.S. Army Garrison Fort Greely would not establish new sources of borrow materials. Borrow materials for any existing or future projects at Fort Greely would be obtained from the existing borrow pit located adjacent to the GMD VOC test site, or the U.S. Army Garrison Fort Greely would use a contractor to provide borrow materials from a source outside of the installation.

Methodology

To assess the significance of any impact, activities with the potential for environmental consequences were identified. The degree of analysis of proposed activities is proportionate to their potential to cause environmental impacts.

Resource areas that have been adequately analyzed in prior National Environmental Policy Act documents and are not expected to be affected sufficiently at Fort Greely to warrant further discussion include airspace, hazardous materials and waste, infrastructure, socioeconomics, subsistence, and environmental justice. The resource areas necessary to provide a context for understanding the potential effects of the Proposed Action and to provide a basis for assessing the severity of potential impacts are air quality, biological resources, cultural resources, geology and soils, health and safety, land use, noise, transportation, and water resources.

Results

This section summarizes the conclusions of the analyses made for each of the areas of environmental consideration based on the application of the described methodology. Within each resource summary, only those activities for which a potential environmental concern was determined are described.

Air Quality—Emissions associated with activities at the proposed new borrow pit sites would include fugitive dust from ground disturbance and combustion byproducts from mobile sources such as crushers, screeners, and other operational equipment, which would be common to all alternatives. The levels of dust generated would vary depending on a project's level of activity, the weather, and the condition of the ground. The implementation of standard dust suppression methods and a vehicle maintenance program would minimize fugitive dust emissions and vehicle exhaust emissions and should help to maintain the area's current high air quality. Required dump truck trips, along with other borrow pit activities, should not have a long-term impact on air quality in the area.

Under the No-action Alternative, the existing borrow pit south of the cantonment area would continue to be used and managed by Fort Greely for GMD use and also for additional installation needs. Although the potential increased use would require additional dump truck trips and an increase in mobile emissions; existing transportation routes would be used. Best Management Practices, including standard dust reduction measures and proper tuning and

preventive maintenance of vehicles, would be used to further limit emissions; therefore, no long-term air quality impacts are anticipated.

Purchasing borrow material from existing off-base borrow pits for airfield expansion and other Fort Greely projects would require additional truck trips. However, vehicles would use existing transportation routes. No significant adverse impacts to regional air quality from operation of borrow pits in the region have been identified, and no additional substantial impacts to air quality are anticipated.

Biological Resources—The proposed new borrow pits would be located within areas composed of mixed forest and deciduous/high brush, which represents a small percentage of the total vegetation on Fort Greely. No threatened, endangered, or candidate vegetation species have been identified on Fort Greely. Upon completion of the required use of the borrow pit, the excavated area would be graded, contoured, and reseeded with a seed mixture suitable for the area. Thus, no long-term substantial effects to vegetation are anticipated.

The combination of increased noise levels and human activity would likely displace some small mammals and birds that forage, feed, nest, or have dens within or adjacent to the proposed borrow pit sites. However, additional similar habitat is adjacent to these areas. Construction activities could cause flushing (birds suddenly flying up), but this is a common reaction to sudden natural sounds that only slightly increases the energy expenditure of individual birds. Wildlife in the immediate area could be startled by construction and operation noise and possibly avoid or leave the area, or become accustomed to the increased noise and human presence. Any disturbances that occur as a result of construction and operation of the borrow pit are not expected to alter migration patterns or wildlife corridors. Any removal of migratory bird nests would be done in accordance with current federal and state requirements. Overall, the impacts of construction and operation activities on wildlife would be minimal. No wetlands are located at or adjacent to the proposed sites.

Under the No-action Alternative, the only change to the current risks to biological resources as a result of using the existing borrow pit or purchasing borrow material for airfield expansion and other Fort Greely projects would be from the increase in dump truck travel. Vehicles would use existing transportation routes, and spill prevention methods would continue to be implemented. No significant adverse impacts to biological resources from operation of the existing borrow pit or operation of the borrow pits in the region have been identified. No additional substantial impacts to biological resources are anticipated.

Cultural Resources—Given the potential for archaeological properties and/or traditional cultural properties to occur in the Fort Greely area, impacts could occur from ground-disturbing activities. However, the Allen Army Airfield Borrow Pit would be located within an area that has been graded and disturbed in the past and was determined during a 1997 survey as having a very low potential for finding subsurface archaeological deposits. No impacts would occur to known buildings and structures potentially eligible for listing in the National Register.

The DPW Borrow Pit would be created within an area determined to have a potential for subsurface archaeological resources. A survey of the area will be conducted before excavation begins. Any sites that are discovered during the course of the survey would be cordoned off and the proposed DPW Borrow Pit location adjusted as necessary to avoid impacts.

If cultural items are unexpectedly discovered during construction of the borrow pit or during excavation of fill material, activities would cease in the immediate area and a qualified cultural resource manager would determine if the resources represent an undisturbed archaeological site. If so, the State Historic Preservation Office and potentially affiliated Native Alaskans would be notified in accordance with existing U.S. Army Garrison Fort Greely procedures.

Under the No-action Alternative, cultural resources would continue to be managed at Fort Greely to ensure that no effects to historic properties occur during use of the existing borrow pit for airfield expansion and other Fort Greely projects. If cultural items are discovered during excavation of fill material at the existing Fort Greely borrow pit, activities would cease in the immediate area, and existing U.S. Army Garrison Fort Greely procedures described above would be implemented. Suppliers of fill material from borrow pits outside of Fort Greely would be responsible for complying with procedures that protect discovered cultural resources.

Geology and Soils—The main issue to geology and soils during construction and operation of a new borrow pit would be associated with soil erosion. However, Best Management Practices such as stabilizing fill slopes from erosion, limiting the amount of area exposed, and the use of hay bales to filter sediment from storm water runoff would be implemented. Upon completion of the construction/operation, the excavated area would be graded, contoured, and reseeded with a seed mixture suitable for the area.

Best Management Practices such as stabilizing fill slopes from erosion and the use of hay bales to filter sediment from storm water runoff would continue to be implemented at the existing borrow pit. No substantial impacts to geology and soils are expected from continuation of activities under the No-action Alternative.

Health and Safety—Construction and operation of a new borrow pit would be performed in accordance with existing construction laws, regulations, and standard operating procedures. No safety impacts to the public are anticipated since the majority of heavy equipment and truck traffic would be located on existing Fort Greely roads. The potential for health and safety impacts to personnel would be reduced since the source of borrow material would be near the areas where fill is required, thus minimizing the distance required for transportation and the potential for increased traffic.

Under the No-action Alternative, there could potentially be a slight increase in worker health and safety risks due to the distance driven from the existing borrow pit or off-site areas to the locations requiring fill material and the potential for an increase in the number of trucks on local roads. Vehicles would use existing transportation routes. Excavation and transport of the required fill material would continue to be performed in accordance with existing applicable standard operating procedures and safety laws and regulations to minimize these risks.

Land Use—Construction and operation of new borrow pits would not affect any existing facilities on Fort Greely or any in the surrounding area. Since Fort Greely is not located in a municipality or a borough, there are no local zoning or land use policies. Use of the location proposed for a new borrow pit site adjacent to the airfield or the DPW Borrow Pit would not conflict with the present land use of adjacent areas.

Continued use of the existing borrow pit or purchasing borrow material should not affect any existing facilities on Fort Greely or the surrounding area, nor conflict with the present land use of adjacent areas.

Noise—Although the increased use of equipment would increase noise levels in the adjacent area, no noise sensitive receptors are known to exist within the region of influence of the proposed new borrow pits. Personnel would wear hearing protective devices as required. No long-term impacts to the noise environment are anticipated.

Under the No-action Alternative, no significant increase in the noise environment at Fort Greely would be expected. Although purchasing borrow material for proposed projects at Fort Greely would require additional off-site truck trips, vehicles would use existing roads. No sensitive receptors should be impacted.

Transportation—Any interference with normal traffic flow in the region due to the construction/operation of new borrow pits on Fort Greely is expected to be minimal. The few additional personnel required would not affect transportation. The increase in daily trips by support personnel would use existing roads. Shorter driving distances under these alternatives would minimize vehicle and dust emissions. Overall, the impacts to traffic from the proposed activities would be minimal.

Trucks would have farther to go under the No-action Alternative, increasing the risk for traffic delays during peak hours and increasing the wear and tear on installation and public roads. However, transport of the required fill material would continue to be performed in accordance with existing safety laws and regulations.

Water Resources—Due to the relatively level topography of the sites proposed for new borrow pits, and low precipitation, drainage patterns would only be altered slightly and surface water runoff and erosion would be minimal. A minor increase in sediment in surface waters is possible but not likely, due to the distance between the proposed sites and surface water bodies. Best Management Practices, such as limiting the amount of area exposed, stabilizing fill slopes from erosion, and using hay bales to filter sediment from storm water runoff, would be implemented to reduce the potential for soil erosion into water resources from construction/operation activities. Potential impacts to water resources resulting from accidental spills of hazardous materials during construction would be minimized because all activities would follow Fort Greely's environmental procedures.

The potential for adverse impacts to ground and surface water would continue to be minimized at the existing borrow pit by implementation of existing spill prevention and cleanup procedures. Best Management Practices, such as stabilizing fill slopes from erosion and using hay bales to filter sediment from storm water runoff, would continue to be used.

Cumulative Impacts—Emissions from mobile sources during construction/operation of the borrow pits would add cumulatively to emissions from other traffic sources in the area, but these emissions would be temporary and intermittent and are not anticipated to result in a measurable impact to air quality within the region of influence. Biological impacts would include the loss of a small amount of habitat at Fort Greely. Given the small amount of loss of wildlife habitat in the region of Fort Greely from past and current development and the vast amount of undeveloped

land in the area, the additional loss of habitat from the proposed borrow pit activities should not result in a substantial cumulative reduction in habitat. No other activities have been identified at Fort Greely that when combined with the Proposed Action would result in cumulative impacts to cultural resources. Implementation of measures during construction/operation to reduce soil erosion would avoid the potential for long-term cumulative impacts to soils. The potential for minor impacts when added to other current or planned activities in the area would not likely result in health and safety impacts.

Construction of one or more borrow pits would reduce the length of truck trips required to obtain borrow material. Use of the current borrow pit or the proposed new borrow pit areas would not conflict with the present land use of adjacent areas, nor preclude other future use of the land. No long-term effects to sensitive noise receptors are expected as a result of the Proposed Action or No-action alternative; thus, no cumulative noise impacts are anticipated. Any increase in runoff and water quality levels would be minimal and no other future programs have been identified that when combined with the Proposed Action would contribute to cumulative water resource impacts.

Table ES-1: Summary of Environmental Impacts

Resource Category	Alternative 1—Allen Army Airfield Borrow Pit	Alternative 2—Directorate of Public Works Borrow Pit	No-action Alternative
Air Quality	The levels of dust generated would vary depending on a project's level of activity, the weather, and the condition of the ground. Approximate PM-10 emissions associated with required dump truck trips, over unpaved roads, would be 3.5 to 14.0 metric tons (3.9 to 15.4 tons). However, with the implementation of Best Management Practices, including standard dust reduction measures (frequent watering) and proper tuning and preventive maintenance of vehicles, emissions associated with dump truck trips should be reduced by half. No long-term adverse impact on air quality is expected.	The levels of dust generated would vary depending on a project's level of activity, the weather, and the condition of the ground. Approximate PM-10 emissions associated with required dump truck trips, over paved roads, would be up to 0.008 metric ton (0.009 ton). However, with the implementation of Best Management Practices, including standard dust reduction measures (frequent watering) and proper tuning and preventive maintenance of vehicles, emissions associated with dump truck trips should be reduced by half. No long-term adverse impact on air quality is expected.	The levels of dust generated would vary depending on a project's level of activity, the weather, and the condition of the ground. Approximate PM-10 emissions associated with required dump truck trips, including 3.2 kilometers (2 miles) over gravel roads, would be 7.7 to 28.6 metric tons (8.5 to 31.6 tons). However, with the implementation of Best Management Practices, including standard dust reduction measures (frequent watering) and proper tuning and preventive maintenance of vehicles, emissions associated with dump truck trips should be reduced by half. No long-term adverse impact on air quality is expected.
Biological Resources	No long-term substantial effects to vegetation are expected. Temporary displacement of some small mammals and birds. Short-term noise-related impacts to wildlife from construction/operation equipment. No threatened or endangered species have been identified. No direct impacts to wetlands are expected.	No long-term substantial effects to vegetation are expected. Temporary displacement of some small mammals and birds. Short-term noise-related impacts to wildlife from construction/operation equipment. No threatened or endangered species have been identified. No direct impacts to wetlands are expected.	The only potential change to the current risks to biological resources as a result of using the existing borrow pit or purchasing borrow material would be from the increase in dump truck travel.
Cultural Resources	No impacts would occur to known buildings and structures potentially eligible for listing in the National Register. It is located within an area that has been graded and disturbed in the past and determined as having a very low potential for finding subsurface archaeological deposits.	No impacts would occur to known buildings and structures potentially eligible for listing in the National Register. It is located within an area that has been determined as having a potential for finding subsurface archaeological deposits. Survey of the area would be conducted prior to ground disturbance, and the proposed location would be adjusted as necessary to avoid impacts.	No impacts would occur to known buildings and structures potentially eligible for listing in the National Register. No impacts to cultural resources are anticipated.
Geology and Soils	Minor localized soil erosion during construction. No substantial impacts are expected.	Minor localized soil erosion during construction. No substantial impacts are expected.	Minor localized soil erosion during construction. No substantial impacts are expected.
Health and Safety	No safety impacts to the public are anticipated. Minimal distance is required for transportation of excavated material.	No safety impacts to the public are anticipated. Minimal distance is required for transportation of excavated material.	There would be a slight increase in worker health and safety risks due to the distance driven from the existing borrow pit or off-site areas to the locations requiring fill.
Land Use	Use of the location proposed for a new borrow pit site adjacent to the airfield would not conflict with the present land use of adjacent areas.	Use of the location proposed for a new borrow pit site would not conflict with the present land use of adjacent areas.	Continued use of the existing borrow pit or purchasing borrow material should not affect any existing facilities on Fort Greely or the surrounding area, nor conflict with the present land use of adjacent areas.

