

ENVIRONMENTAL ASSESSMENT
For
INFRASTRUCTURE IMPROVEMENTS IN THE
BASE DEVELOPED AREA
at
Eielson Air Force Base, Alaska



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March 2011

Report Documentation Page			Form Approved OMB No. 0704-0188		
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 15 AUG 2011		2. REPORT TYPE Environmental Assessment		3. DATES COVERED 00-00-2008 to 00-00-2011	
4. TITLE AND SUBTITLE Environmental Assessment for Infrastructure Improvements in the Base Developed Area at Eielson Air Force Base, Alaska			5a. CONTRACT NUMBER		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S)			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) United States Air Force,Eielson Air Force Base,Fairbanks,AK,99702			8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSOR/MONITOR'S ACRONYM(S)		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT Environmental Assessment for Infrastructure Improvements in the Base Developed Area at Eielson Air Force Base, Alaska					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 61	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

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COVER SHEET

EIELSON AIR FORCE BASE (AFB) INFRASTRUCTURE IMPROVEMENTS IN THE BASE DEVELOPED AREA ENVIRONMENTAL ASSESSMENT (EA)

- a. *Responsible Agency:* United States Air Force (USAF)
- b. *Cooperating Agency:* None
- c. *Proposals and Actions:* This EA analyzes the potential environmental effects of specific identified projects in support of infrastructure projects which meet specific project criteria within the developed portion of the base property-Base Developed Area (BDA) and are consistent with the development goals of Eielson AFB, and include support of Red Flag-Alaska (RF-A). For infrastructure projects to be included under this Programmatic EA, each project must adhere to completely, or adopt the forms, guidance, criteria, and avoidance actions. The Proposed Action would support RF-A and other missions by implementing infrastructure improvement projects with defined criteria and within specific thresholds in the current BDA. Specific RF-A supporting infrastructure projects include: 1) meeting and briefing center 2) resurfacing of specific taxiways and arming areas, and 3) modernization of electronic range capabilities. The BDA identified for project siting under the Proposed Action includes areas where construction and environmental disturbance have already occurred and environmental consequences have been thoroughly investigated and documented. The purpose of construction and renovation of Eielson AFB facilities within the BDA is to permit Eielson AFB to continue to support host and tenant missions. Facilities are needed to meet aircraft and personnel requirements as Eielson AFB continues its strategic mission in support of the United States Air Force's (Air Force) fight in the Global War on Terror. No Action at Eielson AFB means no construction, renovation, or modernization to upgrade aging facilities and increase base capacity and capability within the BDA would occur. Existing Eielson AFB infrastructure would face increasing challenges to provide essential mission support to RF-A and other host and tenant missions.
- d. *Comments and Inquiries:* Written comments on this document should be directed to Ms. Ruth Forrester, 354 CES/CEAO, 2310 Central Avenue, Suite 100, Eielson AFB AK 99702-2225. For additional information contact Eielson AFB Public Affairs at (907) 377-6116 or e-mail: info@eielson.af.mil.
- e. *Designation:* Environmental Assessment
- f. *Abstract:* This EA has been prepared in accordance with the National Environmental Policy Act (NEPA). Potentially affected environmental resources were identified through communication with state and federal agencies, and review of past documentation. Specific environmental resources addressed in this EA include; land use and visual resources, socioeconomics and environmental justice, cultural resources, infrastructure, physical resources, hazardous materials and waste management, biological resources, and air quality. Primary environmental concerns associated with the Proposed Action are related to asbestos abatement, lead-based paint removal, and remediation of soil and groundwater contaminated with petroleum fuels, lubricants, and solvents. Secondary environmental concerns include those associated with air quality and cultural resources (particularly architectural resources and historic districts within the BDA), as well as the cumulative effect of increasing impervious surfaces for base runoff within the BDA.

The BDA provides no wildlife habitat and supports no protected species. Following strict inclusion criteria, mitigation through avoidance, remediation, and adherence to existing guidance will alleviate negative environmental consequences. Implementation of infrastructure projects within the BDA under the Proposed Action will increase abatement of asbestos materials and lead-based paint during renovation of aging facilities, remediation of contaminated soils during some excavation, and increase base safety through modernization.

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FINDING OF NO SIGNIFICANT IMPACT (FONSI)

Eielson Air Force Base, Alaska

NAME OF PROPOSED ACTION. Eielson Air Force Base (AFB) Infrastructure Improvements in the Developed Area of the Base Environmental Assessment (EA).

DESCRIPTION OF THE PROPOSED ACTION AND NO ACTION ALTERNATIVE. The United States Air Force (Air Force) at Eielson AFB proposed to implement infrastructure improvements to meet mission needs within the Base Developed Area. This EA provides a framework and programmatic approach for planning, environmental documentation, and tracking to support infrastructure improvements. Infrastructure improvement projects include those planned and anticipated to fulfill mission needs and those supporting RED-FLAG Alaska (RF-A) as a world-class Major Flying Exercise (MFE). General inclusion criteria for this EA include relevant projects that occur within the developed portion of the base; do not require wetlands permits or are not located within the 100-year floodplain; and are not subject to a 30-day public review as detailed in Title 32 Code of Federal Regulations Part 989.15(e)(2). The infrastructure improvements analyzed in this EA would provide quality facilities needed to support the RF-A MFEs and current and future mission needs of the 354th Fighter Wing and its tenant units.

Within a programmatic framework, projects falling within this document's siting and inclusion criteria would be implemented in response to specific mission demands on base infrastructure. Project implementation and cumulative effects would be tracked through a database tied to this document.

Under the No Action Alternative, construction, renovation, and demolition projects within the developed portion of the base would not be implemented. Selection of the No Action Alternative would result in continued use of deteriorating facilities. Eielson AFB would not adequately meet RF-A and future mission requirements or provide for improved quality of life for personnel.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES. This EA provides an analysis of the potential environmental consequences under the Proposed Action and No Action Alternative. Environmental resources evaluated in detail for potential environmental consequences were land use and visual resources, noise, socioeconomics and environmental justice, cultural resources, infrastructure, physical resources, hazardous materials and waste management, biological resources, and air quality.

Projects are consistent with base land use, noise, safety planning, and viewshed. Short-term socioeconomic benefits are expected in the region due to construction employment. Renovation of historic structures would comply with the existing Integrated Cultural Resource Management Plan. Current infrastructure elements would adequately support project implementation, with some increase in vehicular traffic likely during some construction. Hazardous materials, such as asbestos and lead-based paint, and solid waste would be generated during associated demolition projects. All federal and state regulations regarding asbestos and lead will be followed. Removal of asbestos and lead-based paint from aging facilities would eliminate some existing environmental hazards. Solid waste would be recycled when possible; no appreciable amount of waste is expected. No impacts to biological resources are anticipated. Air pollutants and noise levels would increase during construction, but not to harmful levels; no long-term impacts are expected. Increasing base capacity may increase emissions but not significantly and well below established thresholds.

No cumulative effects or irreversible commitment of resources are expected to any of the resources categories if the Proposed Actions were implemented.

PUBLIC COMMENT. The Draft EA/FONSI was made available for a 15-day review and comment period through publication for a notice of availability which ran in the Fairbanks Daily Newsminer (posted 6 February 2011). A copy of the Draft EA/FONSI was made available for review at the Noel Wien Public Library in Fairbanks, Alaska. No public comment was received from the public noticing of the EA/FONSI in regards to this Proposed Action.

CONCLUSION. Based on the findings of this EA conducted in accordance with the requirements of the National Environmental Policy Act (42 United States Code 4321-4347), Council on Environmental Quality (40 Code of Federal Regulations §§ 1500-1508 and 32 CFR 989, et seq., *Environmental Impact Analysis Process* (formerly known as Air Force Instruction 32-7061), and after careful review of the potential impacts, I conclude implementation of the Proposed Action would not result in significant impacts to the quality of the human or the natural environment. Therefore, a Finding of No Significant Impact is warranted, and an Environmental Impact Statement is not required for this action.



JAMES N. POST III
Brigadier General, USAF
Commander

15 Aug 11.
Date

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ACRONYMS AND ABBREVIATIONS

168 ARW	168th Air Refueling Wing
354 CES/CEAO	354th Civil Engineering Squadron/Asset Optimization Element
354 CES/CEAN	354th Civil Engineering Squadron/Environmental Restoration
354 FW	354th Fighter Wing
AAC	Alaska Administrative Code
AFB	Air Force Base
AFI	Air Force Instruction
AICUZ	Air Installation Compatible Use Zone
AK ANG	Alaska Air National Guard
ADEC	Alaska Department of Environmental Conservation
APDES	Alaska National Pollutant Discharge Elimination System
ACMs	Asbestos-containing materials
BMPs	Best Management Practices
BDA	Base Developed Area
CAA	Clean Air Act
CEAO	Civil Engineer Environmental
CEAOR	Civil Engineer Environmental Restoration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	Code of Federal Regulations
CWA	Clean Water Act
dB	Decibel
DoD	Department of Defense
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
FNSB	Fairbanks North Star Borough
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
FY	Fiscal Year
HW	hazardous wastes
ICRMP	Integrated Cultural Resources Management Plan
IRP	Installation Restoration Program
INRMP	Integrated Natural Resource Management Plan
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning
MFES	major flying exercises
MGD	million gallons per day
MILCON	Military Construction
NAAQS	national ambient air quality standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
PACAF	Pacific Air Forces
RCRA	Resource Conservation and Recovery Act
RF-A	RED FLAG-Alaska
ROD	Record of Decision
ROI	region of influence
SAP	Satellite Accumulation Point

SHPO	State Historic Preservation Office
SOPs	Standard Operating Procedures
SWPPP	Storm Water Pollution Prevention Plan
US	United States
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service

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1.0 PURPOSE AND NEED

The United States Air Force (Air Force) proposes to implement infrastructure improvement projects within the already-developed portion of Eielson Air Force Base (AFB) in support of base missions including RED FLAG-Alaska (RF-A). These infrastructure improvements are needed for transient and special mission personnel and equipment as Eielson AFB continues its strategic mission as part of the Air Force's fight in the Global War on Terror.

1.1 Background

Eielson AFB is located in central Alaska within the Fairbanks North Star Borough (FNSB), approximately 120 miles south of the Arctic Circle and 26 miles southeast of Fairbanks. Eielson AFB is located in the Tanana River Valley on a low, relatively flat, floodplain terrace that is approximately 2 miles north of the active river channel (Figure 1-1, Project Location and Figure 1-2, Area Map).

The 354th Fighter Wing (354 FW), is the host unit at Eielson AFB and is assigned to the 11th Air Force, headquartered at Joint Base Elmendorf-Richardson in Anchorage. The 354 FW with F-16 C/D Fighting Falcon aircraft operates, maintains, and trains combat forces in close air support and interdiction missions in support of the war plans of three operational theaters. In addition, the wing operates and maintains Pacific Air Forces (PACAF's) largest air-to-ground bombing range complex and conducts PACAF's premier large force exercise, RF-A. Eielson AFB supports the operations of the Alaska Air National Guard (AKANG) 168th Air Refueling Wing (168 ARW) which operates KC-135 Stratotanker aircraft in support of PACAF operations. The wing hosts the USAF Arctic Survival School, the AKANG Search and Recovery; Detachment 1, which operates HH-60 helicopters, and Detachment 460 of the Air Force Technical Applications Center; Detachment 632, Air Force Office of Special Investigations; Air Force 66th Training Squadron; 210th Rescue Squadron. Eielson AFB supports the 13th Space Warning Squadron at Clear AFS.

The purpose of the Proposed Action is to provide overall support for certain infrastructure improvements (e.g., maintenance, repair, upgrades, demolition, and construction). These infrastructure improvements are needed to support RF-A as well as other current and reasonably foreseeable mission requirements.