Table ES-1: Summary of Environmental Impacts (Continued)

Resource Category	Alternative 1—Allen Army Airfield Borrow Pit	Alternative 2—Directorate of Public Works Borrow Pit	No-action Alternative
Noise	<p>No noise sensitive receptors are known to exist within the region of influence of the proposed new borrow pit. Personnel would wear hearing protective devices as required. No long-term impacts to the noise environment are anticipated.</p>	<p>No noise sensitive receptors are known to exist within the region of influence of the proposed new borrow pit. Personnel would wear hearing protective devices as required. No long-term impacts to the noise environment are anticipated.</p>	<p>No significant increase in the noise environment at Fort Greely would be expected, although more vehicles would be present.</p>
Transportation	<p>Any interference with normal traffic flow in the region is expected to be minimal. The few additional personnel required would not affect transportation. Shorter driving distances under this alternative would minimize vehicle and dust emissions. Overall, the impacts to traffic from the proposed activities would be minimal.</p>	<p>Any interference with normal traffic flow in the region is expected to be minimal. The few additional personnel required would not affect transportation. Shorter driving distances under this alternative would minimize vehicle and dust emissions. Overall, the impacts to traffic from the proposed activities would be minimal.</p>	<p>Trucks would have farther to go under the No-action Alternative, potentially increasing the risk for traffic delays during peak hours and increasing the wear and tear on installation and public roads.</p>
Water Resources	<p>Surface water runoff and erosion would be minimal. Potential for adverse impacts to ground and surface water would be minimized by implementation of existing spill prevention and cleanup procedures.</p>	<p>Surface water runoff and erosion would be minimal. Potential for adverse impacts to ground and surface water would be minimized by implementation of existing spill prevention and cleanup procedures.</p>	<p>Surface water runoff and erosion would be minimal. Potential for adverse impacts to ground and surface water would continue to be minimized by implementation of existing spill prevention and cleanup procedures.</p>

ACRONYMS, ABBREVIATIONS, AND DEFINITIONS

ACRONYMS, ABBREVIATIONS, AND DEFINITIONS

borrow pit	excavated area where material is dug for use as fill at another location
CFR	Code of Federal Regulations
CRM	cultural resource manager
dB	decibel
DNL	Day-night Equivalent Sound Level
DPW	Directorate of Public Works
EA	environmental assessment
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
FNSI	Finding of No Significant Impact
GMD	Ground-Based Midcourse Defense
$L_{eq}(1 \text{ hour})$	Continuous Equivalent Sound Level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
overburden	material overlying useful mineral deposits or fill materials
PM-10	particulate matter with a diameter of less than 10 microns
PSD	Prevention of Significant Deterioration
ROI	region of influence
SHPO	State Historic Preservation Officer
SOP	standard operating procedure
VOC	Validation of Operational Concept

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1.0

PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

The U.S. Army Garrison, Fort Greely, Alaska, proposes to establish new sources of borrow materials (aggregate and fill materials) on the installation beginning as early as March 2004. The Proposed Action is to establish additional sources of borrow materials to be used for installation construction projects at Fort Greely, Alaska.

The U.S. Army Garrison, Fort Greely, has determined that an environmental assessment (EA) is required to assess the potential environmental impacts of the Proposed Action. This EA has been prepared in accordance with:

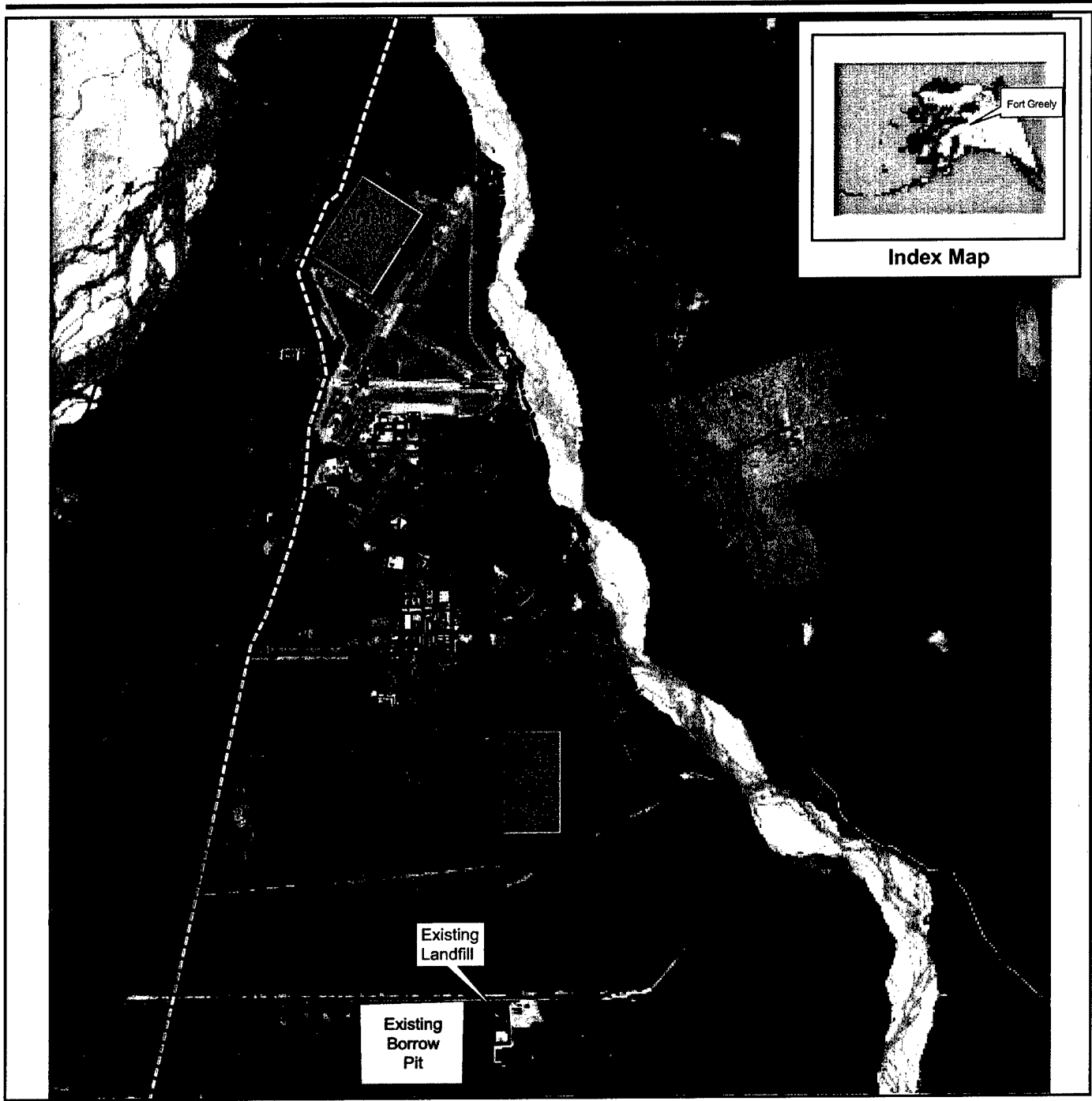
- The National Environmental Policy Act (NEPA) of 1969
- The President's Council on Environmental Quality Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508)
- Department of Defense Instruction 4715.9, *Environmental Planning and Analysis*
- 32 CFR Part 651, Army Regulation 200-2, *Environmental Analysis of Army Actions*

1.2 BACKGROUND









Fort Greely is located approximately 172 kilometers (107 miles) southeast of Fairbanks and just south of the community of Delta Junction in an unincorporated borough. Fort Greely is approximately 2,914 hectares (7,200 acres) (figure 1-1). Currently, borrow materials required for installation construction projects at Fort Greely are obtained either from the existing borrow pit located south of Fire Break Road, to the west of the Fort Greely Landfill (figure 1-1) or they are purchased from a source outside of Fort Greely. The existing borrow pit was initially established to support the construction activities at the Ground-Based Midcourse Defense (GMD) Validation of Operational Concept (VOC) test site beginning in the year 2000. Current plans at Fort Greely include the installation of security fencing around the GMD VOC test site as analyzed in the GMD VOC Supplemental EA (U.S. Army Space and Missile Defense Command, 2002). Security access restrictions could limit entrance into the borrow pit for construction projects outside of the GMD VOC test site.

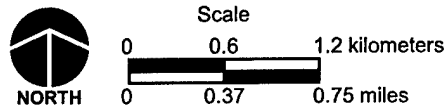
1.3 PURPOSE AND NEED

The purpose of the Proposed Action is to provide additional borrow material sources for installation construction projects at Fort Greely, Alaska. Additional sources of borrow materials are needed at Fort Greely to support installation construction projects. Projects that would potentially use the proposed new borrow material sources include the Allen Army Airfield reconstruction project, the Robin Road and Clearwater Avenue extension projects, and any future



EXPLANATION

-  Potential Borrow Pit Area
-  Existing Borrow Pit
-  Building
- DPW = Directorate of Public Works
-  Installation Boundary
-  Existing Road
-  Existing Fence
-  Pipeline
-  Pipeline Easement



Proposed and Existing Borrow Pit Areas

Fort Greely, Alaska

Figure 1-1

public works projects on the installation. Such future projects would be reviewed as they become more defined, and additional analysis and NEPA documentation would be prepared, as required.

The proposed sources of borrow materials are to be provided in a manner that would minimize transportation/traffic requirements and be the most:

- Convenient
- Safe
- Accessible
- Cost-effective

The proposed borrow material sources would provide a natural source of quality aggregate, reducing the cost associated with transporting large volumes of this type material to construction sites.

1.4 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

This EA documents the environmental analysis of the activities involved with the Proposed Action. The following two alternatives are analyzed in this EA as additional sources of borrow materials for Fort Greely:

- Alternative 1—Allen Army Airfield Borrow Pit
- Alternative 2—Directorate of Public Works (DPW) Borrow Pit

The No-action Alternative is also analyzed in this EA. Under the No-action Alternative, the U.S. Army Garrison, Fort Greely would not establish new sources of borrow materials. Borrow materials for any existing or future projects at Fort Greely would either be obtained from the existing borrow pit located adjacent to the GMD VOC test site or purchased from a source outside of Fort Greely.

1.5 DECISION(S) TO BE MADE

Supported by the information in this EA, the U.S. Army Garrison Commander, Fort Greely, will decide whether to:

- Issue a Finding of No Significant Impact (FNSI) and allow the establishment and the operation of new borrow material sources in support of current and future activities at Fort Greely; the decision maker could choose to implement one or more of the alternatives described in this EA
- Direct the preparation of an environmental impact statement (EIS) for further analysis of the Proposed Action
- Take no action with regard to the proposed establishment of new borrow material sources as described in this EA (i.e., the No-action Alternative)

1.6 PUBLIC NOTIFICATION AND REVIEW

A Notice of Availability for this EA and the enclosed Draft FNSI was published in local newspapers near Fort Greely (Delta Junction and Fairbanks), beginning a 15-day public review period. Copies of the Final EA and Draft FNSI were placed in the following local libraries:

Delta Community Library
Delta Junction, Alaska

Fairbanks North Star Borough Public Library
Noel Wien Library
Fairbanks, Alaska

University of Alaska, Fairbanks
Elmer E. Rasmuson Library
Fairbanks, Alaska

Copies of the Final EA and Draft FNSI are available via the Internet at <http://www.smdcen.us/pubdocs/>.

2.0

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

The Proposed Action analyzed in this EA is the establishment of new sources of borrow materials at Fort Greely, Alaska by the U.S. Army Garrison and its designated contractor(s). The development of new borrow material sources at Fort Greely could begin as early as March 2004. These borrow material sources would be activated and used on a project-dependent basis and would not be ongoing, permanent operations.

The Allen Army Airfield reconstruction project would require approximately 76,456 to 305,822 cubic meters (100,000 to 400,000 cubic yards) of borrow materials. Quantities of borrow materials on the order of 7,646 cubic meters (10,000 cubic yards) would be needed for smaller projects on the installation. Two potential new sources of borrow materials are analyzed in this EA. Section 2.1.1, Alternative 1, describes the establishment and operation of a new borrow pit adjacent to Allen Army Airfield. Section 2.1.2, Alternative 2, describes the establishment and operation of a new borrow pit to the southeast of the cantonment area, to be called the DPW Borrow Pit. As part of the Proposed Action, one or both of these alternatives could be implemented.

The areas at Fort Greely proposed for use as new borrow pits would be cleared and grubbed in increments of approximately 4 hectares (10 acres) at the DPW Borrow Pit and 16 hectares (40 acres) at the airfield pit, as needed. When overburden (material overlying useful mineral deposits or fill materials) is removed, it would be placed in temporary locations within the borrow pit area. All useful borrow materials would then be excavated from each borrow pit, as needed.

Equipment such as bulldozers, backhoes, front-end loaders, and dump trucks would be used to remove materials from the borrow pits and transport the borrow material to the desired project locations. The quantities and sizes of the equipment to be used at the borrow pits are project dependent and therefore cannot be specified at this time. However, appendix C provides the estimated types and quantities of equipment required for the proposed borrow area adjacent to Allen Army Airfield during the airfield reconstruction project.

Temporary locations would be established within each borrow pit area for rock crushing and screening operations. After all useful borrow materials have been removed from a specified portion of the borrow pit, the previously removed overburden would be placed back in the excavated area of the borrow pit, the area would be properly graded, and vegetation would be re-seeded. Best Management Practices would be implemented during the establishment, operation, and closure of each area of the borrow pit in order to minimize the potential for environmental impacts.

The designated contractor(s) tasked with implementing the establishment and/or operation of each borrow pit on Fort Greely would obtain a National Pollutant Discharge Elimination System Permit before beginning any earthwork activities. Construction and operation of new borrow pits on Fort Greely could potentially be performed by Fort Greely personnel, the initial clearing and grubbing in particular. The number of construction and/or operational personnel needed on-site is anticipated to be less than 20, but the actual number of personnel would be project dependent.