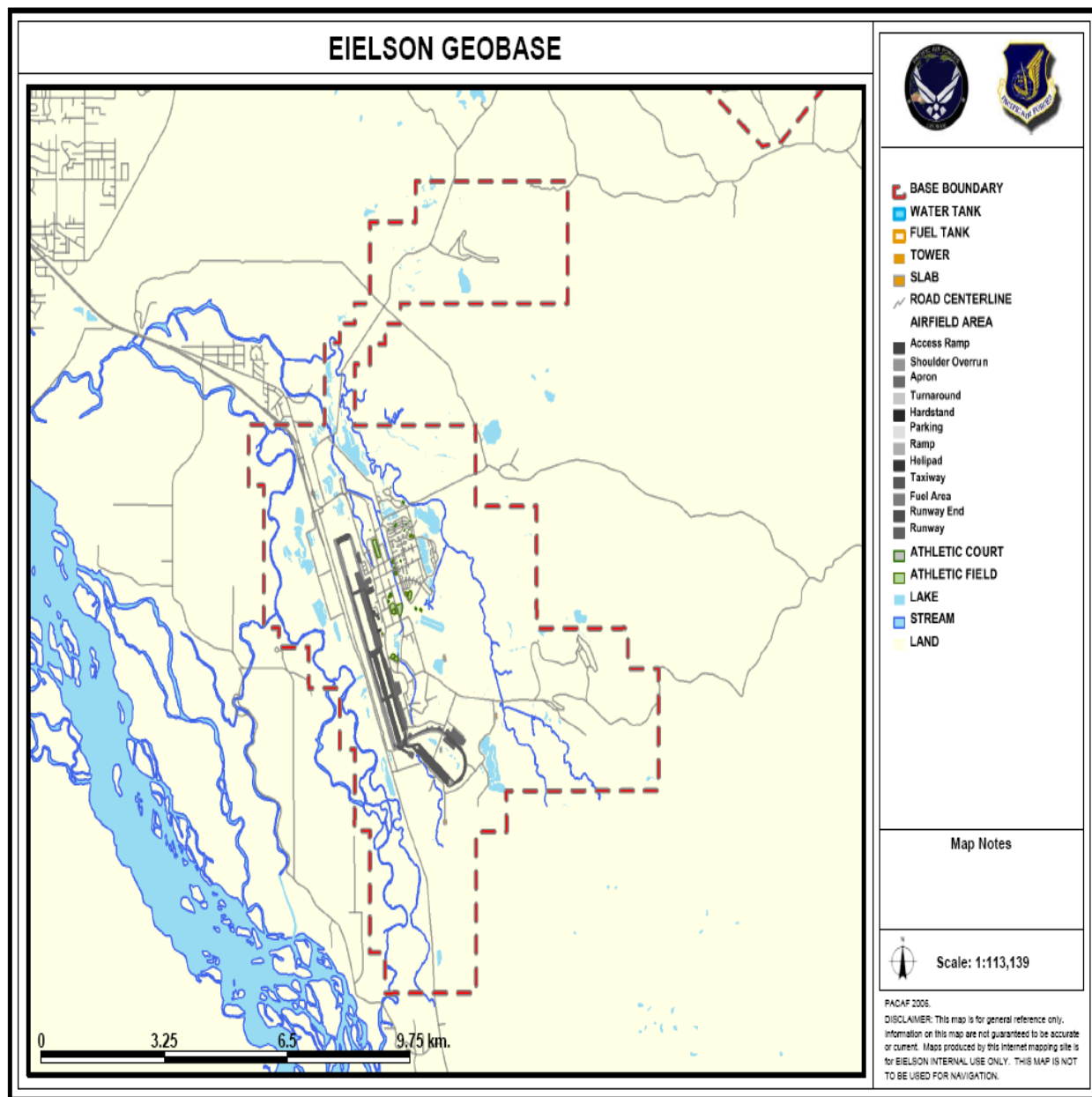
This environmental analysis uses a comprehensive framework to evaluate the consequences of these projects and consider their broader cumulative effects. This EA is intended to meet the following goals:

- Evaluate baseline conditions of the developed portions of base property and evaluate the environmental consequences of infrastructure changes.

Figure 1-1, Project Location



Figure 1-2, Area Map



- Evaluate, revise, and expand the previous version of the programmatic omnibus EA to provide Eielson AFB an efficient, environmentally sound framework to evaluate future development in the BDA.
- Provide Eielson's base planners a tool whereby projects in the Base General Plan can be developed in a manner that is environmentally sound and predictable.

The programmatic approach of this document demands constant review for relevancy and accuracy and will be revised at approximately 5-year intervals. Ultimately this document will be synchronized to the review cycle of the base general plan currently in development.

For RF-A base support, the Proposed Action is needed to enhance or optimize:

- Eielson AFB on-base combat training review and technical analysis.
- Communication with existing electronic range components.
- Aircraft ground support efficiency.
- Taxiway safety during high use.

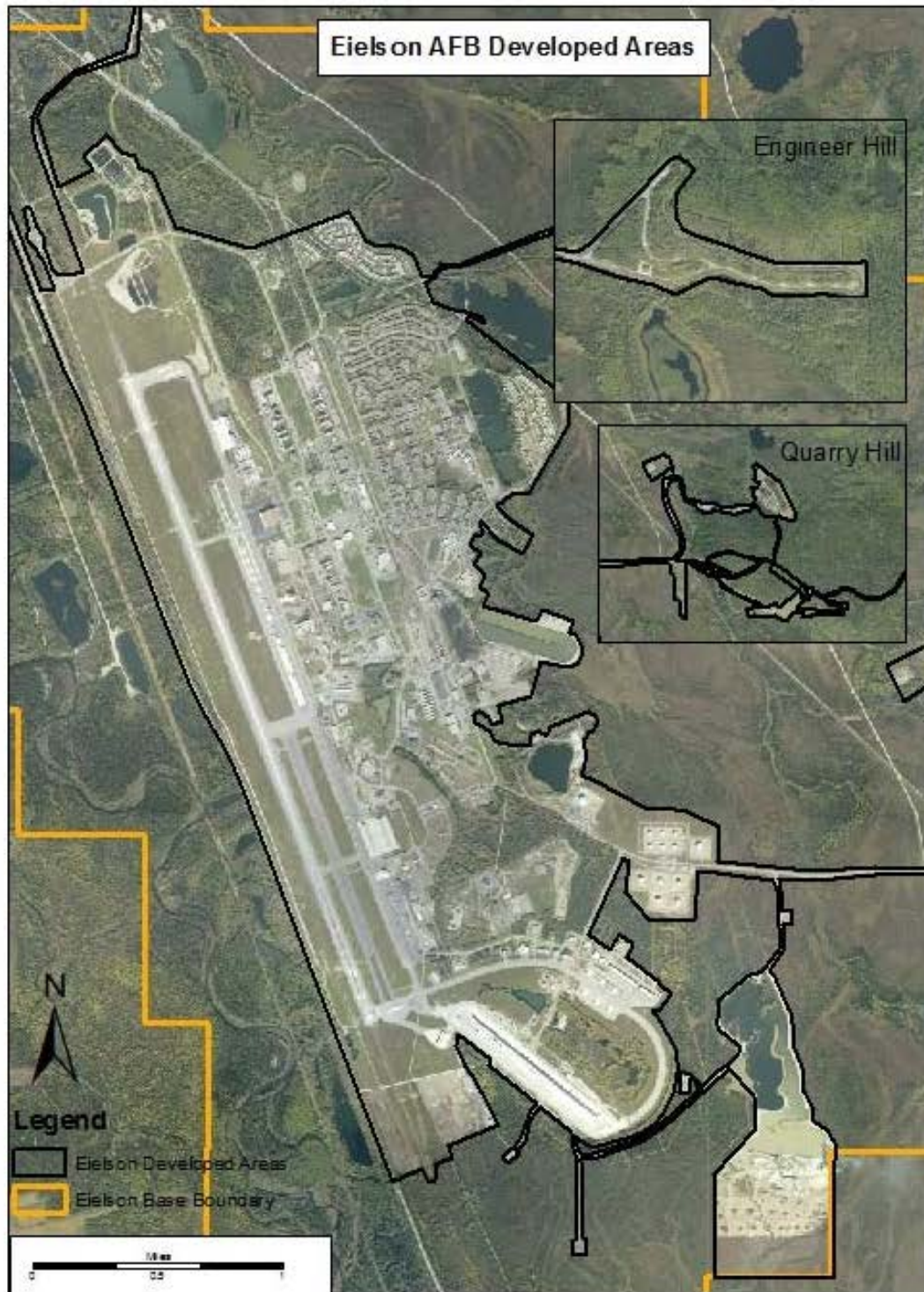
The facilities and infrastructure improvements considered under the Proposed Action would allow Eielson AFB to become increasingly well-suited to mission requirements, function more efficiently, and respond to mission requirements within the BDA.

The Proposed Action would involve implementing mission-supporting infrastructure improvement projects within defined criteria and within specific thresholds in the current BDA; under the No Action Alternative, certain infrastructure improvements in support of current and future mission goals would not be performed. The BDA is the area on the base as shown on Figure 1-3, which includes areas where construction and environmental disturbance have already occurred and environmental consequences have been investigated and documented. For a more complete description of the BDA, see Section 2.1.

The primary purpose of construction within the BDA is to meet aircraft and personnel requirements as Eielson AFB continues its strategic mission in support of the Air Force's fight in the Global War on Terror. Another important function of construction and renovation of facilities on Eielson AFB is to permit the base to support host and tenant missions. This EA serves two main purposes: 1) it addresses specific facilities at Eielson AFB currently proposed to support the RF-A exercises, and 2) it evaluates the specific developed portion of Eielson AFB where renovation and construction could occur in support of Eielson AFB host and tenant missions.

This EA addresses both project specific actions proposed in the BDA, as well as a programmatic approach to facilities that can in the future be proposed within the BDA that would support host and tenant missions. The Proposed Action and the No Action Alternative are addressed in accordance with the National Environmental Policy Act (NEPA) (42 United States Code [USC] 4321-4347), Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] § 1500-1508) and Title 32 CFR Part 989, et seq., also published as Air Force Instruction (AFI) 32-7061, Environmental Impact Analysis Process. Potential consequences to both the human and natural environment are considered.

Figure 1-3, Base Development Area



1.2 Need

As an active military installation since 1944, Eielson's infrastructure has a long history of adapting to growth, changing missions, and innovation. It has always been essential to maintain infrastructure suited to current mission needs as well as adaptable to changing needs and new technologies. The result is a base that routinely requires new construction, renovations, infrastructure upgrades, and ongoing maintenance and repair within the developed portions of the base property or BDA. Over time, these projects have reflected the needs as anticipated by base planners in support of the Wing Commander's vision and implementation of Eielson's strategic mission. NEPA documents have been prepared to address these facilities and infrastructure improvements. In 1993, Eielson AFB implemented its first programmatic omnibus EA addressing projects sited within the BDA exclusive of those requiring wetlands permits, those sited within 100-year floodplains, and those requiring 30-day public review as prescribed in Title 32 CFR Part 989.15(e)(2). The purpose of this programmatic EA was to use resources more efficiently, provide an environmental analysis that addressed cumulative consequences of different projects within the BDA, and make infrastructure more responsive to changing needs. This omnibus approach avoided piecemeal environmental documentation and analysis and reduced redundancy while maintaining high environmental standards. The 1993 programmatic omnibus EA was updated and succeeded by a 1997 EA and the concept was coordinated with the United States Environmental Protection Agency (USEPA), United States Fish and Wildlife Service (USFWS), and the State of Alaska Department of Conservation. The coordinated omnibus EA addresses the BDA and provides planning and environmental information as the Wing Commander implements needed facility modifications, updates, and improvements to meet mission demands.

1.3 Decisions to be Made

As required by Title 32 of CFR Part 989, the Environmental Impact Analysis Process (EIAP) will be used to determine the potential environmental consequences of construction and renovation of Eielson AFB facilities with the BDA. This EA is intended to satisfy these requirements. The proposed action, all alternatives considered, and the consequences that could result from each one will be addressed in detail in Section 2 and 3 of this document.

Based on the evaluation of impacts in the EA, a Finding of No Significant Impact (FONSI) will be published if there is a finding of no significant environmental impacts for the proposed action. If it is determined that the proposed action will have significant environmental impacts, other alternatives will be considered for which impacts may not reach the threshold of significance.

The EA, a draft FONSI (if applicable), and all other appropriate planning documents will be provided to the decision maker, for review and consideration. If, based on a review by the decision maker of all pertinent information, a FONSI is proposed, a public notice will be published in accordance with 32 CFR 989.15(e)(2). The EA and the draft FONSI will be made available to interested agencies and the public. All interested parties will have sufficient time to comment on the decision to the Air Force. If, at the end of the public comment period, no substantive comments are received, the decision maker will sign the FONSI.

Two Executive Orders (EOs), 11988 (*Floodplain Management*) and 11990 (*Protection of Wetlands*), require the heads of federal agencies to find that there is no practicable alternative before the agency takes certain actions impacting wetlands or floodplains. For any proposed action to be included within this Programmatic EA it would not impact the 100-year floodplain. To address this requirement, the Secretary of the Air Force's designated agent, will sign a document that addresses the issue of floodplains that may be associated with actions the Air

Force proposes to take. This document, known as a Finding of No Practicable Alternative (FONPA), will state which alternative, the proposed action or the no action alternative, will be selected as the appropriate course of action. The FONPA will be combined with the FONSI into one document. It will contain documentation that there is no practicable alternative to the proposed action and that all practical measures to minimize harm to floodplains have been incorporated into the project design. It will also state whether any mitigation will be required.