2.1.1 ALTERNATIVE 1—ALLEN ARMY AIRFIELD BORROW PIT

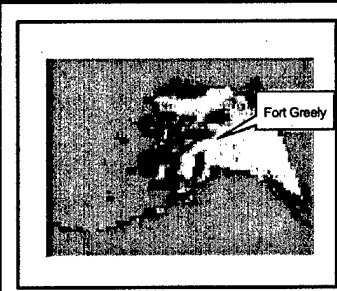
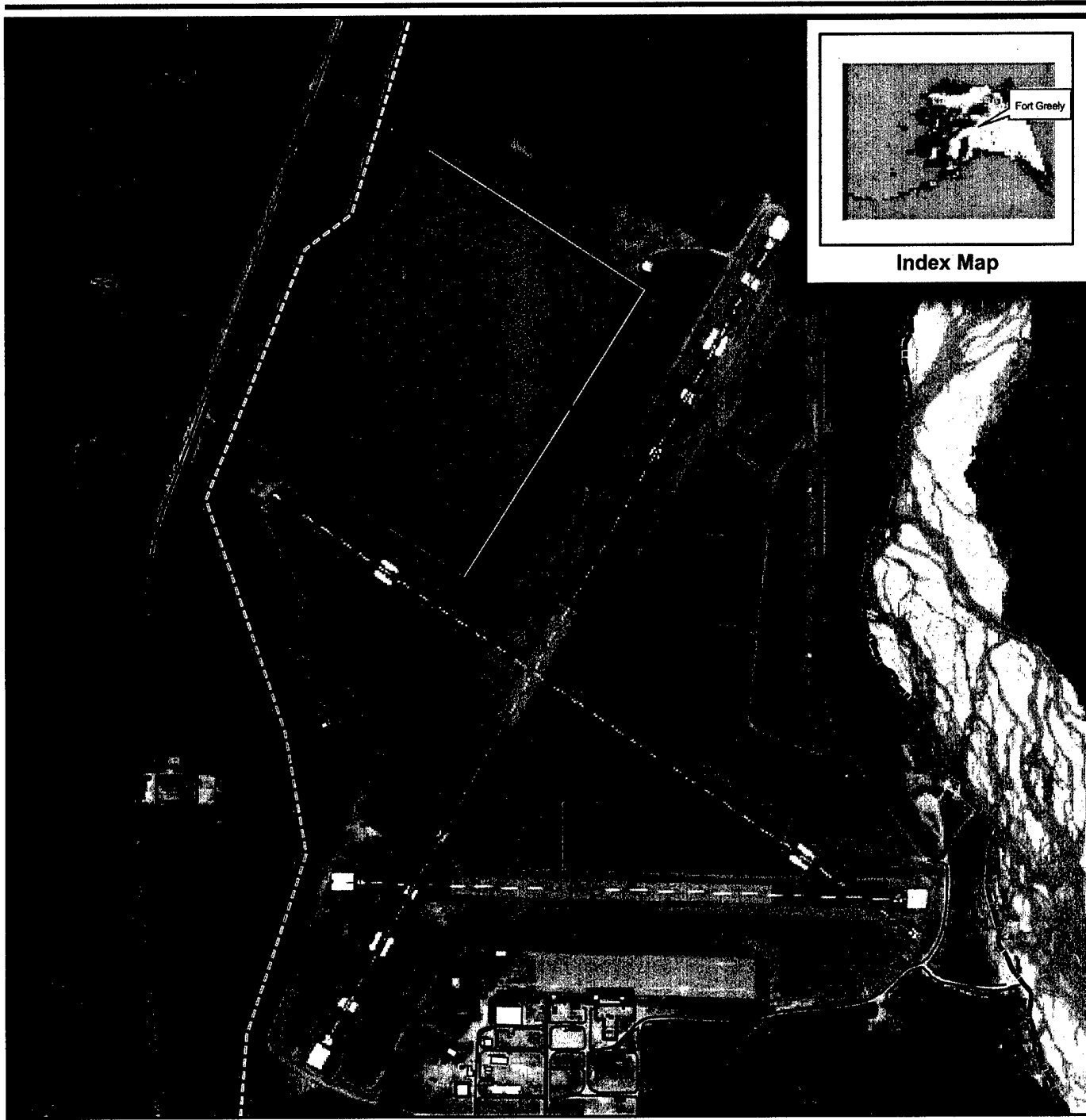
A potential new source of borrow materials could be created by establishing and operating a borrow pit in the area to the northwest of Allen Army Airfield (see figure 2-1). This borrow pit would provide borrow materials for the Allen Army Airfield reconstruction project. After the completion of the airfield reconstruction project, the proposed borrow pit could be used, as needed, for any future projects in other nearby areas. The Airfield Borrow Pit would have a maximum area of approximately 49 hectares (120 acres). The area shown in figures 1-1 and 2-1 is for illustration purposes. The actual borrow pit would be within the same general area. However, only a portion of the borrow pit area would be used at any one time. Borrow materials would be removed from the Airfield Borrow Pit up to a maximum depth of approximately 3 meters (10 feet). Because of its closeness to the airfield reconstruction project, the proposed Airfield Borrow Pit would provide a significant cost savings for the project.

2.1.2 ALTERNATIVE 2—DIRECTORATE OF PUBLIC WORKS BORROW PIT

A second potential new source of borrow materials could be created by establishing and operating a borrow pit to the southeast of the main cantonment area on Fort Greely between East Post Road and Landfill Road (see figure 2-2). The DPW Borrow Pit would be used for current and future public works projects at Fort Greely.








The proposed DPW Borrow Pit would encompass a maximum area of approximately 40 hectares (100 acres). An access road, approximately 122 meters (400 feet) in length, would be constructed east from Landfill Road into the proposed DPW Borrow Pit area. The area shown in figures 1-1 and 2-2 is for illustration purposes. The actual borrow pit would be within the same general area. The DPW Borrow Pit would be excavated in small sections, or "cells," each measuring approximately 4 hectares (10 acres). Borrow materials would be removed from each cell up to a maximum depth of approximately 6 meters (20 feet). After all useful borrow materials are removed from a cell, another cell would be created and all overburden from the newly established cell would be placed in the previous borrow pit cell. The previous borrow pit cell would then be properly graded and re-seeded. Therefore, only one cell would be "open" for the excavation of borrow materials at any given time.

The proposed DPW Borrow Pit would provide a ready source of borrow materials near the main cantonment area of the installation and would be used as the main source for installation construction projects (other than the Allen Army Airfield reconstruction project). The proposed DPW Borrow Pit could also be used as a source for borrow materials when access is limited to either the existing borrow pit adjacent to the GMD VOC test site (because of security restrictions) or to the proposed Allen Army Airfield (as a result of air traffic).



Index Map

EXPLANATION

-  Potential Borrow Pit Area
-  Building
-  Installation Boundary
-  Existing Road
-  Existing Fence
-  Pipeline
-  Pipeline Easement

**Potential Airfield
Borrow Pit Area**

Fort Greely, Alaska

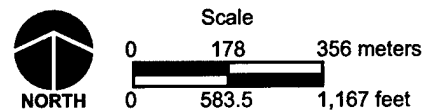







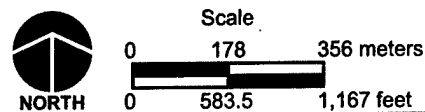
Figure 2-1



EXPLANATION

-  Potential Borrow Pit Area
-  Building
-  Installation Boundary
-  Existing Road
-  Existing Fence

DPW = Directorate of Public Works



Potential Directorate of Public Works Borrow Pit Area

Fort Greely, Alaska

Figure 2-2

2.2 NO-ACTION ALTERNATIVE

Under the No-action Alternative, the U.S. Army Garrison, Fort Greely would not establish and operate new sources of borrow materials as analyzed in this EA. Borrow materials for any existing or future projects at Fort Greely would either be obtained from the existing borrow pit located adjacent to the GMD VOC test site, or purchased from a source outside of Fort Greely.

The main purpose of the existing borrow pit is to provide borrow materials to support construction activities at the GMD VOC test site. Current plans at Fort Greely include the installation of security fencing around the GMD VOC test site and potentially the existing borrow pit.

2.3 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

Jarvis Creek Borrow Area

Areas along the eastern boundary of Fort Greely, near Jarvis Creek, have been used in the past as sources for borrow material. Formal permission is required from the State of Alaska, Department of Fish and Game, Habitat and Restoration Division in order to excavate borrow materials from the creek bed. The available quantity of borrow materials within the creek bed would not meet the quantities required for installation construction projects at Fort Greely. The areas along the creek bed are generally difficult for excavation and transport equipment to reach. Due to the limited quantity available and the difficult and potentially unsafe conditions involved with obtaining borrow materials from the previously used areas along Jarvis Creek, this alternative was not carried further in the analysis portion of this EA.

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3.0 AFFECTED ENVIRONMENT

3.0 AFFECTED ENVIRONMENT

This section describes the environmental characteristics that may be affected by the Proposed Action. The information provided serves as a baseline from which to identify and evaluate environmental changes resulting from activities proposed at Fort Greely. To provide a baseline point of reference for understanding any potential impacts, the affected environment is briefly described; any components of concern are described in greater detail.

Environmental Resources

The resource areas necessary to provide a context for understanding the potential effects of the Proposed Action and alternatives and to provide a basis for assessing the severity of potential impacts are air quality, biological resources, cultural resources, geology and soils, health and safety, land use, noise, transportation, and water resources.

Resource areas that have been adequately analyzed in prior NEPA documents or are not expected to be affected sufficiently at Fort Greely as described below to warrant further discussion in this section include airspace, hazardous materials and waste, infrastructure, socioeconomics, subsistence, and environmental justice.

Airspace

Proposed activities at Fort Greely would not affect controlled and uncontrolled airspace, Special Use Airspace, en route airways and jet routes, or airfields.

Hazardous Materials and Waste

Hazardous materials and waste used/generated during borrow pit construction and operation on Fort Greely, such as oils and motor fuels, would be similar to those routinely used/generated at Fort Greely and analyzed in prior documents; thus, no adverse impacts are anticipated. All hazardous materials and waste would be managed in accordance with SOPs and regulations in place at Fort Greely. Procedures are in place for unexpected discovery of hazardous materials.

Infrastructure

Proposed activities at Fort Greely would be performed within current infrastructure facilities and systems capacities.

Socioeconomics

As a result of Fort Greely's isolation, limited population, local economic activity, and limited proposed activities, only minor socioeconomic impacts are anticipated.

Subsistence

The use of Fort Greely for subsistence is minimal.

Environmental Justice

Based upon the 2000 Census of Population and Housing, the Southeast Fairbanks Census Area has a population of 6,174. Of that total, 1,167 persons, or 18.9 percent, were low income, and 1,463 persons, or 23.7 percent, were minority. The Proposed Action would occur on an existing installation, and proposed activities would be conducted in a manner that would not substantially affect human health or the environment. This EA has identified no effects that would result in disproportionately high and adverse effect on minority and low-income populations in the area. The activities would also be conducted in a manner that would not exclude persons from participating in, deny persons the benefits of, or subject persons to discrimination because of their race, national origin, or income.

3.1 AIR QUALITY

The significance of a pollutant concentration is determined by comparison with National Ambient Air Quality Standards (NAAQS) and State Ambient Air Quality Standards that establish limits on the maximum allowable concentrations of various pollutants to protect public health and welfare. Alaska has established State Ambient Air Quality Standards. Emissions of air pollutants from operations in Alaska are limited to the more restrictive standard (federal or state). Table 3-1 lists the NAAQS and Alaska Ambient Air Quality Standards.

Region of Influence

Identifying the region of influence (ROI) for air quality assessment requires knowledge of the pollutant types, source emissions rates and release parameters, proximity relationships of project emission sources to other emission sources, and local and regional meteorological conditions. For air pollutants at Fort Greely, the ROI is generally limited to an area extending no more than a few tens of kilometers (miles) downwind from the source.

Affected Environment

Climate

Fort Greely and the surrounding area experience seasonal temperature extremes. January temperatures range from -30 to -19° Celsius (-22 to -2° Fahrenheit); July temperatures range from 10 to 22° Celsius (50 to 72° Fahrenheit). Average annual precipitation is 28.7 centimeters (11.3 inches). (Alaska Department of Community and Economic Development, 2003) Wind speeds average approximately 18 kilometers (11 miles) per hour and are generally southerly along the Delta River in the summer (the main construction season).

Regional Air Quality

Air quality in Alaska is generally very good. Principal sources of air pollution in the Fort Greely area are from limited vehicle traffic and fuels burned for heat and/or power. The Fort Greely area is in attainment for all NAAQS and state standards.

Pollutants from mobile sources, such as automobiles and construction equipment, include hydrocarbons, carbon monoxide, nitrogen oxides, and particulate emissions. The primary pollutant of concern from mobile sources in Alaska is carbon monoxide. Up to 80 percent of carbon monoxide emissions contributing to exceedances of the NAAQS in Fairbanks have been

attributed to mobile sources. Cold starts during moderately cold weather, prolonged idling periods, and low-level temperature inversions all contribute to pronounced air quality impacts from motor vehicle emissions in cold climates.

Table 3-1: NAAQS and Alaska State Ambient Air Quality Standards

Pollutant	Averaging Time	Alaska State Standard	National Primary Standard	National Secondary Standard
Carbon Monoxide	8-hour	10 mg/m ³ (9 ppm)	10 mg/m ³ (9 ppm)	None
	1-hour	40 mg/m ³ (35 ppm)	40 mg/m ³ (35 ppm)	None
Nitrogen Dioxide	Annual ⁽¹⁾	100 µg/m ³ (0.035 ppm)	100 µg/m ³ (0.035 ppm)	Same as Primary
Ozone	8-hour ⁽²⁾	None	157 µg/m ³ (0.08 ppm) ⁽¹⁾	Same as Primary
	1-hour	235 µg/m ³ (0.12 ppm)	235 µg/m ³ (0.12 ppm)	Same as Primary
Lead	Quarterly ⁽¹⁾	1.5 µg/m ³	1.5 µg/m ³	Same as Primary
PM-2.5	Annual ⁽³⁾	None	15 µg/m ³	Same as Primary
	24-hour ⁽⁴⁾	None	65 µg/m ³	Same as Primary
PM-10	Annual	50 µg/m ³	50 µg/m ³	Same as Primary
	24-hour ⁽⁵⁾	150 µg/m ³	150 µg/m ³	Same as Primary
Sulfur Dioxide ⁽⁶⁾	Annual ⁽¹⁾	80 µg/m ³ (0.03 ppm)	80 µg/m ³ (0.03 ppm)	None
	24-hour	365 µg/m ³ (0.14 ppm)	365 µg/m ³ (0.14 ppm)	None
	3-hour	1300 µg/m ³ (0.5 ppm)	None	1300 µg/m ³ (0.5 ppm)
Ammonia	8-hour	2.1 mg/m ³ (3.0 ppm)	None	None
Reduced Sulfur ⁽⁶⁾	30-minute	50 µg/m ³ (0.02 ppm)	None	None

Source: Alaska Department of Environmental Conservation, Division of Air and Water Quality, URL: <http://www.state.ak.us/local/akpages/ENV.CONSERV/dawq/aqi/standard.htm>

⁽¹⁾ Calculated as the arithmetic mean

⁽²⁾ Calculated as the 3-year average of the fourth highest daily maximum 8-hour ozone concentration

⁽³⁾ Calculated as the 3-year average of the arithmetic means

⁽⁴⁾ Calculated as the 98th percentile of 24-hour PM-2.5 concentration in a year (averaged over 3 years) at the population-oriented monitoring site with the highest measured values in the area.

⁽⁵⁾ Calculated as the 99th percentile of 24-hour PM-10 concentrations in a year (averaged over 3 years).

⁽⁶⁾ Measured as sulfur dioxide

mg/m³ = milligrams per cubic meter

µg/m³ = micrograms per cubic meter

ppm = parts per million

Existing Emissions Sources

Fort Greely has major emissions sources from boilers, generators, and storage tanks. The Alaska Department of Environmental Conservation issued a Title V permit for Fort Greely to be in effect 1 January 2004 until 31 December 2008 (Alaska Department of Environmental Conservation, 2003). Fort Greely is not a major source of hazardous air pollutants.

The current permit requires Fort Greely to limit particulate matter with a diameter of less than 10 microns (PM-10) emissions and all other criteria pollutants to 227 metric tons (250 tons) per

year each to avoid a classification as a Prevention of Significant Deterioration (PSD) Major Modification. Oxides of nitrogen are the controlling pollutants on Fort Greely. (Alaska Department of Environmental Conservation, 2003)

3.2 BIOLOGICAL RESOURCES

Existing information on plant and animal species and habitat types in the vicinity of the proposed sites was reviewed, with special emphasis on the presence of any species listed as threatened or endangered by federal or state agencies, to assess their sensitivity to the effects of the Proposed Action. For the purpose of discussion, biological resources have been divided into the areas of vegetation, wildlife, and environmentally sensitive habitat.

Region of Influence

The ROI for biological resources includes the area within and immediately adjacent to the existing borrow pit and proposed borrow pit sites on Fort Greely that could potentially be affected by the proposed activities.

Affected Environment

Vegetation

The predominant vegetation at the proposed sites on Fort Greely and the adjacent region is low growing spruce forest, which is common throughout Interior Alaska. Lowland black spruce interspersed with heath bog communities covers a large portion of Fort Greely. Dominant tree species are black spruce, aspen, and balsam poplar. The understory and groundcover consist of mountain cranberry and bog blueberry, marsh labrador tea, crowberry, and a variety of mosses and lichens. (U.S. Army Alaska Conservation Program Web Page, 2003)

Native vegetation was removed from most of the cantonment area during the 1950s. A few isolated pockets of forest remain, particularly north of the airfield and south of the missile field. In June 1999, a wildfire burned through the area, destroying much of the vegetation within Fort Greely. Consequently, the habitat types in the burned areas are now in an early successional stage consisting mostly of bare soil, grasses, sprouts, and seedlings.

No federally proposed or listed threatened, endangered, or candidate plant species are found in interior Alaska.

Wildlife

Common big game species in the area include black bear, grizzly bear, wolf, moose, bison, and barren ground caribou. Within the current Fort Greely boundary, moose is the most common big game species. (U.S. Army Alaska Conservation Program Web Page, 2003) According to the Alaska Department of Fish and Game (Ihlenfeldt, 2002), approximately 971 hectares (2,400 acres) of quality moose habitat is found on Fort Greely, a small percentage of the available habitat for moose in the region. Fort Greely falls within the Alaska Department of Fish and Game, Game Management Unit 20D, which has approximately 14,589 square kilometers (5,633 square miles). An estimated 4,956 to 6,704 moose are located in this unit, with 6 to 10 moose using all of Fort Greely.

Commonly occurring predators include grizzly bear, black bear, gray wolf, red fox, marten, coyote, and wolverine. Additional species trapped for fur on Fort Greely are mink, muskrat, snowshoe hare, beaver, lynx, wolf, and red squirrel. Wildlife usage of the cantonment and similarly developed areas include small rodents, ground squirrels, and bats. Moose and other big game species also occasionally use these areas. Birds occurring within the ROI include the common raven, willow ptarmigan, rock ptarmigan, spruce grouse, ruffed grouse, owls, and a variety of songbirds. (U.S. Army Alaska Conservation Program Web Page, 2003)

No known threatened, endangered, or candidate resident wildlife species occur on Fort Greely. The recently delisted American and Arctic peregrine falcons may migrate through the area during spring and fall migration periods. However, there have been no confirmed sightings of these species within 16 kilometers (10 miles) of Fort Greely. (Ballistic Missile Defense Organization, 2000)

Environmentally Sensitive Habitat

No federally designated critical habitat has been identified on Fort Greely.

Wetlands generally include swamps, marshes, bogs, and similar areas. The U.S. Army Corps of Engineers Alaska District and the U.S. Environmental Protection Agency (EPA) regulate wetlands through the Clean Water Act Section 404 Permitting Program. Based on the National Wetlands Inventory, a small palustrine, forested, saturated, needle-leaved evergreen wetland appears to be located southeast of the proposed southern borrow pit. However, National Wetlands Inventory maps are not always reliable, and a final determination must be made by the U.S. Army Corps of Engineers based on a field investigation. This was done for Fort Greely, and only the area along the southern Fort Greely boundary was determined to be a wetland (Phillips, 2002).

3.3 CULTURAL RESOURCES

Cultural resources include prehistoric and historic sites, structures, districts, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or any other reason.

Region of Influence

The ROI for cultural resources includes that area that could potentially be disturbed by construction and operation activities associated with the proposed borrow pits.

Affected Environment

Prehistoric and Historic Archaeological Resources

Archaeological evidence indicates that the Fort Greely area has been occupied for 10,000 to 12,000 years. Known sites are found in every vegetative community predominantly west of the Delta River, which is out of the ROI. Most of the sites are surface flake scatters or isolated artifacts, or are found in a disturbed context and contain insufficient information to determine site function, affiliation, or age. Aerial photos going back as far as 1949 indicate that ground surface near the runways, aircraft revetments, and parking aprons of the airfield has been

extensively disturbed. There is little chance of discovering intact subsurface archaeological deposits in this area. However, three archaeological sites were identified in the Fire Tower Hill area (northeast of the cantonment area), one of which is eligible for the National Register of Historic Places (Holmes, 2002). A fourth site is overlooking Jarvis Creek, southeast of the cantonment area and the area proposed for the DPW Borrow Pit.

A 1997 survey identified no new sites in the airfield area, which is located within a zone of low probability for potential subsurface archaeological sites (Reynolds, 1997). The area southeast of the cantonment area where the DPW Borrow Pit will be located is classified as an area with the potential to find archaeological resources.

Historic Buildings and Structures

A historic district with 26 buildings that is associated with Cold War activities at Fort Greely was recorded in a modified Historic American Buildings Survey in 2000. A Memorandum of Agreement with the Alaska State Historic Preservation Office (SHPO) was signed for the treatment of those properties.

Native Populations/Traditional Resources

No Alaska Native traditional cultural properties have been formally identified within the ROI. However, six tribal entities were identified by the Tanana Chief's Council as having a cultural interest in the Fort Greely area. Those tribes will be contacted and have an opportunity to comment on this EA.

Paleontological Resources

The ROI at Fort Greely is situated within an alluvial fan, characterized by glacial till; portions of the ROI are also underlain by permafrost. A fragment of a mammoth tusk was found near the cantonment area in 2003, but it was not in context with other paleontological or archaeological artifacts. No other paleontological resources have been found in the ROI.

3.4 GEOLOGY AND SOILS

Geology and soils include those aspects of the natural environment related to the earth, which may affect or be affected by the Proposed Action. These features include physiography, geologic units and their structure, the presence/availability of mineral resources, soil condition and capabilities, and the potential for natural hazards.

Region of Influence

The ROI for geology and soils includes that area that could potentially be disturbed by construction and operation activities associated with the proposed borrow pits.

Affected Environment

Physiography

Fort Greely encompasses a portion of Tanana–Kuskokwim Lowlands physiographic province. Streams flowing through the foothills generally originate in the Alaska Range and flow north in rugged V-shaped canyons and across broad terraced valleys. Fort Greely is situated between two significant drainages originating in the foothills—the Delta River to the west and Jarvis Creek to the east.

Geology

Fort Greely is located on a low alluvial terrace that has a gently undulating surface. The terrace is composed of glacial outwash deposits that are underlain by till, which is in turn underlain by stratified gravel. Moraine (glacial deposits) features to the east and south of the cantonment are composed of coarse, unstratified, unsorted till ranging from silty gravel with sand to sandy silt with gravel.

Wind blown loess (fine-grained calcareous silt or clay) of glacial origin forms a mantle over much of the Fort Greely area, ranging from several centimeters thick to greater than 1.5 meters (5 feet) thick. Discontinuous permafrost occurs throughout the region. The permafrost ranges from the surface to as much as 66 meters (217 feet) below ground surface.

Soils

No detailed soil surveys have been completed for Fort Greely. Shallow, well-drained silt loams with sandy to gravelly underlying material occupy most of the rolling uplands on the surface of the glacial moraines and alluvium east of the Delta River. The exact thickness and areal extent of these soils at the site are unknown.

3.5 HEALTH AND SAFETY

Health and safety includes consideration of any activities, occurrences, or operations that have the potential to affect one or more of the following:

- The well-being, safety, or health of workers; persons directly involved with the operation producing the effect or who are physically present at the operational site.
- The well-being, safety, or health of members of the public; persons not physically present at the location of the operation. Also included within this category are hazards from equipment.

Region of Influence

The ROI for health and safety of workers includes the immediate work areas used during the proposed activities. The ROI for public safety includes properties immediately adjacent to the installation and the regional transportation network.

Affected Environment

Fort Greely maintains maintenance personnel and firefighting support. The fire station is located in the cantonment area and is staffed to support current activities. To assist in emergency response, Fort Greely maintains cooperative agreements with most of the small communities within a 161-kilometer (100-mile) radius of the installation.

Under a Memorandum of Understanding, the Bureau of Land Management Alaska Fire Service is responsible for fire detection and suppression on withdrawn lands. The Alaska Fire Service has a reciprocal Fire Protection Agreement with the State of Alaska, Department of Natural Resources, Division of Forestry. Nineteen fires of 40 hectares (100 acres) or more occurred on Fort Greely from 1954 to 1997. A 15-meter (50-foot) firebreak around all facilities has historically been required.

3.6 LAND USE

Land use can be defined as the human use of land resources for various purposes including economic production, natural resources protection, or institutional uses. Land uses are frequently regulated by management plans, policies, ordinances, and regulations that determine the types of uses that are allowable or protect specially designated or environmentally sensitive uses. Potential issues typically stem from encroachment of one land use or activity on another or an incompatibility between adjacent land uses that leads to encroachment.

Region of Influence

The ROI for land use includes all lands on and adjacent to Fort Greely that could be potentially affected by the Proposed Action.

Affected Environment

Fort Greely is not located in a municipality or a borough, and there are no local zoning or land use policies. There are also no state zoning or land use plans or guidelines for the area. Therefore, existing land uses do not conflict with any federal, state, or local land use plans or policies. The land around Fort Greely is composed of forests, tundra, or wetlands and serves as a military training range. The closest inhabited structures are in Delta Junction.

The current Fort Greely is approximately 2,914 hectares (7,200 acres). The remainder of the former Fort Greely was transferred to Fort Wainwright, Alaska, and remains under U.S. Army Alaska control. When portions of the range are not in use for the testing of materials, infantry, and artillery, engineer units use the area for non-firing marches, troop maneuvers, artillery unit training, and small arms training (with blank ammunition).

In the past, the military and the public used the former Fort Greely for a wide range of recreation activities. Recreational use of the Donnelly Training Area continues; however, for security reasons, the current Fort Greely is only accessible to authorized personnel.

The majority of Fort Greely is heavily forested, including the western boundary as viewed from Richardson Highway. This is the only area commonly observed by the public. The use of Fort

Greely's natural resources for legal subsistence is nonexistent (U.S. Department of the Army, 1999). Hunting, fishing, and trapping permits for Fort Greely are issued to civilians. Most are residents of non-native communities in Big Delta and Delta Junction.

3.7 NOISE

Noise is typically described as unwanted sound. Characteristics of sound include amplitude, frequency, and duration. Sound can vary over an extremely large range of amplitudes. The decibel (dB) is the accepted standard unit for the measurement of the amplitude of sound because it accounts for the large variations in amplitude and reflects the way people perceive changes in sound amplitude.

Region of Influence

The ROI for noise includes those areas potentially affected by proposed activities that could experience Day-night Equivalent Sound Levels (DNLs) greater than or equal to 65 A-weighted decibels, those areas potentially affected by proposed activities that might experience short-term events (of less than 8 hours) with noise levels greater than or equal to 85 A-weighted decibels, and those areas potentially affected by proposed activities that might experience a Continuous Equivalent Sound Level ($L_{eq(1 \text{ hour})}$) greater than or equal to 67 A-weighted decibels.

Affected Environment

The principal sources of noise at Fort Greely and the surrounding area are vehicular traffic and military activities. The main highways in the vicinity of Fort Greely are the Richardson Highway and the Alaska Highway. Military activities include aircraft overflight and firing of large and small caliber weapons. Frequency and duration of noise from military activities vary with training schedules. No sensitive noise receptors are known to exist in the vicinity of Fort Greely. (Ballistic Missile Defense Organization, 2000)

3.8 TRANSPORTATION

The evaluation of existing roadway and airport conditions is based on capacity, or the ability of a given roadway or airport to accommodate vehicular demand and volume. Roadway travel in Alaska is limited, with the only highways being in the southeastern quarter of the state. Due to the limited amount of roadways, the traffic volume in sparsely populated areas tends to be greater than that experienced in the lower 48 states. The summer months experience the highest amount of traffic, due to tourism and good weather. Given the vast area of Alaska and limited road network, aircraft provide an alternate means of transportation.

Region of Influence

The ROI for the transportation analysis includes the Richardson Highway in the vicinity of Fort Greely, the Alaska Highway at Delta Junction, and Fort Greely installations roads. These roadways are expected to be used for construction and operation activities.

Affected Environment

Fort Greely is located approximately 172 kilometers (107 miles) southeast of Fairbanks and just south of the community of Delta Junction. The Richardson Highway provides access to the base. The primary roads in the area are the Richardson Highway, which runs north-south connecting Fairbanks and Valdez, and the Alaska Highway, which runs east-west connecting Delta Junction with the Canadian-American border. Fort Greely is located approximately 10 kilometers (6 miles) south of the junction of these two highways.

Roads serving Fort Greely or the cantonment area are generally paved and in good condition. The area surrounding Fort Greely is sparsely populated with a moderate traffic flow. (U.S. Army Alaska Conservation Program Web Page, 2003)

3.9 WATER RESOURCES

This section describes the existing water resource conditions at each of the proposed sites. Water resources include surface water, groundwater, water quality, and flood hazard areas.

Region of Influence

The water resources ROI includes all surface water features, drainage areas, and underlying aquifers that could be affected by construction or operations. This includes the area from the Allen Army Airfield south to the southern boundary.

Affected Environment

Surface Water

Fort Greely is in the Delta River watershed. The Delta River to the west and Jarvis Creek immediately east are the two primary drainages for the Fort Greely ROI. Both are glacier-fed and silt-laden. The peak flow in these water systems is reached in late summer. Minimum flow occurs in winter when Jarvis Creek and Delta River are generally frozen solid. Other surface water bodies within the ROI are intermittent, unnamed creeks and lakes.

Although floodplain boundaries have not been developed for the ROI, there is a low probability of flooding. High flows in the Delta River overflow to the west rather than toward the ROI. Jarvis Creek overflowed into an old channel during a 1967 flood. Since a barrier was placed at the overflow location, flooding has not occurred.

Due to the relatively flat terrain and permeable soils within the ROI, much of the storm water runoff infiltrates before it reaches a water body. Fort Greely operates under a National Pollution Discharge Elimination System Multi-Sector Industrial Storm Water Permit, and a Stormwater Pollution Prevention Plan was submitted in July 2003 and approved in August 2003. (Moran, 2003)

Groundwater

Groundwater flows northeasterly at a regional gradient ranging from approximately 1.5 to 6 meters (5 to 21 feet) per 1.6 kilometers (1 mile). Groundwater in the area is recharged continuously by the Delta River and by infiltration of meltwater from the Alaska Range in the late spring and early summer. The depth to groundwater ranges from 30 meters (100 feet) to at least 64 meters (210 feet) and fluctuates in response to seasonal recharge (U.S. Army Alaska Conservation Program Web Page, 2003).