1.4 Scope of the Environmental Assessment

This EA identifies, describes, and evaluates the potential environmental impacts that may result from the implementation of the infrastructure improvements of the Proposed Action and the alternatives, as well as the No Action Alternative. These infrastructure improvements are needed to support RF-A as well as other current and reasonably foreseeable mission requirements. As appropriate, the affected environment and environmental consequences of the Proposed Action and alternatives may be described in terms of site-specific descriptions or regional overview. Finally, the EA identifies measures that would prevent or minimize environmental impacts.

This environmental analysis uses a comprehensive framework to evaluate the consequences of these projects and consider their broader cumulative effects. This EA is intended to meet the following goals:

- Evaluate baseline conditions of the developed portions of base property and evaluate the environmental consequences of infrastructure changes.
- Evaluate, revise, and expand the previous version of the programmatic omnibus EA to provide Eielson AFB an efficient, environmentally sound framework to evaluate future development in the BDA.
- Provide Eielson's base planners a tool whereby projects in the Base General Plan can be developed in a manner that is environmentally sound and predictable.

The facilities and infrastructure improvements considered under the Proposed Action would allow Eielson AFB to become increasingly well-suited to mission requirements, function more efficiently, and respond to mission requirements within the BDA.

1.5 List of Federal Permits, Licenses, and Entitlements

The Clean Water Act, 33 U.S.C. §1251 et. seq. Sections 401 and 402 requires a state issued permit, the Alaska National Pollutant Discharge Elimination System (APDES) permit, and compliance with provisions of permits regarding discharge of effluents to surface waters and additional wetland protection. A Storm Water Pollution Prevention Plan (SWPPP) would need to be developed and a Notice of Intent (NOI) would need to be filed prior to construction in accordance with the APDES General Permit for Discharges from Large and Small Construction Activities AKR100000.

EO 11988: Floodplain Management requires that where there is no practicable alternative to development in floodplains and wetlands, Federal agencies are required to prepare a floodplains and wetlands assessment and design mitigation measures. For floodplain involvement, Federal agencies must issue a Floodplain Statement of Findings.

EO 12088: Federal Compliance with Pollution Control Standards [43 FR 47707 October 17, 1978] requires Federal Agencies to consult with EPA and State Agencies regarding the best techniques and methods for the prevention, control, and abatement of environmental pollution. Hazardous Communication Standard [29 CFR 1910.1200] requires compliance to ensure that works are informed of all chemical hazards in the workplace and are trained to handle them.

Hazardous Materials Transportation Law [49 USC 5105127 et seq.] requires compliance with the requirements governing hazardous materials and waste transportation which applies primarily to the construction phase.

Migratory Bird Treaty Act [16 USC 703 et seq.] requires consultation to determine whether construction or operation of project facilities has any impacts on migrating bird populations.

NEPA [42 USC 4321 et seq. 40 CFR 1500-1508] and AFI 32-7066 and 32-7061 directs all Federal agencies in the implementation of NEPA.

1.6 Organization of the Document

This EA includes seven chapters. Chapter 1.0 introduces the purpose and need for infrastructure and facility improvements in the context of Eielson AFB host and transient mission requirements. Chapter 2.0 characterizes the Proposed Action and alternatives, including the No Action Alternative. The project's scope, region of influence (ROI), and regulatory framework are detailed. Chapter 3.0 describes the current baseline conditions of the affected environment. Chapter 4.0 assesses the potential environmental consequences to the affected environment from the Proposed Action and the No Action Alternative. Chapter 5.0 is a list of preparers. Chapter 6.0 is a list of agencies and persons consulted during document development. Chapter 7.0 is a list of References used.

Resources under consideration for this EA include land use (including Air Installation Compatible Use Zone [AICUZ]) and visual resources, socioeconomics and environmental justice, cultural resources, infrastructure, physical resources, hazardous material and waste management, biological resources, and air quality. Appendix A describes how the project can be considered for tiering to the programmatic document and includes a checklist that must be completed and included with the Air Force Form 813. Appendix B is a Glossary.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The Air Force at Eielson AFB proposes to implement infrastructure improvements to meet mission needs within the BDA. This EA provides a framework and programmatic approach to planning, environmental documentation, and tracking to support infrastructure improvements. Infrastructure improvement projects captured include those planned and anticipated to fulfill mission needs and those supporting the RF-A as a world-class MFE. General inclusion criteria for this EA include relevant projects that:

- Occur within the developed portion of the base (see below).
- Do not require wetlands permits or are not located within the 100-year floodplain.
- Are not subject to 30-day public review as detailed in Title 32 CFR Part 989.15(e) (2).

The ROI for the Proposed Action includes reclaimed portions of Eielson AFB property already under development, including those areas that have been developed since the preparation of the 1996 Omnibus Base Construction EA (Air Force 1996). Developed areas are those that:

- Have been filled to grade above the estimated 100-year floodplain.
- Do not possess unique or high quality habitats, as identified by the Eielson AFB Integrated Natural Resource Management Plan (INRMP).
- Occur on or immediately adjacent to sites that have been completely committed through previous development.

Included in these areas are lawns, recreational areas such as ball fields, landscaping features, ruderal vegetation areas, and areas that have acquired secondary growth of tree stands atop graded fill material. For the purposes of this document, the ROI is termed the BDA. It excludes surrounding areas of the base property that consist of wetlands, waters of the US, and native terrestrial habitats. Figure 1-3 depicts Eielson AFB's BDA.

Existing base facilities have supported mission requirements and will continue to do so. It is essential that this infrastructure also be increasingly effective at supporting future mission needs. Planners will need to consider the following development goals:

- Plan for growth and optimal utilization of base capacity.
- Plan for changing mission requirements.
- Plan for changing technology.
- Plan for research and development.
- Plan for improving resource stewardship.
- Plan for improving base quality of life.
- Plan for base airspace and land use compatibility.
- Plan projects, when possible, to mitigate by avoidance, possible environmental consequences and thereby meet the criteria for environmental review under this Programmatic EA.

Facilities and infrastructure affect these goals through new construction, renovations, and infrastructure upgrades. Construction and environmental constraints to future development are comprehensively addressed during project planning. Constraints include airfield clearances, AICUZ noise and safety considerations, quantity-distance explosive safety zones, and potential historic sites. Environmental constraints involve Installation Restoration Program (IRP) and Solid Waste Management Unit sites, landfills, floodplains, wetlands, and species locations and habitats. Wetland and 100-year floodplain determinations are made through consultation with Eielson's Natural Resources Manager, Federal Emergency Management Agency maps, and US Army Corps of Engineers (USACE) as needed.

Eielson 354th Civil Engineer Squadron/Asset Optimization Element (354 CES/CEAO) reviews all proposed projects for specific environmental concerns and relevant permitting. This review is triggered through the submission of AF Form 332 (Base Civil Engineer Work Request Form) and/or AF Form 813 (Request for Environmental Impact Analysis) by the project's proponent. As part of this process, IRP review is conducted by 354th Civil Engineer Squadron/Environmental Restoration (354 CES/CEAN) program. CEOA also attends design review conferences. Proposals submitted to CEOA are reviewed for conformance to base plans, potential for impacts to wetlands, proximity to known hazardous sites, historical and cultural significance, environmental permit requirements, and threatened and endangered species. When appropriate, soil and groundwater contamination screening is initiated. Construction on contaminated sites requires that cleanup analysis and practices proceed under Alaska Department of Environmental Conservation (ADEC) approval. Evaluation by ADEC includes an approved sampling and analysis plan and a quality assurance program plan. Guidance for planning base development projects is covered under base plans listed in Table 2-1.

Table 2-1. Guidance for Base Development Projects

Base Plans	Type of Resource Project
Base General Plan	Land Use, Safety, and Noise Resources
Pollution Prevention Plan	Hazardous, Physical, and Water Resources
Stormwater Pollution Prevention Plan	Water Resources
Environmental Condition of Property Map (IRP)	Hazardous Resources
Integrated Natural Resources Management Plan (INRMP)	Biological, Physical, Land Use, and Recreational Resources
Integrated Cultural Resource Management Plan (ICRMP)	Cultural and Land Use Resources
Hazardous Material and Waste Management Plan	Hazardous Resources
Asbestos Management Plan	Hazardous Resources
Lead-Based Paint Plan	Hazardous Resources
Base Comprehensive Asset Management Plan (BCAMP)	Asset Resources

A range of facility and infrastructure projects would enhance base capacity, improve infrastructure, tailor facilities to support current missions, provide flexibility for new missions, and improve quality of life features (R. Forrester, personal communication, September 30, 2010). Each proposed project covered under this Programmatic EA must meet the infrastructure project criteria. In addition, each project must adopt appropriate, project specific impact avoidance measures. The criteria and avoidance measures are presented in Table 2-2 as a planning checklist. Continuing base development is expected. As missions evolve, this Programmatic EA will help Eielson AFB continue to balance mission requirements, support facility improvements, and meet personnel needs with environmental stewardship.

Table 2-2. Planning Criteria and Avoidance Measures Checklist

Infrastructure Project Criteria	Infrastructure Impact Avoidance Measures
• Be within the BDA.	• Coordinate a construction footprint and land route with 354 CES/CEAO.
• Does not require wetland permits.	• Incorporate sediment and erosion control to graded sites. - Install silt fencing - Install storm drain inlet - Install tree protection - Install temporary sediment traps - Install diversion dikes within project limits
• Is not located within a 100-year floodplain.	• Adhere to ADEC administered storm water Alaska Pollution Discharge Elimination System.
• Not a project listed in 32 CFR 989.15(e)(2).	• Place gravel at entrance to construction site to reduce soil tracking on paved roads.
• Not subject to update or changes in environmental laws, policies, or directives	• Control fugitive dust with Best Management Practices (BMPs).
	• Evaluate any demolition site for asbestos or lead-based paint.
	• Plan and implement abatement and disposal requirements for asbestos or lead-based paint.
	• Evaluate any excavation projects for contaminated soil
	• Apply remediation requirements for any contaminated soils.
	• Plan for disturbed surface restoration.
	• Plan for revegetation of disturbed existing vegetation or other ground surfaces.
	• Obtain approval for surface restoration and revegetation plan from 354 CES/CEAO.
	• Implement revegetation of disturbed areas.
	• Revegetate existing vegetation or other ground surface. • Document all adherence to project criteria and adherence to mitigation measures.

Any RF-A construction or renovation projects proposed within the BDA would be required to meet the criteria for relevant projects described at the beginning of Section 2.1 for inclusion in this programmatic analysis.

2.2 Other Planned Infrastructure Projects

Table 2-3 lists additional infrastructure projects that have been identified to occur within the BDA. They each support mission goals and are examples of the types of projects that meet specified criteria for inclusion in this programmatic analysis.

2.3 No Action Alternative (Alternative 1)

Under the No Action Alternative, specific construction or demolition projects would not be implemented. Selection of the No Action Alternative would result in continued use of existing facilities. Without implementation of the Proposed Action, Eielson might not adequately meet future mission requirements or changes due to aging facilities and underutilized capacity and therefore would have increasing difficulty in supporting current and future mission goals.

- Future growth would be hampered.
- Some remediation/resource stewardship responsibilities would not be realized.
- Land use compatibilities and the functionality of the base could decrease.
- Quality of life for base personnel would decrease and the aging facilities would continue to deteriorate.
- Safety may be compromised.

2.4 Application of this Environmental Assessment

This EA analyzes the potential environmental effects of specific identified infrastructure projects in continued support of RF-A, as well as infrastructure projects which meet the inclusion criteria within the BDA and are consistent with the development goals of Eielson AFB. For other infrastructure projects to be included under this Programmatic EA, each project must completely adhere to, or adopt the forms, guidance, criteria, and avoidance actions summarized in Table 2-4 (Proposed Infrastructure Development Project Overview).

In its application, this document will allow for the streamlining of the environmental process. Repetitive discussion of issues common to all projects within this setting can be reduced and environmental management through CEAO applied more judiciously. Each project adhering to base guidance and meeting inclusion criteria and avoidance measures (Table 2-4) and reviewed under this document would not receive a separate FONSI; when appropriate, tiered projects could be categorically excluded following Title 32 CFR Part 989 CATEX 2.3.11 by virtue of their similarity to projects addressed by this EA. AF Form 813, Block 19, Environmental Planning Function Certification, would identify the subject project's tiering to this EA and its accompanying FONSI. In addition, a checklist form (Appendix A) would be filled out for each project, delineating any other specific environmental issues needing documentation. Implementation would be tracked through a database that will allow for an analysis of cumulative impacts that may be associated with the project. This document will be reviewed for relevancy and accuracy of analysis at approximately 5-year intervals.