Water Quality

The drinking water source at Fort Greely is groundwater. Groundwater quality in the vicinity of Fort Greely meets the state drinking water standards. Measurements of pH on Fort Greely have been within the state standards. (Ballistic Missile Defense Organization, 2000)

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4.0 ENVIRONMENTAL CONSEQUENCES

4.0 ENVIRONMENTAL CONSEQUENCES

This chapter describes the potential environmental consequences of the proposed activities by comparing them with the potentially affected environmental components. Potential impacts are discussed in terms of construction and operation for each alternative. The amount of detail presented in each section is proportional to the potential for impacts.

As discussed in chapter 3.0, the following areas are not expected to be affected sufficiently to warrant analysis and are not addressed in this section: airspace, hazardous materials and waste, infrastructure, socioeconomics, subsistence, and environmental justice.

4.1 PROPOSED ACTION

4.1.1 ALTERNATIVE 1—ALLEN ARMY AIRFIELD BORROW PIT

4.1.1.1 Air Quality

Emissions associated with activities at the proposed 49-hectare (120-acre) Allen Army Airfield Borrow Pit would include fugitive dust from ground disturbance and combustion byproducts from equipment. Ground disturbance would generate dust in the immediate vicinity of the Allen Army Airfield Borrow Pit. The levels of dust generated would vary depending on a project's level of activity, the weather, and the condition of the ground. Table 4-1 lists estimated emissions associated with typical construction equipment operating continuously for 8-hours a day.

Table 4-1: Typical Equipment Emissions

Source	Emissions (kilograms/day [pounds/day])			
	Volatile Organic Compound	Carbon Monoxide	Oxides of Nitrogen	Particulate Matter
Bulldozer	1.66 (3.66)	10.92 (24.07)	14.07 (31.01)	0.60 (1.32)
Grader	0.80 (1.76)	6.45 (14.21)	5.20 (11.46)	0.18 (0.40)
Scraper	1.65 (3.64)	12.22 (26.94)	12.18 (26.86)	0.47 (1.04)
Loader	0.61 (1.35)	5.23 (11.52)	3.64 (8.04)	0.12 (0.26)
Back-hoe	0.29 (0.65)	1.94 (4.28)	2.50 (5.51)	0.11 (0.24)

Source: El Dorado County Air Pollution Control District, 2002

The proposed Allen Army Airfield reconstruction activities would require an estimated 5,000 to 20,000 dump truck loads, at approximately 1.6 kilometers (1 mile) per trip, over an estimated 2-month period. Approximate PM-10 emissions associated with these additional dump truck trips, over unpaved roads, would be 3.5 to 14.0 metric tons (3.9 to 15.4 tons). However, with the implementation of Best Management Practices, including standard dust reduction measures (frequent watering) and proper tuning and preventive maintenance of vehicles, emissions associated with dump truck trips should be reduced by half. It is anticipated that these trips,

along with other borrow pit activities, would not exceed the 227 metric tons (250 tons) per year level established to avoid a classification as a PSD Major Modification. These emissions are also not anticipated to cause exceedances of the NAAQS or Alaska Ambient Air Quality Standards and would not have a long-term adverse impact on air quality in the area. The borrow pit activities would also be included in the fugitive dust control plan to be completed by the end of March 2004, as required by the existing Title V permit at Fort Greely. The implementation of standard dust suppression methods (frequent watering) and a vehicle maintenance program (proper tuning and preventive maintenance of vehicles) would minimize fugitive dust emissions and vehicle exhaust emissions, respectively, and would help to maintain the area's current high air quality. Shorter driving distances under this alternative would minimize vehicle emissions. Thus, activities associated with borrow pit activities should not significantly impact air quality.

Construction and/or operational personnel needed on-site is anticipated to be less than 20. This increase in personnel is not anticipated to cause an increase in net mobile emissions in the area.

4.1.1.2 Biological Resources

Ground disturbance, habitat loss, noise, and an increase in personnel during construction and use of a borrow pit adjacent to Allen Army Airfield at Fort Greely could result in impacts to biological resources present in the area.

Vegetation

Construction of the borrow pit would require clearing and grubbing of the area as described in chapter 2. The total estimated amount of clearing would be an area of up to 48.5 hectares (120 acres), although not all of this area would be excavated at once. The airfield borrow pit would be located within an area composed of mixed forest and deciduous/high brush, which represents a small percentage of the total vegetation on Fort Greely. No threatened, endangered, or candidate vegetation species have been identified on Fort Greely. Upon completion of the required use of the borrow pit, the excavated area would be graded, contoured, and reseeded with a seed mixture suitable for the area. Thus, no long-term substantial effects to vegetation are anticipated.

Wildlife

Construction and operation ground disturbance and equipment noise-related impacts could include loss of habitat, displacement of wildlife, increased stress, and disruption of daily/seasonal behavior. Typical noise levels at 15 meters (50 feet) from construction equipment range from 70 to 98 A-weighted decibels. The combination of increased noise levels and human activity would likely displace some small mammals and birds that forage, feed, nest, or have dens within this 15-meter (50-foot) radius. However, additional similar habitat is adjacent to the area proposed for the borrow pit. Although construction activities could cause flushing (birds suddenly flying up), this is a common reaction to sudden natural sounds that only slightly increases the energy expenditure of individual birds. Any removal of migratory bird nests would be done in accordance with current federal and state requirements. The presence of personnel may cause some wildlife to avoid the area, at least temporarily, but would therefore potentially reduce the potential for impacts from elevated noise levels. Wildlife in the immediate area could be startled by construction and operation noise and possibly avoid or leave the area,

or become accustomed to the increased noise and human presence. Any disturbances that occur as a result of construction and operation of the borrow pit are not expected to alter migration patterns or wildlife corridors. The area that would be lost as moose habitat from the proposed clearing would be within the habitat area previously defined as lost and analyzed in the GMD VOC Supplemental EA. Overall, the impacts of construction and operation activities on wildlife would be minimal.

The peregrine falcon, which was recently delisted but will continue to be monitored, may migrate through the area during spring and fall migration periods and therefore could potentially be disturbed by construction-related noise. However, there have been no confirmed sightings within 16 kilometers (10 miles) of Fort Greely; thus, no adverse impacts to threatened and endangered species are anticipated as a result of construction or operations.

Environmentally Sensitive Habitat

No wetlands are located at or adjacent to the proposed site, so no direct impacts to wetlands would result. Wetlands can be impacted indirectly by disturbance to adjacent land that results in degradation of water quality from chemical or sedimentary runoff. Indirect disturbance to wetlands would be minimized by implementing appropriate techniques to control runoff and other Best Management Practices such as stabilizing fill slopes from erosion and the use of hay bales to filter sediment from storm water runoff from construction sites, which would minimize water quality impacts to any wetlands that could occur adjacent to the site. No environmentally sensitive habitats should be affected as a result of construction or operation activities.

4.1.1.3 Cultural Resources

Given the potential for archaeological properties to occur in the Fort Greely area, impacts could occur from ground-disturbing activities. However, the Allen Army Airfield Borrow Pit would be located within an area that has been graded and disturbed in the past and was determined during a 1997 survey as having a very low potential for finding subsurface archaeological deposits. No impacts would occur to known buildings and structures potentially eligible for listing in the National Register.

If cultural items are unexpectedly discovered during construction of the borrow pit or during excavation of fill material, activities would cease in the immediate area and a qualified cultural resource manager (CRM) would determine if the resources represent an undisturbed archaeological site. If so, the SHPO and potentially affiliated Native Alaskans would be notified in accordance with existing U.S. Army Garrison Fort Greely procedures.

4.1.1.4 Geology and Soils

The main issue to geology and soils during construction and operation of the Allen Army Airfield Borrow Pit would be associated with soil erosion. However, Best Management Practices such as stabilizing fill slopes from erosion, limiting the amount of area exposed, and the use of hay bales to filter sediment from storm water runoff would to be implemented. Upon completion of the construction/operation, the excavated area would be graded, contoured, and reseeded with a seed mixture suitable for the area.

4.1.1.5 Health and Safety

Construction of the Allen Army Airfield Borrow Pit and excavation of the fill material required for airfield renovation activities would be performed in accordance with existing construction laws, regulations, and SOPs. Therefore, no impacts to workers as a result of these activities are expected. No safety impacts to the public are anticipated since activities would occur on the installation and the majority of heavy equipment and truck traffic would be located on existing Fort Greely roads. The potential for health and safety impacts would be reduced since the source of borrow material would be adjacent to the airfield thus minimizing the distance required for transportation and the potential for increased traffic on Landfill Road and through the cantonment area.

4.1.1.6 Land Use

Currently, there are no zoning or land use conflicts with the adjoining areas of Fort Greely, and there is little expectation that this will change. Construction and operation of a new borrow pit adjacent to the Allen Army Airfield would not affect any existing facilities on Fort Greely or any in the surrounding area. Since Fort Greely is not located in a municipality or a borough, there are no local zoning or land use policies. There are also no state plans or guidelines for the area. Therefore, existing land uses do not conflict with any federal, state, or local land use policies. Use of the location proposed for a new borrow pit site adjacent to the airfield would not conflict with the present land use of adjacent areas.

4.1.1.7 Noise

Equipment such as bulldozers, backhoes, front-end loaders, and dump trucks would be used to remove materials from the proposed Allen Army Airfield Borrow Pit and transport the borrow material to the desired project locations. The quantities and sizes of the equipment to be used are provided in appendix C. Noise levels would be intermittent, short-term events. Table 4-2 lists anticipated noise levels from typical construction equipment.

Table 4-2: Typical Equipment Noise Levels

Source	Noise level
Bulldozer	93-96 dB
Back-hoe	84-93 dB
Front-end Loader	86-94 dB
Grader	87-94 dB
Dump Truck	82-94 dB

Source: U.S. Environmental Protection Agency, 1971

Note: dB = decibels

Although the increased use of equipment would increase noise levels, no noise sensitive receptors are known to exist within the ROI of the proposed Allen Army Airfield Borrow Pit. Personnel would wear hearing protective devices as required. No impacts to the noise environment are anticipated.

4.1.1.8 Transportation

Placement of a traffic barrier would restrict vehicular access to the construction locale. During peak hours, minor delays could possibly be encountered in the vicinity of the construction area (figure 2-1). However, due to the isolation of Fort Greely, any interference with normal traffic flow in the region is expected to be minimal. The few additional personnel required would not affect transportation. Any increase in daily trips by support personnel would use existing transportation infrastructure. Shorter driving distances under this alternative would minimize vehicle emissions. Overall, the impacts to traffic from the construction activities should be minimal.

4.1.1.9 Water Resources

Due to the relatively level topography and low precipitation, drainage patterns would only be altered slightly, and surface water runoff and erosion would be minimal. Disturbance to stream channels, drainage patterns, and stream banks would be minimized to the extent practicable. A minor increase in sediment in surface waters is possible but not likely, due to the distance between the construction site and surface water bodies. Best Management Practices would be used to reduce the potential for soil erosion into water resources from construction activities. These measures could include limiting the amount of area exposed, stabilizing fill slopes from erosion, and the use of hay bales to filter sediment from storm water runoff. A sediment erosion control plan would be prepared if needed that would address each of the proposed measures. Minimal impacts to water resources during construction/operation activities are anticipated to occur. The minimal increase in water usage during construction would not impact the water supply aquifers and surface water sources at Fort Greely.

Potential impacts to water resources resulting from accidental spills of hazardous materials during construction would be minimized because all activities would follow Fort Greely's environmental procedures (U.S. Army Space and Missile Defense Command, 2002), including the Spill Prevention, Control, and Countermeasures Plan and emergency response procedures.

Since construction would result in the disturbance of more than 2 hectares (5 acres) of land the activities would be subject to federal National Pollutant Discharge Elimination Plan stormwater permitting requirements. The permitting process would involve coordination with both the EPA and the Alaska Department of Environmental Conservation.

Once operation is complete and vegetation is stabilized, there should be little soil erosion. A significant increase in stormwater runoff is not expected since the soils in the area are well-drained and the annual precipitation is low. The impacts to water resources from operations are expected to be minimal.

4.1.2 ALTERNATIVE 2—DIRECTORATE OF PUBLIC WORKS BORROW PIT

4.1.2.1 Air Quality

DPW Borrow Pit emissions are anticipated to be similar to those described in section 4.1.1.1 for the Allen Army Airfield Borrow Pit.

The proposed DPW Borrow Pit would encompass a maximum area of 40 hectares (100 acres) and could require a 122-meter (400-foot) access road. It is anticipated that the construction of the access road would not cause exceedances of the NAAQS or Alaska Ambient Air Quality Standards.

The proposed DPW Borrow Pit emissions would include fugitive dust from ground disturbance and combustion byproducts from equipment. Ground disturbance would generate dust in the immediate vicinity of the DPW Borrow Pit. The levels of dust generated would vary depending on a project's level of activity, the weather, and the condition of the ground. Table 4-1 lists the estimated emissions associated with typical construction equipment to be used at the DPW Borrow Pit.

It is anticipated that the proposed installation construction activities would require up to 500 dump truck loads, at approximately 2.4 kilometers (1.5 miles) per trip, over the lifetime of the borrow pit. Approximate PM-10 emissions associated with these additional dump truck trips, over paved roads, would be up to 0.008 metric ton (0.009 ton). It is anticipated that these trips to areas within the cantonment area, along with other borrow pit activities, would not exceed the 227 metric tons (250 tons) per year level established to avoid a classification as a PSD Major Modification. These emissions are also not anticipated to cause exceedances of the NAAQS or Alaska Ambient Air Quality Standards and would not have a long-term adverse impact on air quality in the area. The DPW Borrow Pit activities would also be included in the fugitive dust control plan to be completed by the end of March 2004, as required by the existing Title V permit at Fort Greely. The implementation of standard dust suppression methods and a vehicle maintenance program would minimize fugitive dust emissions and vehicle exhaust emissions and would help to maintain the area's current high air quality. Thus, activities associated with borrow pit activities should not significantly impact air quality.

Construction and/or operational personnel needed on-site are anticipated to be less than 20. This increase in personnel is not anticipated to cause an increase in net mobile emissions in the area.

4.1.2.2 Biological Resources

Ground disturbance, habitat loss, noise, and an increase in personnel during construction and use of the DPW Borrow Pit at Fort Greely could result in impacts to biological resources present in the area.