Table 2-3. Infrastructure Improvement Projects in support of other Missions

Fiscal Year	Project Title	Description	Funding Source
2011	Repair Central Heat and Power Plant Boilers, Phase 2 (Facility Number B6203)	Repair by replacing new 120,000 lb/hr boiler at Central Heat and Power Plant. The new boiler will replace the existing spreader stoker boiler #5. No additional footprint is anticipated for this replacement. The project includes: demolition of the existing boiler; purchase and installation of new boiler; and all auxiliary equipment to support boiler operation to include: coal feed; ash handling; condensate handling; deaerator and boiler feedwater; soot blowers; boiler combustion air and forced draft fans; boiler flue gas; induced draft fans and stacks; as well as extensions of the plant control; electrical; glycol and steam systems; and installation of emission control equipment. New environmental control elements (selective catalytic reduction utilizing aqueous ammonia used to control nitrogen oxide and dry flue gas desulfurization used to control sulfur dioxide) will be included as part of the boiler package. Existing baghouses will be utilized. Additionally, a continuous emission monitoring system and a continuous opacity monitoring system will be required.	MILCON
2011	Repair/Renovate Consolidated Library/Community Center (Facility Number B3310)	Renovate old BX (B3310) into Eielson Community Center space requirements/ functions. Work required; structural alterations, renovations and/or upgrades, abate any hazardous material (asbestos and lead based paint), add alter utilities for exiting utilidor and power lines to serve the designed spaces, provide utility metering, steam condensate, water and electric meters.	MILCON
2013	Renovate CAC - Combat Alert Cell (Facility Number B1300)	The Combat Alert Cell needs to be upgraded to allow use by F-22 alert aircraft. This will require the installation of a new security fence and security system, renovation of the fire suppression system, installation of exhaust systems in the three bays, upgrades to 2 offices to allow for secure storage, an upgrade of the electrical distribution system throughout the facility to allow for the use of Aircraft Ground Equipment (AGE) during maintenance, and installation of an AELAMS.	MILCON
2013	Auxiliary Heat Plant and Demolish Officer's Quarters	Construct a 1,100 square meter (11,840 square feet) auxiliary heat plant; steel fabricated structure with insulated steel panels, poured concrete foundation and slab on grade floor. Provide one 98,000 lb/hr, oil fired, low NOX boilers with associated controls and emission monitoring systems, in the vicinity of the facilities along the taxiway loop. Provide a fuel storage complex and back-up generator capability to support the plant. The new auxiliary heat plant would supplement the existing plant to prevent a freeze-up of aircraft maintenance facilities should the steam supply from the Central Heat and Power Plant be interrupted. Demolish excess unaccompanied officer's housing (8 units).	MILCON
2014	New Dormitory, Phase 2	Construct new 168 room dormitory. This project will also include the demolition of buildings 2260 and 2262.	MILCON
2015	Construct Electrical Distribution & Supply Facility	Construct electrical distribution & supply facility	MILCON

Table 2-4. Proposed Infrastructure Development Project Overview

Project Review Checklist	Completed or Adopted
Prepares and Submits AF Form 332	
Prepares and Submits AF Form 813	
Adheres to guidance for planning base development projects	
Base General Plan	
Pollution Prevention Plan	
Stormwater Pollution Prevention Plan	
Environmental Condition of Property Map (IRP)	
Integrated Natural Resources Management Plan (INRMP)	
Integrated Cultural Resource Management Plan (ICRMP)	
Hazardous Material and Waste Management Plan	
Asbestos Management Plan	
Lead Based Paint Plan	
Meets Inclusion Criteria	
Be within the BDA	
Does not require wetland permits	
Not located within a 100-year floodplain	
Not a project listed in 32 CFR 989.15(e)(2)	
Not subject to update or changes in environmental laws, policies, or directives	
Adopts Impact Avoidance Measures	
Coordinate a construction footprint and land route with 354 CEAO	
Incorporate sediment and erosion control to graded sites Install siltation fencing Install storm drain inlet Install tree protection Install temporary sediment traps Install diversion dikes within project limits	
Adhere to ADEC administered Stormwater Alaska Pollution Discharge Elimination System (APDES) System	
Place gravel at entrance to construction site to reduce soil tracking on paved roads	
Review IRP status	
Review new non-temporary stationary emission sources for National Ambient Air Quality Standards (NAAQS) and modify engineering, as appropriate	
Control fugitive dust with Best Management Practices.	
Evaluate any demolition site for asbestos or lead-based paint	
Plan and implement abatement and disposal requirements for asbestos or lead-based paint	
Evaluate any excavation projects for contaminated soil	
Apply remediation requirements for any contaminated soils	
Plan for disturbed surface restoration	
Plan for revegetation of disturbed existing vegetation or other ground surfaces	
Obtain approval for surface restoration and revegetation plan from 354 CEAO	
Implement revegetation of disturbed areas	
Revegetate existing vegetation or other ground surface	
Document all adherence to project criteria and adherence to impact avoidance measures	
Implementation tracking database	

Analyzing base infrastructure development projects through this programmatic approach provides an effective mechanism for assessing direct, indirect, and cumulative impacts of projects within the BDA and tracking cumulative impacts into the future. Individual projects are not analyzed as isolated activities but viewed within the greater context of base infrastructure development to support mission goals. A database will facilitate this process. Implementation of a comprehensive approach to environmental analysis of base development with this Programmatic EA would provide for:

- More efficient environmental documentation.
- More responsive documentation.
- Better use of base resources.
- Better tracking of cumulative impacts.

The result would be enhanced environmental planning and management. Certain types of projects within the BDA would still require individual NEPA documentation. Among those are actions requiring a 30-day public review as prescribed in Title 32 CFR Part 989.15(e)(2) and those exceeding the scope of this document. Excluded from inclusion in this document are projects that:

- Are sited within the 100-year floodplain.
- Require wetland permitting under Section 404 of the Clean Water Act.
- Present an unusual case, a new kind of action, or a precedent-setting type of potential environmental impact.
- Are similar, or closely similar to, projects that usually require preparation of an Environmental Impact Statement.
- Significantly increase Eielson's mission.
- Include the potential for cumulative impacts unforeseen by this document.
- Fall under new environmental laws, implementing policies, or directives.

Primary environmental concerns associated with the Proposed Action are related to asbestos abatement, lead-based paint removal, and remediation of soil and groundwater contaminated with petroleum fuels, lubricants, and solvents. Secondary environmental concerns include those associated with air quality and cultural resources (particularly architectural resources and historic districts within the BDA), as well as the cumulative effect of increasing impervious surfaces for base runoff within the BDA.

2.5 Environmental Impact Analysis Process (EIAP)

EIAP reviews all information pertinent to the Proposed Action and No Action Alternative and provides a full and fair discussion of potential consequences to the natural and human environment resulting from implementing infrastructure improvements within developed portions of Eielson AFB. The environmental impact analysis process includes involvement with the public and with agencies to identify and focus issues for analysis.

The following resources are analyzed in this EA: land use and visual resources, socioeconomics and environmental justice, cultural resources, infrastructure, physical resources, hazardous materials and waste management, biological resources, and air quality. Chapter 3.0 describes the affected environment for these resources and Chapter 4.0 addresses the potential environmental consequences of implementing either the Proposed Action or the No Action Alternative. A comparison of the potential environmental consequences is presented at the end of this chapter. The Proposed Action is limited to the developed portions of Eielson AFB. Mission-driven changes outside the BDA or enhancements to Eielson-associated airspaces and ranges are evaluated with separate environmental documentation and NEPA processes.

2.6 Agency Coordination

Executive Order (EO) 12372, Intergovernmental Review of Federal Programs, requires intergovernmental notifications prior to making any detailed statement of environmental impacts. Through the process of Intergovernmental Coordination for Environmental Planning (IICEP), the proponent must notify concerned federal, state, and local agencies and allow them sufficient time to evaluate potential environmental impacts of a proposed action. Agency consultations were undertaken with regard to biological and cultural resources, primarily for compliance with the Endangered Species Act (ESA) and with the National Historic Preservation Act (NHPA). The Air Force has conducted interagency and intergovernmental coordination to identify sensitive environmental resources. The communications from agencies on recent infrastructure development projects have been incorporated in this EA. These communications have helped focus the environmental resources for evaluation.

To facilitate public involvement in this project, the Air Force will prepare and publish newspaper advertisements notifying the public of the availability of the draft EA/FONSI for review. The advertisement will be published in the *Fairbanks Daily News-Miner*.

2.7 Regulatory Compliance

This EA has been prepared in accordance with NEPA. The intent of NEPA is to protect, restore, and enhance the environment through well-informed federal decisions. If the analyses presented in this EA indicate implementation of the Proposed Action would not have significant environmental impacts, then a FONSI could be issued. The analysis of environmental resource areas considered all applicable federal, state, and local regulations. Certain areas of federal legislation have been given particular consideration, including the ESA; the Clean Air Act (CAA) amendments of 1990; the NHPA; the Clean Water Act (CWA), and EO 11990, *Protection of Wetlands*. No endangered species, wetlands, or National Historic Registry impacts are anticipated as a result of implementing the Proposed Action's facility improvements. Construction practices used are designed to protect air and water resources.

Implementation of the Proposed Action could involve the need for concurrence from regulatory agencies. Compliance with the ESA involves communication with the Department of the Interior (delegated to the USFWS) in cases where a federal action could affect listed, threatened or endangered species, species proposed for listing, or species that are candidates for listing. Since all infrastructure projects are within the Eielson BDA, no adverse effects are anticipated and no further consultation is anticipated. The preservation of cultural resources falls under the purview of the State Historic Preservation Office (SHPO), as mandated by the NHPA and its implementing regulations. A letter will be sent to the Alaska Office of History and Archaeology informing them of the Proposed Action and a copy of this EA will be provided.

2.8 Permit Requirements

This EA has been prepared in compliance with NEPA, other federal statutes, and applicable state statutes and regulations. A list of Eielson AFB permits was compiled and reviewed during the EA process. Table 2-5 summarizes these applicable federal, state, and local permits and the potential for change to the permits due to the Proposed Action. Management actions and procedures would need to be reviewed, coordinated and/or updated to ensure Air Force compliance with applicable instructions, guidance, and directives. No new permits are expected to be required; however, review of existing permits is conducted as part of the environmental review process for each new project (see Section 2.1).

Table 2-5. Environmental Related Permits

Permit	Resource	Proposed Action
Air Quality Operating Permit	Air	No change to existing permit expected
Eielson AFB Alaska Pollutant Discharge Elimination System	Point Discharge	No change expected
Eielson SWPPP	Stormwater	The Stormwater Pollution Prevention Plan would need to be reviewed for each project
Eielson AFB Biosolids Land Application Permit	Wastewater	No change to existing permit expected
Eielson AFB Hazardous Waste	Hazardous Waste	No change to existing permit expected
Eielson AFB Asbestos Landfill Permit	Hazardous Waste	No change to existing permit expected
Eielson AFB Coal Ash Landfill	Hazardous Waste No change to existing	No change to existing permit expected
Aboveground Storage Tank Registration Certification	Hazardous Materials	New aboveground storage tanks may require registration with the State of Alaska
US Army Corps of Engineers Wetlands Permits	Water	No change expected

2.9 Summary of Potential Environmental Consequences

Table 2-6 summarizes the potential environmental consequences of the Proposed Action and No Action Alternative, based on the detailed impact analyses presented in Chapter 4.0.

Table 2-6. Summary of Potential Environmental Consequences

Resources	Proposed Action	No Action
Land Use and Visual Resources	Proposed construction projects compatible with base planning; no impact expected. No change in noise contours or sound levels as a result of this EA or the associated development projects. Short-term construction noise.	No change to land use; no impact expected.
Socioeconomics and Environmental Justice	No long-term change in base employment or expenditures; no change in minority population; no impact expected.	No change in base employment or expenditures; no change in minority population; no impact expected.
Cultural Resources	Project planning, sitting, and implementation will comply with Eielson's ICRMP and other cultural resource documents. No significant impacts are anticipated.	Cultural resources remain the same; no impact expected.
Infrastructure	Infrastructure improved with new or renovated buildings and resurfacing; no adverse impact expected.	Infrastructure remains the same; buildings and other facilities continue to deteriorate.
Physical Resources	Soils within ROI consist of disturbed fill material. Projects under this document would not occur in wetland areas or within the base 100-year floodplain. The site-specific Stormwater Pollution Prevention Plan would be reviewed for each construction project. Only those projects affecting 1 acre or more would need to have a Stormwater Pollution Prevention Plan developed. No impact expected.	Physical resources would remain the same; no impact expected.
Hazardous Materials and Waste Management	Generation of waste consistent with normal base activity. Asbestos and lead-based paint waste would be generated; removal during renovation projects would reduce exposure potential for personnel. Excavation could result in removal and disposal of contaminated soils. Applicable permits and BMPs would be followed; positive impact anticipated.	Hazardous materials and waste management would remain the same. No remediation of some hazardous materials (soils, asbestos, lead-based paint) would occur.
Biological Resources	Previously disturbed habitats affected; no native vegetation or protected species present; no impact expected.	Biological resources would remain the same; no impact expected.
Air Quality	Combustion engines and fugitive dust emissions would produce localized, short-term elevated air pollutant concentrations, which would not result in any long-term impacts on the air quality. Facility expansion would result in minor increases in power/heat plant emissions. New facilities may require new on-site generators, increasing emissions. No adverse impacts to air quality or visibility.	Air quality would remain the same; no impact expected

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the affected environment at Eielson AFB and environs. A review of operational characteristics of the Proposed Action (Chapter 2.0) resulted in the identification of the following environmental elements as possibly affected: land use (including AICUZ) and visual resources, socioeconomic and environmental justice, cultural resources, infrastructure, physical resources, hazardous material and waste management, biological resources, and air quality. Each resource is defined and the existing environmental conditions within the expected geographic extent of potential impacts, known as the ROI are addressed for each environmental element in this chapter.

3.1 Physical Resources

Physical resources include topography, geology, soils, and water. Topography characterizes surface form of the landscape and provides a description of the physical setting. Geologic resources include subsurface and exposed rock. The inherent properties of local bedrock affect soil formation and properties, groundwater sources and availability, and terrain. Soils include particulate, unconsolidated materials formed from in place underlying bedrock or other parent material or transported from distant sources via glacial transport, water, and wind. Soils play a critical role in the natural and human environment, affecting vegetation and habitat, water and air quality, and the success of the construction and stability of roads, buildings, and shallow excavations. Water resources include surface water, such as lakes, rivers, streams and wetlands, and groundwater (subsurface hydrologic resources.) These resources may have scientific, historical, economic, ecological, and recreational value. Typically, issues relevant to water resources include the quality and quantity of downstream water bodies that may be affected by the Proposed Action and alternatives, impacts to wetlands, and hazards associated with 100-year floodplains delineated in accordance with EO 11988, *Floodplain Management*.

Eielson AFB property encompasses approximately 19,789 acres. Eielson associated lands are isolated from major urban areas, lying on the abandoned floodplain of the Tanana River, with elevations ranging from 525 to 550 feet above mean sea level. Surface relief is generally level and sloping gently downward to the northwest at a gradient of approximately 6 feet per mile.

The ROI for physical resources is the BDA of Eielson AFB. Discussion of the surrounding base property and environs is provided to establish the setting and create a context interpreting effects.

3.2 Geology and Soils

During the most recent ice age (Wisconsinan), the area in the vicinity of Eielson was not glaciated. The majority of the subsurface geologic formations of the central plateau of Alaska are primarily from the Permian and Devonian periods of the Paleozoic era. The hills to the northeast of the base are composed of Precambrian and Paleozoic-age schists, micaceous quartzites, and subordinate phyllite and marble. Many of these hills support a thick loess mantle.

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

The BDA is composed of fill material deposited atop reclaimed wetlands. Much of this area is over 40 years old. This artificial substrate is composed of quarried Tanana floodplain gravels, cobble, and soil material built up as poorly sorted material to a thickness of between 3 and 8 feet and providing a firm platform for base construction that is devoid of wetlands, above the 100-year floodplain, and insulated from the permafrost layer. A levee system maintains a flood safety margin for residential portions of the BDA. As a result of this, the BDA rests much like an artificial island above the surrounding forested wetlands and sloughs.

3.3 Floodplains

Floodplains are a predominate feature on Eielson AFB lands. The developed portion of Eielson AFB is primarily an area filled by gravel to elevate potential building sites above the 100-year floodplain of nearby watersheds. Approximately 33 percent, or 6,444 acres, of Eielson AFB is designated as floodplain.

EO 11988, Floodplain Management, states that structures should not impede or channelize stream flow. This EO also requires that alternatives to development within a floodplain, a FONPA is required to demonstrate that all practicable measures have been taken to minimize harm to the floodplain.

3.4 Wetlands

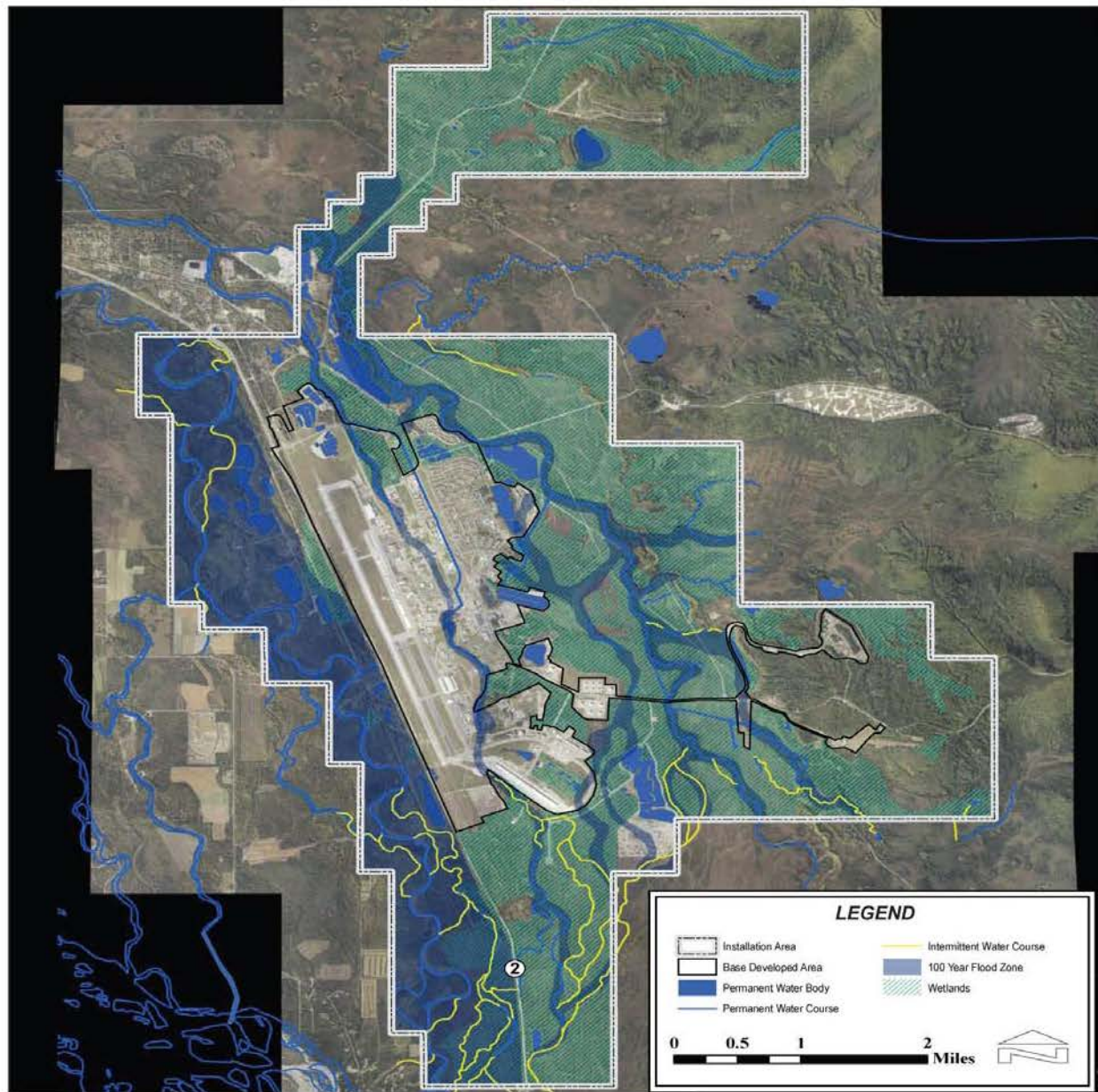
Wetlands are a predominant physical feature of Eielson AFB lands. Approximately 51 percent, or 10,133 acres, of Eielson AFB property is classified as wetlands, with 9,391 acres being vegetated wetlands and the remainder being lakes, ponds, and streams. For the most part, the developed areas of the base, and portions of the elevated hills to the east, are classified as uplands. However, some segments of the developed area of the base, as well as major portions of the undeveloped areas, are designated Section 404 wetlands by the Corps of Engineers.

Figure 3-1 depicts the wetlands and surface waters of Eielson AFB. Wetlands and low-gradient alluvial streams compose most of the surface water resources on Eielson AFB, with wetlands dominating the low-lying areas within and surrounding the installation. Most wetland areas were created as a result of surface waters becoming trapped in the thawed layer over the permanently frozen subsurface (permafrost). Flood periods tend to occur during spring snowmelt and during the middle to late summer, when heavy rains or warm air quickly brings glacier fed mountain streams to flood capacity. Several lakes and extensive wetlands surround the airfield. Among these are Bear, Polaris, Moose, Hidden, Pike, Rainbow, Scout, Grayling, and Tar Kettle lakes. Creeks that can be found in the vicinity of the airfield include French and Moose creeks. The ROI is defined to not require wetland permits or be located within the 100-year floodplain.

3.5 Air Quality

The proposed action is outside the non-attainment boundary for PM_{2.5}. The Clean Air Act designates areas as attainment, non-attainment, maintenance, or unclassified with respect to national ambient air quality standards (NAAQS). Non-attainment areas are locales that have recently violated one or more of the NAAQS and must satisfy the requirements of State or Federal Implementation Plans (SIPs or FIPs) to bring them back into conformity with the

Figure 3-1 Wetlands Map



applicable air quality standards. Significant temperature inversions during winter, coupled with low winds and a restricted geographic basin often serve to concentrate air pollutants in the Fairbanks-North Pole area. Pollutants of concern include carbon monoxide, emitted primarily from motor vehicles, and particulates, which are the result of combustion of a variety of fossil fuel types. Major particulate emission sources include coal burning power plants, residential wood stoves, forest fires, vehicle emissions, and road dust.

Emissions sources on Eielson AFB are operated in accordance with state Air Quality Control regulations and include operating permits and operational limits. As required by Section 18 Alaska Administrative Code (AAC) 50.045(d), compliance with the Eielson AFB Fugitive Dust Emission Plan will include: Fugitive dust emissions (airborne dust generated by vehicles operating on unpaved surfaces, transfer or transport of dust producing materials, soil stockpiling, etc.) shall be controlled at the construction site, along haul routes, and at staging areas. Water spraying shall be conducted as necessary, determined by contracting officer, to minimize fugitive dust generation. Limit traffic speeds on all unpaved road surfaces to 15 mph. Any uncontaminated dirt or mud, which is tracked onto paved roadways, shall be cleaned away that day. Depending on conditions, the roadway will be watered before cleaning or if a street sweeper is used, it will have a water system that controls dust around the sweeper during operation

3.6 Groundwater and Surface Water

Eielson AFB is located over a shallow unconfined aquifer. The aquifer is approximately 250 feet thick, extends to bedrock, and has a regional gradient of about five feet per mile flowing to the north-northwest. The water table varies from the surface in adjacent wetlands to ten feet below ground level in developed areas. The base uses the local aquifer for its drinking water and monitors groundwater quality in a number of locations as part of its Installation Restoration Program (IRP). For more information on the IRP, see section 3.1.8 Contaminated Sites. Localized contamination of the aquifer has been identified in the industrial area of the base, but the overall quality of groundwater at Eielson AFB is good.

Aquatic bodies on Eielson AFB include streams, wetlands, and lakes. There are approximately 28 miles of streams; 10,133 acres of wetlands; 12 lakes (11 are man-made); 80 ponds (10 are naturally-occurring and 70 man-made) totaling 560 acres. There are 6,770 acres of land within the 100-year floodplain on the main base. The man-made lakes and ponds were created during the excavation of gravel deposits for use as fill material for construction projects on base. Surface drainage on Eielson is generally in a north northwest direction and parallel to the Tanana River. Five streams flow through the base and discharge into the Tanana River via Piledriver Slough.

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

3.7 Infrastructure

The infrastructure elements at Eielson AFB include transportation and utility systems that service all areas of the base. Transportation refers to roadway and street systems. Utilities include electrical distribution, water, and wastewater systems. In addition Eielson is accessed by a multifuel pipeline that provides fuel from a nearby North Pole refinery. Because of its

isolated nature, Eielson AFB is unique in its ability to produce its own power and process its own wastewater. This permits the base to function autonomously.

Eielson is situated in the FNSB and contains within its boundaries the Richardson Highway (State Highway 2), a major artery which provides direct access to the base between the cities of Fairbanks, Delta Junction, and points south. Eielson AFB is serviced by a roadway network comprised of approximately 45 miles of paved road. The roadway system is primarily utilized by military and civilian employees of Eielson AFB. A newly constructed base entrance gate and visitor's center is located on the north end of the base and leads vehicular traffic along the Old Richardson Highway to Flight Line and Central Avenues. Flight Line and Central Avenues are the main north-south traffic routes within the BDA. Eielson AFB is accessed by the Alaska Railroad. The existing rail system on Eielson AFB consists of 9.86 miles of railroad track, some of which is in disrepair as discussed in Section 1.3 for the Proposed Action. The primary function of the rail system is to carry coal to the CHPP as well as deliver munitions on a limited basis. Currently, there are approximately 4 to 10 railcars per day delivering coal to the CHPP, dependent on the need, which is directly related to the demand for heat and electricity. Therefore, deliveries tend to be higher in the winter months and lower in the summer months, resulting in an average of 197,100 tons of coal per year. Munitions deliveries are much more infrequent and are dependent on mission need, which varies throughout the year.