Vegetation

Construction of the DPW Borrow Pit would require clearing and grubbing of the area as described in chapter 2. The total estimated amount of clearing would be an area of up to 40.5 hectares (100 acres), although only approximately 4 hectares (10 acres) would be excavated at a time. The DPW Borrow Pit and access road would be located within an area composed of mixed forest and deciduous/high brush, which represents a small percentage of the total vegetation on Fort Greely. The area is in an early successional stage due to the 1999 wildfire. No threatened, endangered, or candidate vegetation species have been identified on Fort Greely. Upon completion of the construction, the excavated area would be graded, contoured, and reseeded with a seed mixture suitable for the area. Thus, no long-term substantial effects to vegetation are anticipated.

Wildlife

As discussed in section 4.1.1.2, construction and operation ground disturbance and equipment noise-related impacts could include loss of habitat, displacement of wildlife, increased stress, and disruption of daily/seasonal behavior. However, construction and use of the DPW Borrow Pit would also result in only minimal, short-term impacts to wildlife.

Environmentally Sensitive Habitat

No wetlands are located at or adjacent to the proposed DPW Borrow Pit site. Appropriate techniques to control runoff and other Best Management Practices such as stabilizing fill slopes from erosion and the use of hay bales to filter sediment from storm water runoff from construction sites would minimize water quality impacts to any wetlands that could occur adjacent to the site. No environmentally sensitive habitats should be affected as a result of construction or operation activities.

4.1.2.3 Cultural Resources

Given the potential for archaeological properties to occur in the Fort Greely area, impacts could occur from ground-disturbing activities. The DPW Borrow Pit site shown in figures 1-1 and 2-2 is for illustration purposes; the actual pit would be sited within the general area as needed. The DPW Borrow Pit would be created within an area determined to have a potential for subsurface archaeological resources. A survey of the area will be conducted before excavation begins. Any sites that are discovered during the course of the survey would be cordoned off and the proposed DPW Borrow Pit location adjusted as necessary to avoid impacts.

If additional cultural items are discovered during construction of the borrow pit or during excavation of fill material, activities would cease in the immediate area and a qualified CRM would determine if the resources represent an undisturbed archaeological site. If so, the SHPO and potentially affiliated Native Alaskans would be notified in accordance with existing U.S. Army Garrison Fort Greely procedures.

4.1.2.4 Geology and Soils

The main issue to geology and soils during construction and operation of the DPW Borrow Pit would be associated with soil erosion. However, Best Management Practices such as stabilizing fill slopes from erosion, limiting the amount of area exposed at one time to 4 hectares (10 acres), and the use of hay bales to filter sediment from storm water runoff would be implemented. Upon completion of the construction/operation, the excavated area would be graded, contoured, and reseeded with a seed mixture suitable for the area.

4.1.2.5 Health and Safety

Construction of the DPW Borrow Pit and excavation of the fill material needed for cantonment activities requiring fill material would be performed in accordance with existing construction laws, regulations, and SOPs. Therefore, no impacts to workers as a result of these activities are expected. No safety impacts to the public are anticipated since activities would occur on the installation and the majority of heavy equipment and truck traffic would be located on existing Fort Greely roads. The potential for health and safety impacts would be reduced since the

source of borrow material would be adjacent to the cantonment area thus minimizing the distance required for transportation.

4.1.2.6 Land Use

Currently, there are no zoning or land use conflicts with the adjoining areas of Fort Greely, and there is little expectation that this will change. Construction and operation of the DPW Borrow Pit would not affect any existing facilities on Fort Greely or any in the surrounding area. Since Fort Greely is not located in a municipality or a borough, there are no local zoning or land use policies. There are also no state plans or guidelines for the area. Therefore, existing land uses do not conflict with any federal, state, or local land use policies. Use of the location proposed for a new borrow pit site southeast of the cantonment area would not conflict with the present land use of adjacent areas.

4.1.2.7 Noise

Noise impacts for the proposed DPW Borrow Pit would be similar to that described in section 4.1.1.7 for the Allen Army Airfield Borrow Pit. The exact number and size of equipment required for construction/operation of the DPW Borrow Pit is not known. However, equipment would be similar to that provided in appendix C and listed in table 4-2. Although the increased amount of equipment would temporarily increase the surrounding noise levels, it is anticipated that any noise sensitive receptors would not be significantly impacted by the proposed DPW Borrow Pit activities.

4.1.2.8 Transportation

Placement of a traffic barrier would restrict vehicular access to the construction site. During peak hours, minor delays could possibly be encountered on installation roads in the vicinity of the construction area (figure 2-1). The few additional personnel required would not affect transportation. Any increase in daily trips by support personnel would use existing transportation infrastructure. Shorter driving distances under this alternative would minimize vehicle emissions. Overall, the impacts to traffic from the construction activities should be minimal.

4.1.2.9 Water Resources

Due to the relatively level topography and low precipitation, drainage patterns would only be altered slightly, and surface water runoff and erosion would be minimal. A minor increase in sediment in surface waters is possible but not likely, due to the distance between the construction site and surface water bodies. As discussed above, disturbance to stream channels, drainage patterns, and stream banks would be minimized to the extent practicable. Best Management Practices such as limiting the amount of area exposed, stabilizing fill slopes from erosion, and the use of hay bales to filter sediment from storm water runoff would be used to reduce the potential for soil erosion into water resources. Potential impacts to water resources resulting from accidental spills of hazardous materials during construction would be minimal.

Proposed activities would be subject to federal National Pollutant Discharge Elimination Plan stormwater permitting requirements. The permitting process would involve coordination with

both EPA and the Alaska Department of Environmental Conservation. The minimal increase in water usage during construction would not impact the water supply aquifers and surface water sources at Fort Greely.

Once operation is complete and vegetation is stabilized, there should be little soil erosion. A significant increase in stormwater runoff is not expected since the soils in the area are well-drained and the annual precipitation is low. The impacts to water resources from operations are expected to be minimal.

4.2 NO-ACTION ALTERNATIVE

4.2.1 AIR QUALITY

The proposed Allen Army Airfield reconstruction activities would require an estimated 5,000 to 20,000 dump truck trips at approximately 9.7 kilometers (6 miles) per trip under the No-action Alternative. Proposed installation construction project activities would require up to 5 00 dump truck trips at an estimated 7.2 kilometers (4.6 miles) per trip. Approximate PM-10 emissions associated with these additional dump truck trips, including 3.2 kilometers (2 miles) over gravel roads, would be 7.7 to 28.6 metric tons (8.5 to 31.6 tons). However, with the implementation of Best Management Practices, including standard dust reduction measures (frequent watering) and proper tuning and preventive maintenance of vehicles, emissions associated with dump truck trips should be reduced by half. It is anticipated that these trips, along with other borrow pit activities, would not exceed the 227 metric tons (250 tons) per year level established to avoid a classification as a PSD Major Modification. These emissions are also not anticipated to cause exceedances of the NAAQS or Alaska Ambient Air Quality Standards and would not have a long-term impact on air quality in the area. A fugitive dust control plan is anticipated to be implemented March 2004, as required by Fort Greely's existing Title V permit, and would include such emissions associated with borrow pit activities; therefore, no substantial adverse air quality impacts are anticipated.

Purchasing borrow material from existing off-base borrow pits for airfield expansion and other Fort Greely projects would result in an increase in dump truck travel on the installation. However, vehicles would use existing roads and spill prevention SOPs would be implemented. Transport of the required fill material on the installation would be performed in accordance with existing Fort Greely safety laws, regulations, and SOPs. No additional substantial impacts to air quality are anticipated as a result of current or planned Fort Greely requirements.

4.2.2 BIOLOGICAL RESOURCES

Under the No-action Alternative, the only change to the current risks to biological resources as a result of using the existing borrow pit or purchasing borrow material for airfield expansion and other Fort Greely projects would be from the increase in dump truck travel. Vehicles would use existing transportation routes, and spill prevention methods would continue to be implemented. No significant adverse impacts to biological resources from operation of the existing borrow pit or operation of the borrow pits in the region have been identified. No additional substantial impacts to biological resources are anticipated.

4.2.3 CULTURAL RESOURCES

Under the No-action Alternative, cultural resources would continue to be managed at Fort Greely to ensure that no effects to historic properties occur during use of the existing borrow pit for airfield expansion and other Fort Greely projects. If cultural items are discovered during excavation of fill material, activities would cease in the immediate area, and a qualified cultural resource manager (CRM) would determine if the resources represent an undisturbed archaeological site. If so, the SHPO and potentially affiliated Native Alaskans would be notified in accordance with existing U.S. Army Garrison Fort Greely procedures. No impacts to cultural resources in the ROI are anticipated as a result of procuring fill material from existing off-base sources for airfield expansion and other Fort Greely projects.

4.2.4 GEOLOGY AND SOILS

Best Management Practices such as stabilizing fill slopes from erosion and the use of hay bales to filter sediment from storm water runoff would continue to be implemented at the existing borrow pit. No substantial impacts to geology and soils are expected from continuation of activities under the No-action Alternative.

4.2.5 HEALTH AND SAFETY

Under the No-action Alternative, there could potentially be a slight increase in worker health and safety risks due to the increase in distance driven from the existing borrow pit or off-site borrow pits to the areas requiring fill material and the potential for an increase in the number of trucks on public and installation roads. Excavation and transport of the required fill material would continue to be performed in accordance with existing safety laws, regulations, and SOPs to minimize these risks. The current U.S. Army and U.S. Air Force operations that occur at the base would continue. Fort Greely would continue to maintain a fire department within the cantonment to provide mutual aid response to emergencies in the surrounding communities.

4.2.6 LAND USE

Continued use of the existing borrow pit or purchasing borrow material should not affect any existing facilities on Fort Greely or the surrounding area, nor conflict with the present land use of adjacent areas.

4.2.7 NOISE

Under the No-action Alternative, no significant long-term increase in the noise environment at Fort Greely would be expected. Equipment would be similar to that currently used and listed in table 4-2. Although the increased amount of equipment would temporarily increase the surrounding noise levels, it is anticipated that noise sensitive receptors would not be significantly impacted by the proposed borrow pit activities.

4.2.8 TRANSPORTATION

Trucks would have farther to go under the No-Action Alternative, increasing the risk for traffic delays during peak hours and increasing the wear and tear on installation and regional public roads. However, due to the isolation of Fort Greely, any interference with normal traffic flow in

the region is expected to be minimal. Transport of the required fill material would continue to be performed in accordance with existing safety laws, regulations, and SOPs. The few additional personnel required should not affect transportation. The current Army and Air Force operations that occur at the base would continue.

4.2.9 WATER RESOURCES

The potential for adverse impacts to ground and surface water would continue to be minimized at the existing borrow pit by implementation of existing spill prevention and cleanup procedures. Best Management Practices, such as stabilizing fill slopes from erosion and using hay bales to filter sediment from storm water runoff, would continue to be used.

4.3 CUMULATIVE IMPACTS

The following discussion summarizes the potential for cumulative impacts of the Proposed Action.

Emissions from mobile sources during construction/operation of the borrow pits would add cumulatively to emissions from other traffic sources in the area, but these emissions would be temporary and intermittent and are not anticipated to result in a measurable impact to air quality within the ROI. Biological impacts would include the loss of a small amount of habitat at Fort Greely. Given the small amount of loss of wildlife habitat in the region of Fort Greely from past and current development and the vast amount of undeveloped land in the area, the additional loss of habitat from the proposed road extensions would not result in a substantial cumulative reduction in habitat. No other activities have been identified at Fort Greely that when combined with the Proposed Action would result in cumulative impacts to cultural resources. Implementation of measures during construction/operation to reduce soil erosion would avoid the potential for long-term cumulative impacts to soils. The potential for minor impacts when added to other current or planned activities in the area would not likely result in health and safety impacts.

The construction of new borrow pits and/or purchasing borrow material would not exceed any of the operational capabilities of the existing infrastructure system and no cumulative impacts are expected. Construction of one or more borrow pits would reduce the length of truck trips required to obtain borrow material. Use of the current borrow pit and the proposed new borrow pit areas does not conflict with the present land use of adjacent areas and would not preclude other future use. Since no sensitive noise receptors are within the vicinity of the proposed borrow sources, no cumulative noise impacts are anticipated. An increase in runoff and water quality levels would be minimal and no other future programs have been identified that when combined with the Proposed Action would contribute to cumulative water resource impacts.

4.4 ADVERSE ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED

In general, most known effects resulting from implementation of the Proposed Action would be minimized through project planning and design measures, consultation with the appropriate agency, and use of Best Management Practices. As a result, most potential adverse effects would be avoided, and those that could not be avoided would not result in a significant impact to the environment.

During construction/operation, there would be disturbance to wildlife and loss of vegetation; however, no long-term impacts to vegetation or wildlife would be expected. Some short-term construction/operation-related impacts to air quality, soils, and water resources may occur. However, once construction/operation is complete, no long-term impacts would be expected. The overburden would be replaced, and the areas would be properly graded, contoured, and re-seeded with vegetation suitable for the area. Any hazardous waste generated would be managed in compliance with the Resource Conservation Recovery Act and other applicable federal, state, and local regulations. No adverse impacts would be expected from normal long-term operations.

4.5 CONFLICTS WITH FEDERAL, STATE, AND LOCAL LAND USE PLANS, POLICIES, AND CONTROLS FOR THE AREA CONCERNED

Since Fort Greely is not located in a municipality or a borough, there are no local zoning or land use policies. There are also no state plans or guidelines for the area. Therefore, existing land uses do not conflict with any federal, state, or local land use policies. Use of the locations proposed for new borrow pit sites would not conflict with the present land use of adjacent areas.

4.6 ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

Anticipated energy requirements of the proposed activities would be well within the energy supply capacity of the installation. Energy requirements would be subject to any established energy conservation practices.

4.7 IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES

The Proposed Action would result in no loss of or impact to threatened or endangered species, and no planned impact to cultural resources, such as archaeological or historic sites. Moreover, there would be no changes in land use or preclusion of development of underground mineral resources that were not already constrained.

The amount of materials required for any program-related activities and energy used during the project would be small. Although the proposed activities would result in some irreversible or irretrievable commitment of resources, such as gravel materials, minerals, and labor, this

commitment of resources is not substantially different from that necessary for many other defense research and development programs carried out over the past several years. Proposed activities would not commit natural resources in significant quantities and would not irreversibly curtail the range of potential uses of the environment.

4.8 RELATIONSHIP BETWEEN SHORT-TERM USE OF THE HUMAN ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Proposed new borrow pit activities would occur on an existing military facility that is dedicated to supporting the Department of Defense. Once the construction/operation of the borrow pit sites is completed, no impacts to the long-term productivity of the environment would be anticipated. Therefore, the Proposed Action does not eliminate any options for future use of the environment for the locations under consideration.

4.9 NATURAL OR DEPLETABLE RESOURCE REQUIREMENTS AND CONSERVATION POTENTIAL

Other than various borrow materials and fuels, the proposed activities would require no significant natural or depletable resources.