Eielson AFB has its own coal-fired power/heat plant located on base. The power-plant is permitted to use up to 220,000 tons of coal a year, but typically uses approximately 185,000 tons per year. During winter months, the plant uses up to 1000 tons of coal daily and during the summer months can get down to 350 tons per day. Peak heat and electrical demand is currently at 60 and 75 percent of capacity respectively (M. Overlin, personal communication, October 15, 2010).

There are eight water wells on Eielson, five of which supply potable water. All water and wastewater treatment services are performed by base personnel or contracted operations, including the base's own water treatment plant. Adequate capacity is available to support current demand and potential future mission expansion. The base wastewater treatment plant has a maximum design flow of 2.0 million gallons per day, with an average daily flow of 0.8 MGD. The base has two current State of Alaska discharge permits and a NPDES permit for the power plant. The wastewater treatment plant (state permit) discharges into an infiltration pond after tertiary treatment is completed. The water treatment plant discharges filter backwash water into Garrison Slough (state permit). Two other state permits include a discharge of groundwater from pumping operations in the housing area and seasonal discharge of turbine cooling water into French Creek. Eielson AFB has approximately 40 oil/water separators in shops across the base (H. Durako, personal communication, October 20, 2010).

The ROI for this resource consists of the BDA of Eielson AFB.

3.8 Noise

Noise is defined as unwanted sound or, more specifically, as any undesirable sound which interferes with communication, is intense enough to damage hearing, or is otherwise annoying (Federal Interagency Committee on Noise [FICON] 1992). Human response to noise varies according to the type and characteristics of the noise distance between the noise source and the receptor, sensitivity of the receptor, and time of day. Aircraft generate, by far, the most noise on Eielson AFB. Noise levels associated with aircraft during flying hours can exceed 80 decibels (dB) in the vicinity of the flight line. For the purposes of describing baseline conditions and consequences, noise is discussed in terms of AICUZ.

The ROI for land use and visual resources consists of all the lands of Eielson AFB.

3.9 Hazardous Materials and Contaminated Sites

Hazardous materials have been defined in AFI 32-7086, *Hazardous Materials Management*, to include any substance with special characteristics which could harm people, plants, or animals. Hazardous waste is defined in the Resource Conservation and Recovery Act (RCRA) as any solid, liquid, contained gaseous or semisolid waste, or any combination of wastes that could or do pose a substantial hazard to human health or the environment. Waste may be classified as hazardous due to its toxicity, reactivity, ignitability, or corrosivity. In addition, certain types of waste are “listed” or identified as hazardous in 40 CFR 263. The ROI for hazardous materials and wastes includes the BDA of Eielson AFB. Primary hazardous wastes of concern under the Proposed Action are lead-based paint debris and asbestos. Secondary concerns are associated with the excavation of contaminated soils during construction and their remediation. Hazardous waste storage and transfer sites within the BDA are depicted on Figure 3-2.

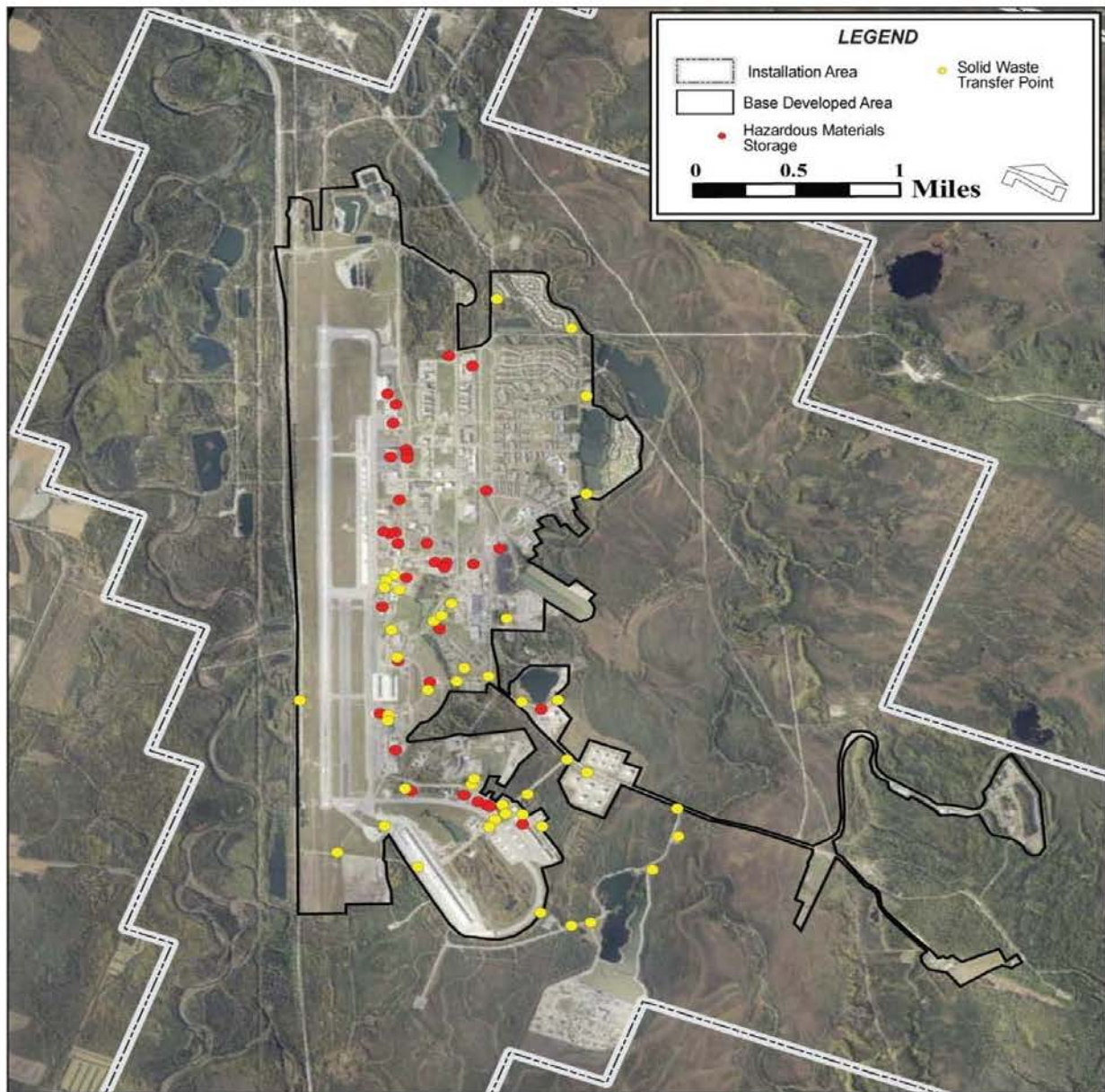
For over 20 years, Eielson AFB and other Alaskan Air Force installations have participated in Alaska’s Interagency Pollution Prevention Initiative. As part of this commitment, Eielson AFB established an Eielson AFB Pollution Prevention Working Group to set objectives and assess outcomes of goals. One of the results of this effort was the development of a pollution prevention management plan. Along with Eielson’s Hazardous Waste Management Plan (Air Force 2007a) these plans provide for centralized management of the procurement, handling, storage, and issuing of hazardous materials and turn-in, recovery, reuse, or recycling of hazardous materials. Processes in place ensure review and approval by Air Force personnel so users are aware of exposure and safety risks. Base management plans further serve to ensure compliance with applicable federal, state, and local regulations and often link back to these other plans.

Aircraft flight operations and maintenance, as well as installation maintenance, require the storage and use of many types of hazardous materials. These materials, such as flammable and combustible liquids, include acids, corrosives, caustics, glycols, compressed gases, aerosols, batteries, hydraulic fluids, solvents, paints, pesticides, herbicides, lubricants, fire retardants, photographic chemicals, alcohols, and sealants.

Under RCRA and AF regulations, generators of hazardous wastes are responsible for properly segregating, storing, labeling, marking, packaging, and transferring all HW for disposal from the time of generation at a facility to transfer to Eielson AFB’s 90-day storage facility. Characterization of the waste is completed by the base bioenvironmental section with reviews through the base HW manager. Once containers of HW at a satellite accumulation point (SAP) are full, the SAP has 3 days to transfer the HW from the SAP to the base HW 90-day storage facility. Eielson AFB requires that accumulation points transfer HW waste to the 90-day facility 30 days after the first HW waste is deposited in the container to avoid exceeding the 90-day limit for the facility. SAPs and APs place calls to CES customer service for pick-up of the HW waste. There are 2 APs and 33 SAPs located on base. Approximately 25 HW streams have been established; however, the number may vary with changes in operational procedures and management practices (R. Smith, personal communication, October 19, 2010).

Asbestos-containing materials (ACMs) are those materials that contain greater than 1 percent asbestos. Friable, finely divided, and powdered wastes containing greater than 1 percent asbestos are subject to regulation. Friable waste is waste that can be reduced to a powder or dust under hand pressure when dry. Nonfriable ACMs, such as floor tiles, are considered to be

Figure 3-2 Hazardous Waste Storage Locations and Transfer Sites



nonhazardous, except during removal and/or renovation and are not subject to regulation. Eielson's Asbestos Management and Operations Plan (Air Force 2007b) provides guidance for the identification of ACMs during renovation or remodeling projects and the management of asbestos wastes. An asbestos facility register is maintained by the Base Civil Engineer. The design of building alteration projects and requests for self-help projects are reviewed to determine if ACMs are present in the proposed work area. ACM wastes are removed by the contractor and disposed of in accordance with state and federal regulations at Eielson's permitted asbestos and coal ash landfill and remediation site.

Activities conducted at Eielson AFB throughout its history have generated areas of known contamination, which have been identified through Air Force contractor studies. Contaminated sites include: unlined inactive landfills, shallow trenches used for the disposal of fuel tank sludge, drum storage sites, and numerous other disposal or spill areas.

On October 25, 1990 Administrative Docket Number: 1089-07-14-120, a Federal Facility Agreement (Agreement) for Eielson AFB was signed. The signatories include representatives from the following: 343 Tactical Fighter Wing (host unit at Eielson AFB at the time of signing), 11th Air Force, ADEC, State of Alaska Attorney General, and Region 10 of the USEPA. The general purpose of the Agreement is to ensure that past and present activities are investigated and appropriate removal and/or remedial actions are taken. Additionally, the Agreement establishes the procedural framework for developing, implementing, and monitoring the appropriate response on base in accordance with Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), the National Contingency Plan, Superfund guidance and policy, Resource Conservation & Recovery Act of 1976 (RCRA) guidance and policy, as well as state law. The FFA identified 60 source areas.

Since that time Eielson has worked diligently to restore environmentally impacted sites under the CERCLA. In addition to the 60 initial FFA sites six more sites have been identified for a total of 66 sites on base lands, all have been addressed in a Record of Decision (ROD). The 66 site cleanups were reviewed by the state and EPA and resulted in 34 receiving no further action status or site closed, 12 receiving no further action with monitoring, and 20 receiving further action/long-term monitoring with institutional controls.