4.10 FEDERAL ACTIONS TO ADDRESS PROTECTION OF CHILDREN FROM ENVIRONMENTAL HEALTH RISKS AND SAFETY RISKS (EXECUTIVE ORDER 13045, AS AMENDED BY EXECUTIVE ORDER 13229)

This EA has not identified any environmental health and safety risks that may disproportionately affect children, in compliance with Executive Order 13045, as amended by Executive Order 13229.

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REFERENCES

5.0 REFERENCES

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6.0

LIST OF PREPARERS

6.0 LIST OF PREPARERS

Government Preparers

David Hasley, Environmental Engineer
U.S. Army Space and Missile Defense Command
B.S., 1984, Mechanical Engineering, University of Texas, Arlington
Years of Experience: 18

Sharon G. Mitchell, Environmental Engineer, Environmental Division,
U.S. Army Space and Missile Defense Command
B.S.E., 1991, Industrial and Systems Engineering, University of Alabama in Huntsville
Years of Experience: 13

Contractor Preparers

Chad M. Cole, E.I., Environmental Engineer, Teledyne Solutions, Inc.
B.S.E., 2002, Civil/Environmental Engineering, University of Alabama in Huntsville
Years of Experience: 2

Matthew Estes, Environmental Specialist, EDAW, Inc.
M.S., 2000, Environmental Management, Samford University, Birmingham, Alabama
B.S., 1991, Environmental Science, University of California at Riverside
Years of Experience: 13

Amy Fenton-McEniry, Technical Editor, EDAW, Inc.
B.S., 1988, Biology, University of Alabama in Huntsville
Years of Experience: 16

Robert J. Harward, P.E., Senior Project Manager, EDAW, Inc.
B.S., 1986, Civil Engineering, Duke University
Years of Experience: 16

Whitney Hedges, Technical Editor, EDAW, Inc.
B.A., 2003, English, Birmingham-Southern College
Years of Experience: 2

Brittnea Horton, Environmental Specialist, EDAW, Inc.
B.S., 2001, Geography and Biology, University of North Alabama
Years of Experience: 3

Mark Hubbs, Environmental Analyst, Teledyne Solutions, Inc.
M.A., 2003, Archaeology and Heritage, Leicester University, UK
M.S., 2000, Environmental Management, Samford University
B.A., 1981, History, Henderson State University
Years of Experience: 15

Rachel Y. Jordan, Environmental Scientist, EDAW, Inc.
B.S., 1972, Biology, Christopher Newport College, Virginia
Years of Experience: 17

Ron Keglovits, Environmental Management Analyst, Teledyne Solutions Inc.
M.A., 1982, Management, Webster College
B.A., 1976, Business Management, St. Martin's College
Years of Experience: 16

Brandon Krause, Technical Illustrator, EDAW, Inc.
B.S., in progress, Electrical Engineering, University of Alabama in Huntsville
Years of Experience: 4

Wesley S. Norris, Senior Environmental Planner, EDAW, Inc.
B.S., 1976, Geology, Northern Arizona University
Years of Experience: 27

Rebecca J. White, Environmental Specialist, EDAW, Inc.
B.S., 2000, Civil/Environmental Engineer, University of Alabama in Huntsville
Years of Experience: 4

James (Jim) E. Zielinski, Environmental Specialist, EDAW, Inc.
B.S., 1984, Biology, University of Alabama in Birmingham
Years of Experience: 18

7.0
AGENCIES AND INDIVIDUALS CONTACTED

7.0 AGENCIES AND INDIVIDUALS CONTACTED

State of Alaska Department of Natural Resources,
Division of Parks and Outdoor Recreation,
Office of History and Archaeology,
State Historic Preservation Officer

Field Supervisor, U.S. Dept. of Interior
U.S. Fish and Wildlife Service
Fairbanks, AK

Alaska Department of Game and Fish/Wildlife Conservation
Delta Junction, AK

U.S. Army Garrison Fort Greely
Directorate of Public Works

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APPENDIX A
DISTRIBUTION LIST

APPENDIX A DISTRIBUTION LIST

Mr. Ervin McIntosh
Field Supervisor, U.S. Department of the Interior
U.S. Fish and Wildlife Service
Fairbanks, AK

Mr. Steve Dubois
Alaska Department of Fish and Game
Delta Junction Field Office
Delta Junction, AK

Ms. Judith E. Bittner
State Historic Preservation Officer
Alaska Department of Natural Resources
Office of History and Archaeology
Division of Parks and Outdoor Recreation
Anchorage, AK

Mr. Greg Light
Alaska Department of Environmental Conservation
Division of Spill Prevention Response
Contaminated Sites Program
Fairbanks, AK

Dot Lake Village Council
Dot Lake, AK

Fairbanks Native Assoc., Inc
Fairbanks, AK

Healy Lake Traditional Council
Fairbanks, AK

Nenana Traditional Council
Nenana, AK

Northway Traditional Council
Northway, AK

Tanacross IRA Council
Tanacross, AK

Tanana Chief's Conference
Tanana, AK

Tetlin IRA Council
Tetlin, AK

The Honorable Roy Gilbertson
Mayor of Delta Junction
Delta Junction, AK

Defense Technical Information Center
Ft Belvoir, VA

Delta Junction Library
Delta Junction, AK

Fairbanks North Star Borough
Public Library
Noel Wien Library
Fairbanks, AK

University of Alaska, Fairbanks
Elmer E. Rasmuson Library
Fairbanks, AK

APPENDIX B
CORRESPONDENCE



**DEPARTMENT OF THE ARMY
U.S. ARMY GARRISON ALASKA
BOX 507, DELTA JUNCTION, AK 99737**

Directorate of Public Works

January 8, 2004

Mr. Ervin McIntosh
Field Supervisor, US Dept. of Int.
US Fish & Wildlife Service
101-12th Ave
Fairbanks AK 99701-6267

Dear Mr. McIntosh:

In compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA, the U.S. Army Garrison Fort Greely has prepared the U.S. Army Garrison Fort Greely Borrow Pit Environmental Assessment (EA) (copy enclosed).

Fort Greely, located just south of Delta Junction, Alaska, currently obtains borrow material from an existing borrow pit south of Fire Break Road, west of the Fort Greely landfill. This borrow pit was established to support construction activities at the Ground-Based Midcourse Defense test site. Current plans at Fort Greely include the installation of security fencing around the test site and existing borrow pit. The security fencing could potentially limit access to the borrow pit for other construction projects. The EA analyzes activities associated with establishing and operating additional borrow material sources for Fort Greely use. Projects that could potentially use the proposed new borrow material include the Allen Army Airfield reconstruction project, the Robin Road and Clearwater Avenue extension project, and future public works projects.

Two potential new sources of borrow material are analyzed in the EA. Upon completion of construction of a new borrow pit the excavated area would be graded, contoured, and reseeded with a seed mixture suitable for the area. Alternative 1 (see attached map) would establish and operate a new borrow pit in an area northwest and adjacent to Allen Army Airfield. This borrow pit would be used to support airfield reconstruction activities. The pit could also be used to support future activities in the adjacent area.

Alternative 2 (see attached map) would establish and operate a new borrow pit southeast of the main cantonment area, the Directorate of Installation Services (DIS) Borrow Pit. This borrow pit would provide a source of borrow material for installation construction projects such as the planned road extensions.

Under the No-Action Alternative, the U.S. Army Garrison Fort Greely would not establish new borrow pits. Material would continue to be obtained from the existing borrow pit farther away from the potential construction projects. Borrow material from sources outside the Fort Greely boundary could be purchased as part of the No-action Alternative. Contractors would be designated to provide this material.

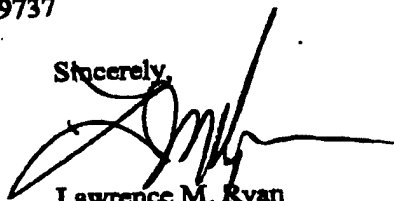
The proposed new borrow pits are in areas composed of mixed forest and deciduous/high brush, which represents a small percentage of the total vegetation on Fort Greely. The DIS Borrow Pit would be in an

area burned by the 1999 wildfire. Fort Greely is located in the Alaska Department of Fish and Game, Game Management Unit 20D, which has approximately 1 moose per square mile. Other wildlife species include bear, wolf, bison, small rodents, and ground squirrels. No known federally proposed or listed threatened, endangered, or candidate species are located within Fort Greely boundaries. Any disturbances that occur as a result of construction are not expected to alter migration patterns or wildlife corridors. The impacts to wildlife are expected to be minimal.

Questions and comments regarding this project should be addressed to:

U.S. Army Garrison Fort Greely,
Directorate of Public Works
ATTN: Chief, Environmental Office
Box 1289
Delta Junction, AK 99737

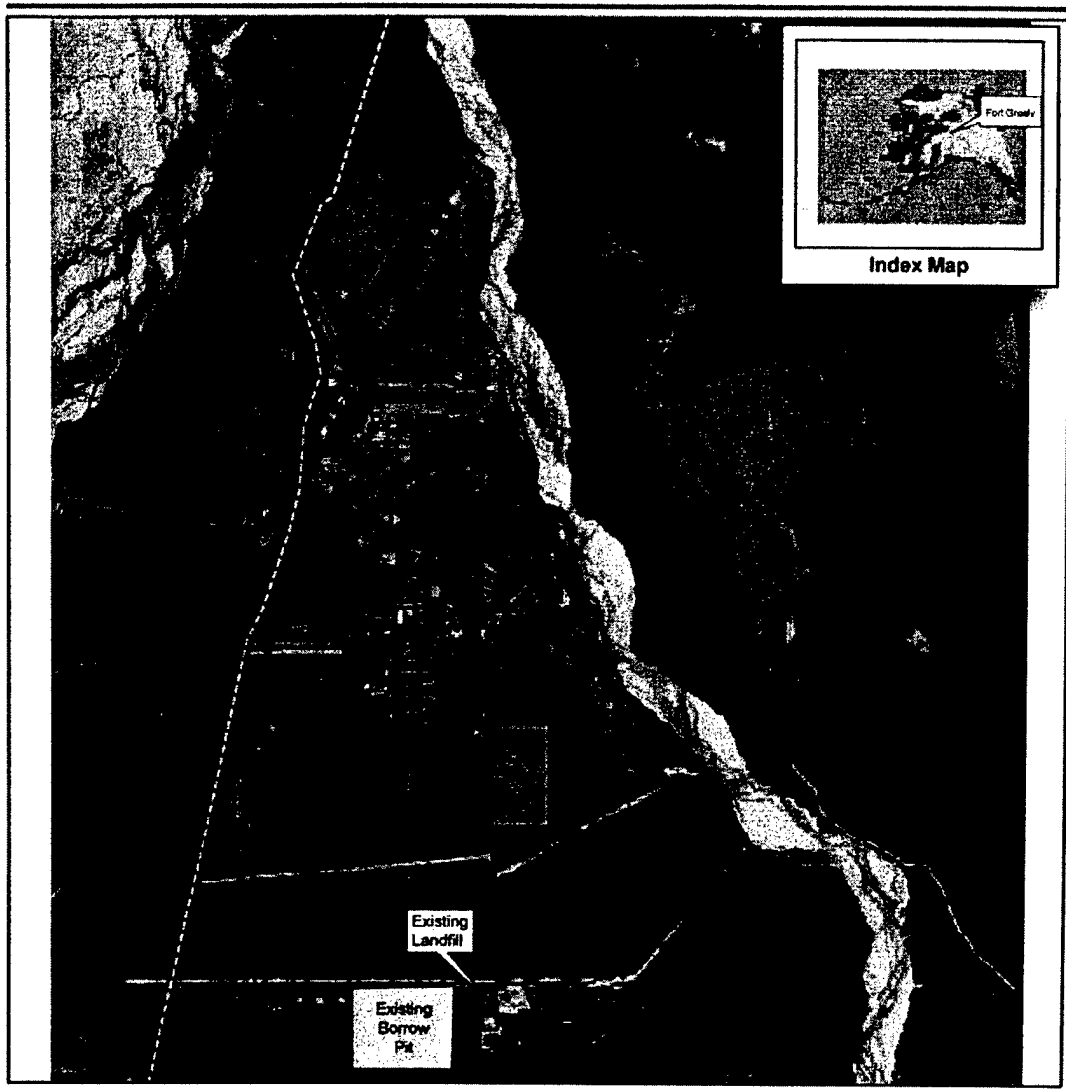
Sincerely,











Lawrence M. Ryan
Director
Public Works

Attachment
Enclosure

cc: Alaska Department of Game and Fish/Wildlife Conservation
Attn: Steve DuBois
P.O. Box 605
Delta Junction AK 99737-0605

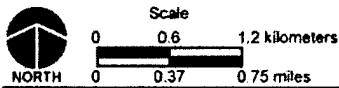


EXPLANATION

-  Potential Borrow Pit Area
-  Existing Borrow Pit
-  Building
- DIS = Director of Installation Services
-  Installation Boundary
-  Existing Road
-  Existing Fence
-  Pipeline
-  Pipeline Easement

Proposed and Existing Borrow Pit Areas

Fort Greely, Alaska



10-18-77 5:00 PM AK Alaska

Attachment



**DEPARTMENT OF THE ARMY
U.S. ARMY GARRISON ALASKA
BOX 507, DELTA JUNCTION, AK 99737**

Directorate of Public Works

January 8, 2004

Ms. Judith E. Bittner
State Historic Preservation Officer
Alaska Department of Natural Resources
Office of History and Archaeology
Division of Parks and Outdoor Recreation
550 West 7th Avenue, Suite 1310
Anchorage, AK 99501-3565

Dear Ms. Bittner:

The U.S. Army Garrison Fort Greely is proposing to develop new sources of gravel and borrow materials for airfield repair projects and installation operation activities at Fort Greely, Alaska.

In accordance with 36 CFR 800.8, and in an effort to provide early coordination as suggested by 36 CFR 800.8, we are initiating this consultation as part of its National Environmental Policy Act (NEPA) requirements. Enclosed is a copy of the *Fort Greely Borrow Pit Environmental Assessment*.

Please feel free to review the entire document, however, your attention is specifically called to pages 2-1 through 2-5 (description of the action); pages 3-4 (affected environment); and pages 4-6 through 4-7 (environmental consequences). These passages will describe the action, Fort Greely cultural resources potential affected, and our conclusions regarding the finding of no adverse affect.

CONCLUSION

Through application of the Criteria of Effect and Adverse Effect as per 36 CFR § 800.5 (a)(1) of the National Historic Preservation Act, we have determined that this undertaking will have no adverse effect on historic properties.

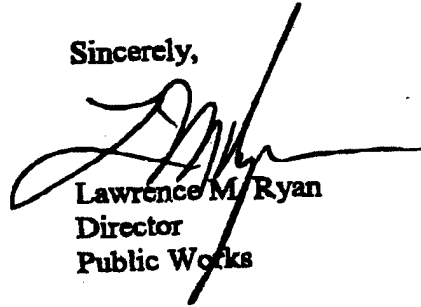
Your review, comments, and concurrence of this Finding of No Adverse Effect is requested. To carry out this program in an expeditious manner, we request your response within 30 days

Page 2

of your receipt of this correspondence. Questions or comments regarding this project should be addressed to:

U.S. Army Garrison Fort Greely,
Directorate of Public Works
ATTN: Chief, Environmental Office
Box 1289
Delta Junction AK 99737

Sincerely,



Lawrence M. Ryan
Director
Public Works

Enclosure



**DEPARTMENT OF THE ARMY
U.S. ARMY GARRISON ALASKA
BOX 507, DELTA JUNCTION, AK 99737**

January 8, 2004

Directorate of Public Works

Donald Adams, President
Tetlin IRA Council
PO Box TTL
Tetlin AK 99779

Dear Mr. Adams:

In compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA, the U.S. Army Garrison Fort Greely is preparing the U.S. Army Garrison *Fort Greely Borrow Pit Environmental Assessment*. We are proposing to develop new sources of gravel and borrow materials for airfield construction and installation operation activities at Fort Greely, Alaska. This document analyzes the environmental effects of developing new borrow pits.

In accordance with National Historical Preservation Act, we are consulting with you regarding Cultural Resources that could be potentially affected by this project by means of this NEPA document. Enclosed is a copy of the *Fort Greely Borrow Pit Environmental Assessment*.

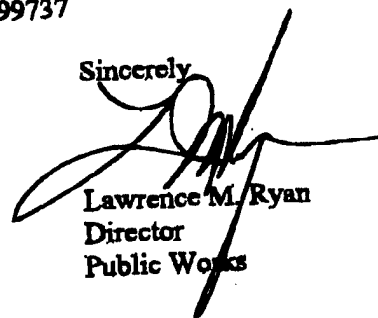
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Your review and comments regarding this Finding of No Adverse Effect is requested. To carry out this program expeditiously, we request your response within 30 days of your receipt of this correspondence.

Questions or comments regarding this project should be addressed to:

U.S. Army Garrison Fort Greely,
Directorate of Public Works
ATTN: Chief, Environmental Office
Box 1289
Delta Junction AK 99737

Sincerely



Lawrence M. Ryan
Director
Public Works

Enclosure



**DEPARTMENT OF THE ARMY
U.S. ARMY GARRISON ALASKA
BOX 507, DELTA JUNCTION, AK 99737**

Directorate of Public Works

January 8, 2004

Chris Anderson, President
Fairbanks Native Association, Inc
201 First Avenue
Fairbanks AK 99701

Dear Mr. Anderson:

In compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA, the U.S. Army Garrison Fort Greely is preparing the U.S. Army Garrison *Fort Greely Borrow Pit Environmental Assessment*. We are proposing to develop new sources of gravel and borrow materials for airfield construction and installation operation activities at Fort Greely, Alaska. This document analyzes the environmental effects of developing new borrow pits.

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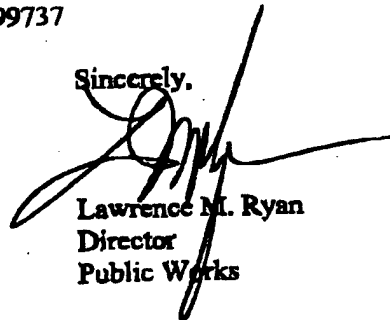
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Your review and comments regarding this Finding of No Adverse Effect is requested. To carry out this program expeditiously, we request your response within 30 days of your receipt of this correspondence.

Questions or comments regarding this project should be addressed to:

U.S. Army Garrison Fort Greely,
Directorate of Public Works
ATTN: Chief, Environmental Office
Box 1289
Delta Junction AK 99737

Sincerely,



Lawrence M. Ryan
Director
Public Works

Enclosure



**DEPARTMENT OF THE ARMY
U.S. ARMY GARRISON ALASKA
BOX 507, DELTA JUNCTION, AK 99737**

January 8, 2004

Directorate of Public Works

Jerry Isaac, President
Tanacross IRA Council
PO Box 76009
Tanacross AK 99776

Dear Mr. Isaac:

In compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA, the U.S. Army Garrison Fort Greely is preparing the U.S. Army Garrison *Fort Greely Borrow Pit Environmental Assessment*. We are proposing to develop new sources of gravel and borrow materials for airfield construction and installation operation activities at Fort Greely, Alaska. This document analyzes the environmental effects of developing new borrow pits.

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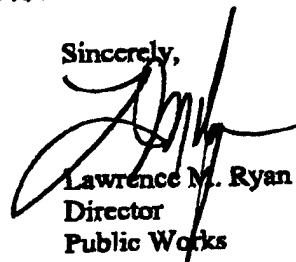
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Your review and comments regarding this Finding of No Adverse Effect is requested. To carry out this program expeditiously, we request your response within 30 days of your receipt of this correspondence.

Questions or comments regarding this project should be addressed to:

U.S. Army Garrison Fort Greely,
Directorate of Public Works
ATTN: Chief, Environmental Office
Box 1289
Delta Junction AK 99737

Sincerely,



Lawrence M. Ryan
Director
Public Works

Enclosure



**DEPARTMENT OF THE ARMY
U.S. ARMY GARRISON ALASKA
BOX 507, DELTA JUNCTION, AK 99737**

Directorate of Public Works

January 8, 2004

Mr. William Miller, President
Dot Lake Village Council
PO Box 2279
Dot Lake AK 99737

Dear Mr. Miller:

In compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA, the U.S. Army Garrison Fort Greely is preparing the U.S. Army Garrison *Fort Greely Borrow Pit Environmental Assessment*. We are proposing to develop new sources of gravel and borrow materials for airfield construction and installation operation activities at Fort Greely, Alaska. This document analyzes the environmental effects of developing new borrow pits.

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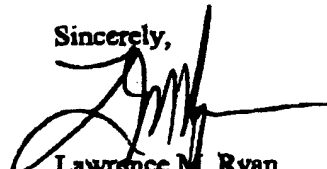
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Your review and comments regarding this Finding of No Adverse Effect is requested. To carry out this program expeditiously, we request your response within 30 days of your receipt of this correspondence.

Questions or comments regarding this project should be addressed to:

U.S. Army Garrison Fort Greely,
Directorate of Public Works
ATTN: Chief, Environmental Office
Box 1289
Delta Junction AK 99737

Sincerely,



Lawrence M. Ryan
Director
Public Works

Enclosure



DEPARTMENT OF THE ARMY
U.S. ARMY GARRISON ALASKA
BOX 507, DELTA JUNCTION, AK 99737

January 8, 2004

Directorate of Public Works

Tom O'Brien, TERP Program Manager
Tanana Chief's Conference
122 First Avenue, Suite 600
Fairbanks AK 99701

Dear Mr. O'Brien:

In compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA, the U.S. Army Garrison Fort Greely is preparing the U.S. Army Garrison *Fort Greely Borrow Pit Environmental Assessment*. We are proposing to develop new sources of gravel and borrow materials for airfield construction and installation operation activities at Fort Greely, Alaska. This document analyzes the environmental effects of developing new borrow pits.

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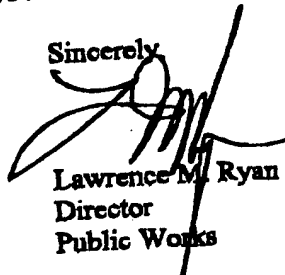
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Questions or comments regarding this project should be addressed to:

U.S. Army Garrison Fort Greely,
Directorate of Public Works
ATTN: Chief, Environmental Office
Box 1289
Delta Junction AK 99737

Sincerely



Lawrence M. Ryan
Director
Public Works

Enclosure



**DEPARTMENT OF THE ARMY
U.S. ARMY GARRISON ALASKA
BOX 507, DELTA JUNCTION, AK 99737**

January 8, 2004

Directorate of Public Works

Ben Saylor, Chief
Healy Lake Traditional Council
PO Box 60300
Fairbanks AK 99706

Dear Mr. Saylor:

In compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA, the U.S. Army Garrison Fort Greely is preparing the U.S. Army Garrison *Fort Greely Borrow Pit Environmental Assessment*. We are proposing to develop new sources of gravel and borrow materials for airfield construction and installation operation activities at Fort Greely, Alaska. This document analyzes the environmental effects of developing new borrow pits.

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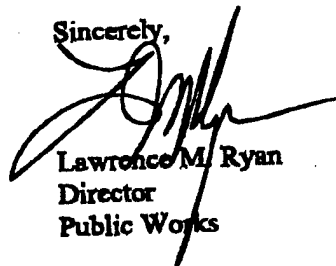
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Questions or comments regarding this project should be addressed to:

U.S. Army Garrison Fort Greely,
Directorate of Public Works
ATTN: Chief, Environmental Office
Box 1289
Delta Junction AK 99737

Sincerely,



Lawrence M. Ryan
Director
Public Works

Enclosure



**DEPARTMENT OF THE ARMY
U.S. ARMY GARRISON ALASKA
BOX 507, DELTA JUNCTION, AK 99737**

January 8, 2004

Directorate of Public Works

Charlie Stevens, Chief
Nenana Traditional Council
PO Box 356
Nenana AK 99760

Dear Mr. Stevens:

In compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA, the U.S. Army Garrison Fort Greely is preparing the U.S. Army Garrison *Fort Greely Borrow Pit Environmental Assessment*. We are proposing to develop new sources of gravel and borrow materials for airfield construction and installation operation activities at Fort Greely, Alaska. This document analyzes the environmental effects of developing new borrow pits.

In accordance with National Historical Preservation Act, we are consulting with you regarding Cultural Resources that could be potentially affected by this project by means of this NEPA document. Enclosed is a copy of the *Fort Greely Borrow Pit Environmental Assessment*.

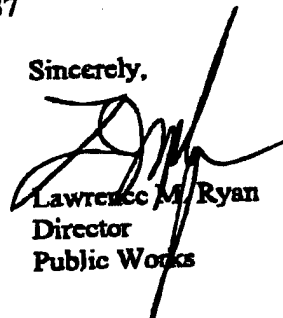
Please feel free to review the entire document for all aspects of potential environmental effects. However, your attention is specifically called to the sections on Cultural Resources on pages 2-1 through 2-5 (description of the action); section 3.3 (affected environment); and sections 4.1.1.3, 4.1.2.3, and 4.2 (environmental consequences). These passages will describe the action, Fort Greely Cultural Resources potentially affected, and our conclusions regarding the Finding of No Adverse Effect.

Your review and comments regarding this Finding of No Adverse Effect is requested. To carry out this program expeditiously, we request your response within 30 days of your receipt of this correspondence.

Questions or comments regarding this project should be addressed to:

U.S. Army Garrison Fort Greely,
Directorate of Public Works
ATTN: Chief, Environmental Office
Box 1289
Delta Junction AK 99737

Sincerely,



Lawrence M. Ryan
Director
Public Works

Enclosure



**DEPARTMENT OF THE ARMY
U.S. ARMY GARRISON ALASKA
BOX 507, DELTA JUNCTION, AK 99737**

January 8, 2004

Directorate of Public Works

Lorraine Titus, President
Northway Traditional Council
PO Box 406
Northway AK 99764

Dear Ms. Titus:

In compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA, the U.S. Army Garrison Fort Greely is preparing the U.S. Army Garrison *Fort Greely Borrow Pit Environmental Assessment*. We are proposing to develop new sources of gravel and borrow materials for airfield construction and installation operation activities at Fort Greely, Alaska. This document analyzes the environmental effects of developing new borrow pits.

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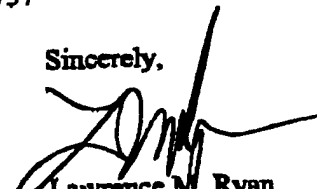
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U.S. Army Garrison Fort Greely,
Directorate of Public Works
ATTN: Chief, Environmental Office
Box 1289
Delta Junction AK 99737

Sincerely,



Lawrence M. Ryan
Director
Public Works

Enclosure

STATE OF ALASKA

FRANK H. MURKOWSKI, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF PARKS AND OUTDOOR RECREATION
OFFICE OF HISTORY AND ARCHAEOLOGY

550 W. 7TH AVENUE, SUITE 1310
ANCHORAGE, ALASKA 99501-3565
PHONE: (907) 269-8721
FAX: (907) 269-8608

January 30, 2004

File No.: 3130-1R Army

SUBJECT: Development of material sources for airfield repair and installation activities.
U. S. Army Garrison Fort Greely, Alaska

Lawrence M. Ryan
U. S. Army Garrison Fort Greely
Directorate of Public Works
ATTN: Chief, Environmental Office
Box 1289
Delta Junction, AK 99737

Dear Mr. Ryan,

We have reviewed your correspondence (received 1/12/2004) regarding the referenced project for conflicts with cultural resources under Section 106 of the National Historic Preservation Act. We have the following comments on your draft EA:

- Page 3-5/line 36: Based on our records, two sites (not one) are eligible for the National Register of Historic Places (XMH-280 and XMH-315).
- Page 3-6/line 3: Please provide the complete reference information for the survey report resulting from the 1997 survey. Also please provide a map showing exactly which areas were surveyed.
- Page 3-7: Due to the vulnerability of archaeological sites to vandalism, their exact locations should not be provided in documents that may be viewed by the public. As an alternative, you could provide this information in your cover letter to us, or in an appendix that has restricted distribution.
- Page 4-3/line 25: Once again, please provide the complete reference and survey map for the 1997 survey.
- Page 4-7/line 18: A copy of the resulting survey report should be sent to our office and consultation with SHPO finalized before the project commences.

Once we receive the requested information, we can complete our Section 106 review of the proposed material sources. You may contact Stefanie Ludwig at 269-8720 if you have any questions or if we can be of further assistance.

Sincerely,

Judith F. Bittner

Judith F. Bittner
State Historic Preservation Officer

Deputy

JEB:sll

APPENDIX C
EQUIPMENT LIST FOR PROPOSED AIRFIELD BORROW PIT

APPENDIX C

EQUIPMENT LIST FOR PROPOSED AIRFIELD BORROW PIT

Table C-1: Equipment List for Proposed Airfield Borrow Pit

Equipment Type	Manufacturer	Model or Size	Quantity
Bulldozers	Caterpillar	D-10	2
	Caterpillar	D-9	2
	Caterpillar	D-8	4
	Caterpillar	D-6	2
Graders	Caterpillar	16	2
	Caterpillar	14	2
Scrapers	Caterpillar	657	6
	Caterpillar	627	4
Rock Dumps	Caterpillar	769	4
	Caterpillar	D300D	6
Loaders	Caterpillar	966E	3
	Caterpillar	980	2
	Caterpillar	988	2
Crushing Plant	Cedar Rapids	(300 tons per hour)	1
Water Trucks	Kenworth	-	4
Small Backhoes	John Deere	-	2
Screening Plants	Grizzley	3000	2
Support Vehicles			
Service Trucks	-	-	4
Support Trucks	-	-	6
Special Equipment	-	-	20

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