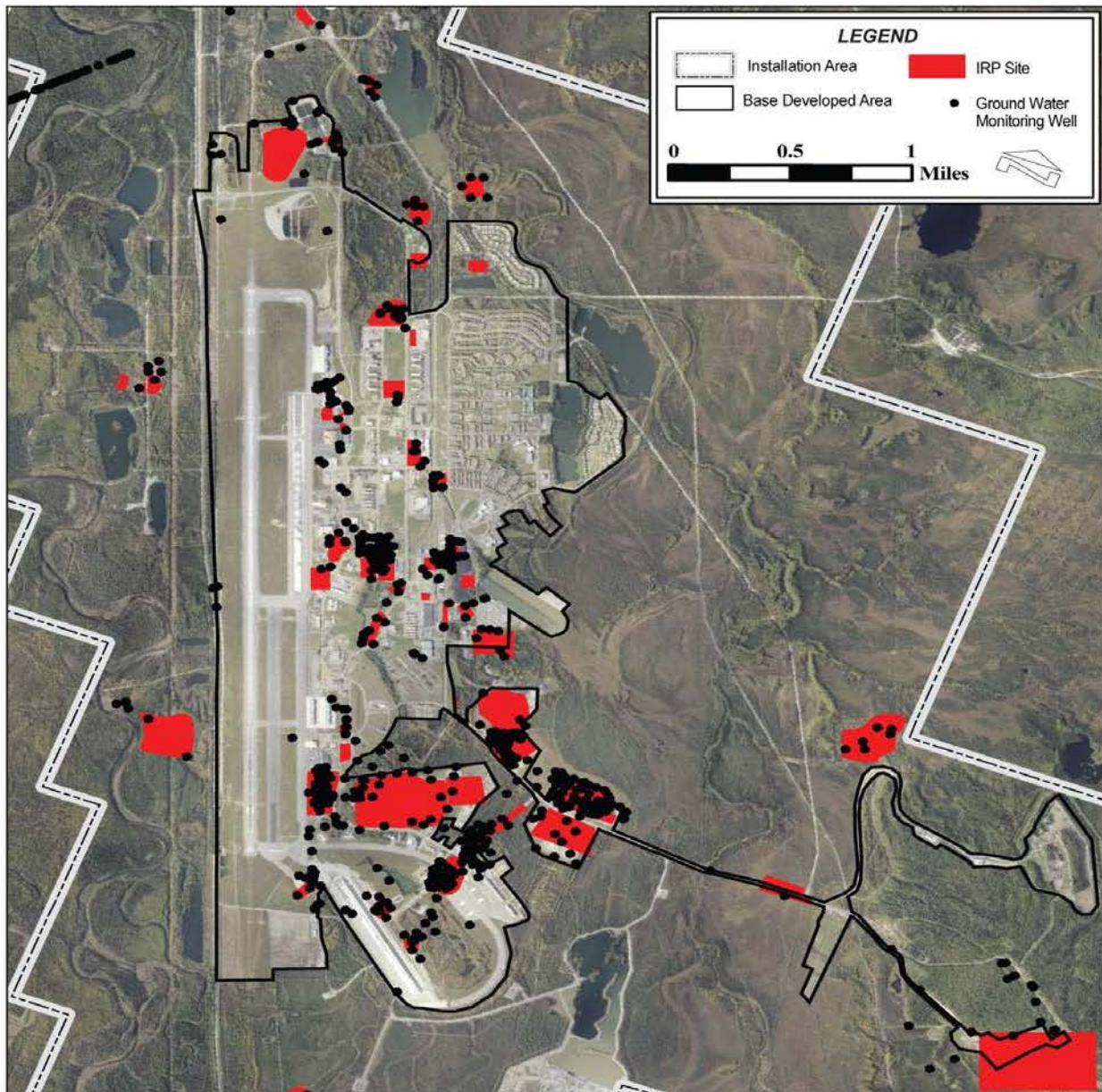
Of the 66 sites that occur on Eielson AFB lands, 45 are within the BDA (Figure 3-3). If activities occur within these areas in the form of infrastructure improvements, the plans must be coordinated with CEAN- Installation Restoration and any applicable institutional controls that may apply to the site will be enforced. If an infrastructure improvement does occur at a site, then its effects on the condition of the site will be tracked through a database associated with the Proposed Action's implementation (S. Parker, personal communication, October 21, 2010).

3.10 Visual

Visual resources consist of the natural elements (e.g., vegetation, water bodies, and mountains) and the manmade structures that typically make up the viewing environment. Visual resources are reviewed to determine the compatibility of construction projects within a surrounding environment.

Eielson AFB buildings generally do not exceed three stories in keeping with the base and surrounding visual environment. The base maintains Architectural Compatibility Standards for continuity amongst the buildings. Landscape development has been limited. The short growing season and harsh winters create a challenge for foliage. Lawns and some native plants have been the main vegetation coupled with a local tree-planting effort.

Figure 3-3 IRP Sites and Monitoring Well Locations



3.11 Cultural and Historical Resources

A prehistoric and historic archaeological survey of large portions of Eielson AFB has been completed, and no historic properties or traditional cultural properties were identified (Gerlach *et al.* 1996). The areas chosen for the survey were based on a predictive model for the location of archaeological sites developed specifically for the installation (Mason *et al.* 1994). The results of the survey indicate there is a very low probability of site occurrence at Eielson AFB. The predictive model was then used to conduct an evaluation of cultural resources on Eielson AFB as required by Section 110 of the National Historic Preservation Act.

The ROI for cultural resources is the area within which an option to implement the Proposed Action could potentially affect existing cultural resources. For the Proposed Action, the ROI for cultural resources is defined as Eielson AFB. In the event that during project excavation/construction any cultural resources were encountered, activities would cease until the resources were evaluated.

3.12 Biological Resources

The ROI for biological resources is the BDA of Eielson AFB. Discussion of the surrounding base property and environs is provided to establish the setting and create a context interpreting effects.

3.13 Vegetation

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

The northern boreal forest of Interior Alaska is a fire dependent ecosystem. It is a mosaic of vegetation types made up of a few primary species of wide ecological amplitude that respond to specific combinations of physical site characteristics. These characteristics are mainly topographical and include slope and aspect and other physical characteristics such as microclimate, soil temperature, and moisture regimes. These in turn influence the type of vegetation that will be found there.

The vegetative community associated with the proposed project area consists primarily of black spruce, shrubs and grasslands.

3.14 Wildlife Resources

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

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

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

The Alaska Department of Fish and Game stocks six lakes and one stream on Eielson: Grayling Lake, Hidden Lake, Polaris Lake, 28 Mile Pit, Moose Lake, Mullins Pit, and Piledriver Slough. Fish stocked by the Alaska Department of Fish and Game include rainbow trout, arctic grayling, arctic char, silver salmon, and chinook salmon. There are no known federally listed threatened or endangered fish species, fish species proposed for listing, or critical fish habitats on Eielson. Fish screening prevents fish from entering Garrison Slough within the BDA.

3.15 Threatened and Endangered Species

No threatened or endangered species, as designated by the USFWS, typically occur in the proposed project area. This was the conclusion of an Eielson AFB contract study entitled *Biological Survey, Final Report 1994*, which addressed the potential for the presence of endangered species on base lands. Potentiality of threatened or endangered species is reaffirmed on an annual basis, most recently April 2009, by an informal consultation between USFWS and the Chief of Natural Resources, Mr. Ronald Gunderson, of Eielson AFB. As with each meeting since the original survey, the 2009 conclusion was that there are no endangered species on base lands, which is documented in the Eielson AFB IINRMP. Should any threatened or endangered species become resident to Eielson AFB managed lands, consultation with USFWS will be initiated (R. Gunderson, personal communication, April 14, 2010).

3.16 Socioeconomic

Eielson AFB is situated 26 miles southeast of Fairbanks, Alaska. The city of Fairbanks is located in the Fairbanks North Star Borough, which is the county equivalent in Alaska. Socioeconomic activities associated with the base are concentrated in Fairbanks North Star Borough, which comprises the ROI for this analysis. Available socioeconomic characteristics are addressed for Eielson AFB, the city of Fairbanks, and the state of Alaska, when appropriate.

Eielson AFB contributes to the Fairbanks North star Borough economy through employment of military and civilian personnel and expenditures for goods and services from local businesses. In addition to base employment, annual payroll associated with Eielson AFB personnel amounts to \$262 million. In Fiscal Year (FY) 2009, local construction, service contracts, and purchases totaled \$82 million. Eielson AFB activities are estimated to generate 1032 indirect jobs in the region with associated wages totaling \$41 million (B. Rice, personal communication, October 21, 2010).

3.17 Mitigation and Best Management Practices

As defined in CEQ Regulation 40 CFR 1508.20, “mitigation” includes:

- Avoiding the impact altogether.
- Minimizing impacts by limiting the degree or magnitude of the action.
- Rectifying the impact through repairing, rehabilitating, or restoring.
- Reducing or eliminating the impact over time by preservation and maintenance operations.
- Compensating for the impact by replacing or providing substitute resources or environments.

Physical Resources

Soils, Wetlands, Groundwater, and Surface Water

- Compliance with the provisions of the Clean Water Act, 33 U.S.C §1251 et. Seq. as amended by the Water Quality Act of 1987, P.L. 100-4, by preparing a SWPPP and filing an NOI prior to construction in accordance with the APDES General Permit for Discharges from Large and Small Construction Activities AKR100000.
- Establish the minimum project limits necessary for construction and restrict equipment access to areas outside of the limits.
- Protect and restore the vegetative buffer areas near wetlands in the area, where practicable.
- Re-vegetate exposed soils.

Contaminated Sites

- Educate the construction contractor about the Eielson AFB Oil and Hazardous Substances Discharge Prevention and Contingency Plan.
- If excavation is required below the first two feet of soil, the soil shall be examined for visual changes in soil character and screened for volatile organic compounds using a photoionization detector. Soil that fails the screening shall be separated from the other soil to prevent contamination and set aside for disposal.

Cultural Resources

- In the event any signs of cultural or historic resources are encountered during construction, the cultural resource specialist would be notified immediately and all activities would cease until a professional archeologist evaluates the finding.

Biological Resources

Wildlife Resources

- Schedule construction activities before May 1 and after July 15 to avoid potential disruption to migratory and nesting birds.

3.18 Cumulative Impacts

The NEPA process requires that the issue of cumulative impacts be addressed in an environmental assessment.

The CEQ has stated in their NEPA regulations (1508.7) that: *"Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to past, present, and reasonably foreseeable future actions. . ."* and *". . .can result from individually minor, but collectively significant actions taking place over a period of time."* Eielson AFB has,

over the years, been very cognizant of the issue of cumulative impacts to wetlands and floodplains. This is due to the fact that the base was, to a large extent, built by filling wetlands and floodplains, and that expansion of Eielson AFB facilities beyond the original footprint of the base often requires the use of additional wetlands and/or floodplains. Of the 19,789 acres that constitute Eielson AFB lands, 51 percent are designated wetlands and 33 percent are designated floodplain.

The first step in assessing cumulative effects involves defining the scope of other actions and their interrelationship with the proposed action or alternatives (CEQ 1997). The scope must consider other projects which coincide with the location and timetable of the proposed action and other actions. Cumulative effects analysis evaluates the interactions of multiple actions.

As an active military installation, Eielson AFB undergoes changes in mission and training requirements in response to defense policies, current threats, and tactical and technological advances. Any future changes impacting environmental resources would receive appropriate environmental analysis. Like any other major institution (e.g., university, industrial complex), Eielson AFB requires new construction, facility improvements, infrastructure upgrades, and ongoing maintenance and repairs. Although such construction and upgrades are a part of this EA, future requirements cannot be predicted.

Physical Resources. Proper construction techniques, erosion control measures, and structural engineering designs for these projects would minimize cumulative impacts to physical resources, such as soil and water quality. Cumulative increases in impervious surfaces within the BDA may eventually lead to impaired ground water recharge and local flooding. Although aquifer recharge is not an issue, storm water management may be. Through proper planning and tracking, the potential for adverse cumulative impacts can be avoided.

Air Quality. The Proposed Action and other identified planned projects would contribute additional emissions to regional air quality; however, the construction emissions would be temporary and would be spread over several calendar years. After construction, new facilities would not be expected to contribute emission levels above those of the current facilities. Cumulatively, new facilities increase power demand on Eielson's heat/power plant and therefore emissions. However, Eielson AFB operates well below permitted limits and will do so for the foreseeable future. No cumulative impacts are anticipated.

Infrastructure. Demolition projects associated with the Proposed Action would contribute solid waste to local landfills. Although the amount of generated waste would not have a significant impact to landfills, proposed renovation and construction would produce waste materials which could minimally shorten the operating life of landfills. No significant increased demands on infrastructure are anticipated under the Proposed Action, therefore, no cumulative effects are anticipated. Construction, renovation, and infrastructure improvement projects will increase base efficiency of operation.

Hazardous Materials and Waste Management. The Proposed Action could contribute to cumulative effects associated with the disposal of hazardous materials, such as asbestos, lead-based paints, and contaminated soils. Demolition, renovation, and modernization projects would incrementally decrease the amounts of these hazardous materials within or near base facilities, reducing exposure opportunities. Excavated contaminated soil remediation and replacement would cumulatively improve soil quality within the BDA. All projects at Eielson AFB will follow federal and state regulations for the handling and disposal of such materials, thus minimizing cumulative effects.

Land Use, Visual, and Noise. Projects evaluated for this EA were sited to ensure compatibility with the existing base planning to consolidate similar land uses (e.g., the co-location of facilities with similar functions, purposes, or missions). Implementation of the Proposed Action would, therefore, also facilitate future planning. Identified projects will have no cumulative effect on Eielson's unique visual setting. The Proposed Action and other identified projects will have no cumulative impact on AICUZ at Eielson AFB.

Cultural Resources. The Proposed Action would not impact cultural resources at Eielson AFB. Proposed Action infrastructure improvements are compatible with the architectural integrity of the building. Therefore, no cumulative effects would be expected.

Biological Resources. No special-status species or wetlands would be affected by the Proposed Actions. The Proposed Action is not expected to contribute to cumulative effects. Other projects may result in a minor expansion of the BDA and may contribute to some cumulative loss of wetland and wildlife habitat within Eielson AFB property. Managed quarrying of fill material for projects such as this has led to an expansion of open water wetlands within base property, improving habitat for wildlife and offsetting cumulative losses.

Socioeconomics and Environmental Justice. Employment benefits associated with construction and demolition projects are temporary.

3.19 Irretrievable Commitments of Resources

The NEPA CEQ regulations require environmental analyses to identify "...any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented" (40 CFR Section 1502.16). Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) which cannot be replaced within a reasonable time frame. Building construction material and the fuel usage for construction equipment would constitute the consumption of nonrenewable resources. These resources are currently plentiful and the amount of these resources required by this project would be minimal. Irreversible resource commitments associated with any proposed action would be the loss of area of the 100-year floodplain and associated vegetation that would be impacted from construction.

4.0 ENVIRONMENTAL CONSEQUENCES

This chapter describes the potential environmental effects that could result from the Proposed Action at Eielson AFB. Chapter 4.0 provides an analysis of potential environmental consequences for the same nine environmental elements whose baseline conditions are discussed in Chapter 3.0. The Proposed Action and No Action Alternative are each assessed for their potential to affect the natural and human environment.

Each section in Chapter 4.0 begins with an explanation of the methodology used to conduct the analysis of environmental consequences. As presented in Chapter 2.0, the Proposed Action includes construction, demolition, and renovation projects within the BDA. The No Action Alternative is examined per CEQ requirements and assumes that none of these projects would occur.

The consequences described in this section are projected to result from implementing the Proposed Action through this EA. The analysis for each alternative includes direct and indirect, as well as short-term and long-term effects. The effects of each alternative are compared against the baseline conditions described in Chapter 3.0.

4.1 Geology: Environmental Consequences to the Proposed Action

Analysis for physical resources includes the identification and description of resources which could potentially be affected, the examination of the potential effects an action may have on the resource and the assessment of the significance of potential impacts. Design actions to reduce impacts include protection of unique geologic features, minimization of soil erosion, and the siting of facilities in relation to potential geologic hazards and soil limitations. Potential effects can be avoided or minimized by proper construction techniques, erosion control measures, project design, and project siting.

Geology or groundwater are not expected to be affected by activities in the BDA. This is due to the great depth to bedrock and the groundwater aquifer and the previous deposition of 3 to 8 feet of quarried gravel fill in most areas of the BDA. Analysis of impacts to soil resources resulting from proposed activities examines the suitability of locations for proposed operations and activities. Impacts to soil resources can result from earth disturbance, which would expose soil to wind or water erosion. Impervious surfaces (paved areas and roofs) may contribute to increases in stormwater runoff when they are constructed in locations previously composed of more natural ground cover because no precipitation can infiltrate the soil, resulting in 100 percent runoff.

Under the Proposed Action, newly constructed facilities and facility upgrades, primarily associated with buildings, roads, parking areas and a water distribution system, would occur within the BDA at Eielson AFB. The total area to be disturbed during construction was assumed to be 25 percent larger than the facility footprint to allow for heavy equipment movement, staging areas for storage of materials, and grading of the sites. Total areas of disturbance would be tracked as projects are developed. Projects would be implemented as funds became available. Only a portion of the total acreage disturbed would occur in any one year.

The site-specific SWPPP would be reviewed for each construction project. Projects affecting 1 acre or more would require a SWPPP. The plan would identify standard construction practices appropriate for the site and soil type to be implemented during construction to minimize wind erosion and off-site sedimentation due to water erosion and to keep increases in surface water runoff to a minimum. After construction has been completed, all disturbed areas would be

stabilized with landscaping, most likely a combination of lawns and annual planting beds, which would minimize erosion and improve infiltration of precipitation.

Because the Eielson AFB BDA is nearly flat, little cut and fill would be needed to prepare the sites for facility construction. The BDA is built upon material presumed to support current and future construction. There would be few hazards or limitations to construction of buildings or roads on the soil types at the locations of the proposed facilities. Potential secondary effects from surface-disturbing activities, such as increases in stormwater runoff or off-site sedimentation, would be minimized through the installation and maintenance of standard construction practices and landscaping.

Increase in impervious surfaces associated with construction would be tracked through a database to identify thresholds for stormwater runoff. In compliance with the APDES General Permit for Stormwater Discharges, additional stormwater runoff would be managed to keep quantities to predevelopment conditions where practicable. Even if additional stormwater runoff was generated, the existing storm drain system on the base would be able to handle additional flows. In most cases, much of the surface water would infiltrate before leaving the military properties.

While soils would be changed by construction activities, the effects would be localized and would not result in significant secondary impacts to wind or water resources because standard construction practices would be implemented.

The proposed action would result in minor impacts to soils. Impacts on soil would be excavation of overburden for construction and improvements. The overburden consists primarily of organic material and unconsolidated silty sands and gravels. The excavated overburden could be reused as fill material at various sites on Eielson AFB.

During construction, best management practices (BMPs) would be used to ensure soil impacts would be limited. Exposure time of soils will be minimized and exposed soils within the proposed project area would be re-vegetated to minimize soil erosion. All construction conducting land disturbing activities would not be undertaken until the appropriate APDES stormwater permits have been obtained.

No significant impacts to soil, water, or geologic resources would result from the implementation of the Proposed Action.

4.2 Geology: Environmental Consequences of No Action

Under the No Action Alternative, no construction would occur and no new impacts to physical resources would result. Conditions would remain the same.

4.3 Floodplains: Environmental Consequences to the Proposed Action

By definition proposed actions included in the programmatic EA would not result in the construction of land located within the 100-year floodplain.

4.4 Floodplains: Environmental Consequences of No Action

There would be no impacts to floodplains from this alternative.

4.5 Wetlands: Environmental Consequences to the Proposed Action

By definition proposed actions included in the programmatic EA would not result in wetland impacts.

4.6 Wetlands: Environmental Consequences of No Action

There would be no impacts to wetlands with the proposed action or alternatives.

4.7 Air Quality: Environmental Consequences to the Proposed Action

Current projects identified as associated with the Proposed Action involve building renovations and reconfigurations. However, the Proposed Action may involve construction, demolition, grading, and paving projects as well. Since the Proposed Action does not involve modifications to aircraft use, aircraft emissions are not included in this analysis.

Short-term air quality impacts would originate from temporary construction activities while long-term impacts could develop from increased operations of the proposed action.

Air quality issues would arise from the increased vehicular traffic directly related to an increase of construction workers, emissions from construction equipment, and particulate matter from ground disturbing activities. The emissions from fugitive dust are addressed with standard construction practices. For instance, frequent spraying of water on exposed soil during construction, proper soil stockpiling methods, and prompt replacement of ground cover or pavement are standard landscaping procedures that could be used to minimize the amount of dust generated during construction. Using efficient practices and avoiding long periods where engines are running at idle may reduce combustion emissions from construction equipment. Vehicular combustion emissions from construction worker commuting may be reduced by carpooling. Due to the limited scope and temporary nature of the construction activities, the short-term air quality impact would be less than significant.

Once construction associated with a project under the Proposed Action at Eielson AFB is completed, air emissions are expected to be virtually identical to or less than current operations. As sources are removed due to demolition of current facilities, they would be replaced by similar air emission sources at the modernized facilities. New equipment such as boilers or heat plants would be expected to perform more efficiently and have lower emissions than the equipment currently present in buildings. For example, improved, more efficient heating and air conditioning units would be installed. New emergency generators would operate at times when utility power from Eielson's power plant is interrupted, offsetting increased emissions. Currently, emergency generators at Eielson AFB operate within a 200 hour per year limit. Operational power demand associated with facility modifications or renovations are not expected to challenge air quality limits. There are no expected increases in operational emissions as a result of implementing the Proposed Action. The installation or modification of any air emission sources, such as boilers and heaters, emergency generators, paint booths, or degreasers, may trigger a review of permitting requirements and updated air quality modeling.

4.8 Air Quality: Environmental Consequences of No Action

Under the No Action Alternative projects of the types covered by this EA would not occur. No construction emissions would occur. No new operational emission sources would be developed affecting air quality. However, no upgrades or modernization projects would occur to improve energy efficiency or decrease pollutants. Effects of implementing the No Action Alternative would be less than significant and similar to baseline.

4.9 Ground and Surface Water: Environmental Consequences to the Proposed Action

Construction and/or operation of the proposed project could generate impacts to ground and surface waters. There is potential risk associated with the release of hazardous materials, primarily POL. Implementation of the Eielson AFB Oil and Hazardous Substances Discharge Prevention and Contingency Plan would minimize potential impacts.

The possibility of an accidental release of POL from construction equipment exists throughout construction of the proposed action. According to contractual requirements for working on Eielson AFB, contractors must keep their equipment in good repair to minimize spill risk. Additionally, contractors are required to comply with the provisions of the Clean Water Act, 33 U.S.C. §1251 et. Seq. as amended by the Water Quality Act of 1987, P.L. 100-4, by developing a SWPPP and filing a NOI prior to construction (in accordance with the Alaska Pollutant Discharge Elimination System General Permit for Discharges from Large and Small Construction Activities AKR100000); thereby minimizing the risk and achieving less than significant impacts to ground or surface water. Earth moving activities could cause minor localized siltation, however silt fences would be used to decrease such an occurrence.

There is a risk of an accidental release during fuel transfer operations with the proposed action; however, this same risk applies with the current situation. Practices such as maintaining equipment and providing annual training for personnel are already in place and would continue to be implemented to reduce the possibility of an accidental spill with the proposed action.

4.10 Ground and Surface Water: Environmental Consequences of No Action

There would be no impacts to ground and surface waters with the proposed action or alternatives.

4.11 Infrastructure: Environmental Consequences to the Proposed Action

Under the Proposed Action, Eielson's host 354 FW would implement demolition and construction projects in support of host and tenants, including RF-A. Implementation of the Proposed Action may alter traffic circulation. Haul routes related to demolition and construction traffic would be determined, truck traffic associated with a project would be routed through one base entry gate, and routes would be established to avoid base housing areas as much as practicable.

Construction activities could result in some temporary interruption of utility services and minor hindrance of transportation and circulation at the base along Flight Line and Central Avenues. Truck traffic and privately owned vehicle use by commuting project workers would generate minor increases in vehicle trips per day on base roads and north gate (particularly between 0630 and 0730 hours). Future development of Eielson AFB's south gate would help alleviate congestion by diverting construction truck traffic away from the Hursey Gate, all though use of the South Gate is limited because proximity to ammunition storage. Temporary lane closures may be necessary during demolition and construction activities. Appropriate signage and detours to maintain access would be provided. These effects would be temporary, occurring only for the duration of the construction period. No significant impact to transportation or utilities, either on Eielson AFB or in adjacent areas, is anticipated under the Proposed Action. Power and heat demand are anticipated to remain far below base generation capacity.

Construction of the proposed project would likely improve the safety and efficiency of operations effectively enhancing the mission at Eielson AFB.

4.12 Infrastructure: Environmental Consequences of No Action

Under the No Action Alternative, the 354 FW would maintain existing facilities and would not build the proposed new facilities, as described in detail in Chapter 2.0. Continued use and maintenance of the existing degraded and inefficient facilities and infrastructure would require Eielson AFB to continue operating under unnecessarily inefficient conditions.

4.13 Noise: Environmental Consequences to the Proposed Action

Short-term noise impacts from construction would occur, predominantly from the operation of earth moving equipment. Construction noise is temporary in nature, relatively low decibel, and dissipated along the length of the proposed project, further minimizing impacts. Potential changes in the noise environment can be beneficial (i.e., if they reduce the number of sensitive receptors exposed to unacceptable noise levels), negligible (i.e., if the total area exposed to unacceptable noise levels is essentially unchanged), or adverse (i.e., if they result in increased exposure of sensitive receptors to unacceptable noise levels). Additionally, the proposed project area is surrounded by industrial areas and open land, with no sensitive receptors present. Therefore, short term noise impacts would be less than significant.

Under the Proposed Action, construction activities are potentially a source of noise. Land use compatibility guidelines established by the Department of Housing and Urban Development and based on findings of the Federal Interagency Committee on Noise recommend acceptable levels of noise exposure for various types of land uses. These include encouraging compatible land use planning and land use patterns for housing and other sensitive areas. Noise impacts were evaluated qualitatively for the Proposed Action and the No Action Alternative against these acceptable noise levels for evaluation. Figure 4-1 describes the noise ranges for different construction equipment likely to be used during construction projects associated with the Proposed Action. Noise generated from construction activities are not expected to affect workers safety. Noise is expected to occur during work days and be short-term. Although construction noise could result in some disturbance or transitory annoyance, it would not have either a long term or a significant environmental impact.

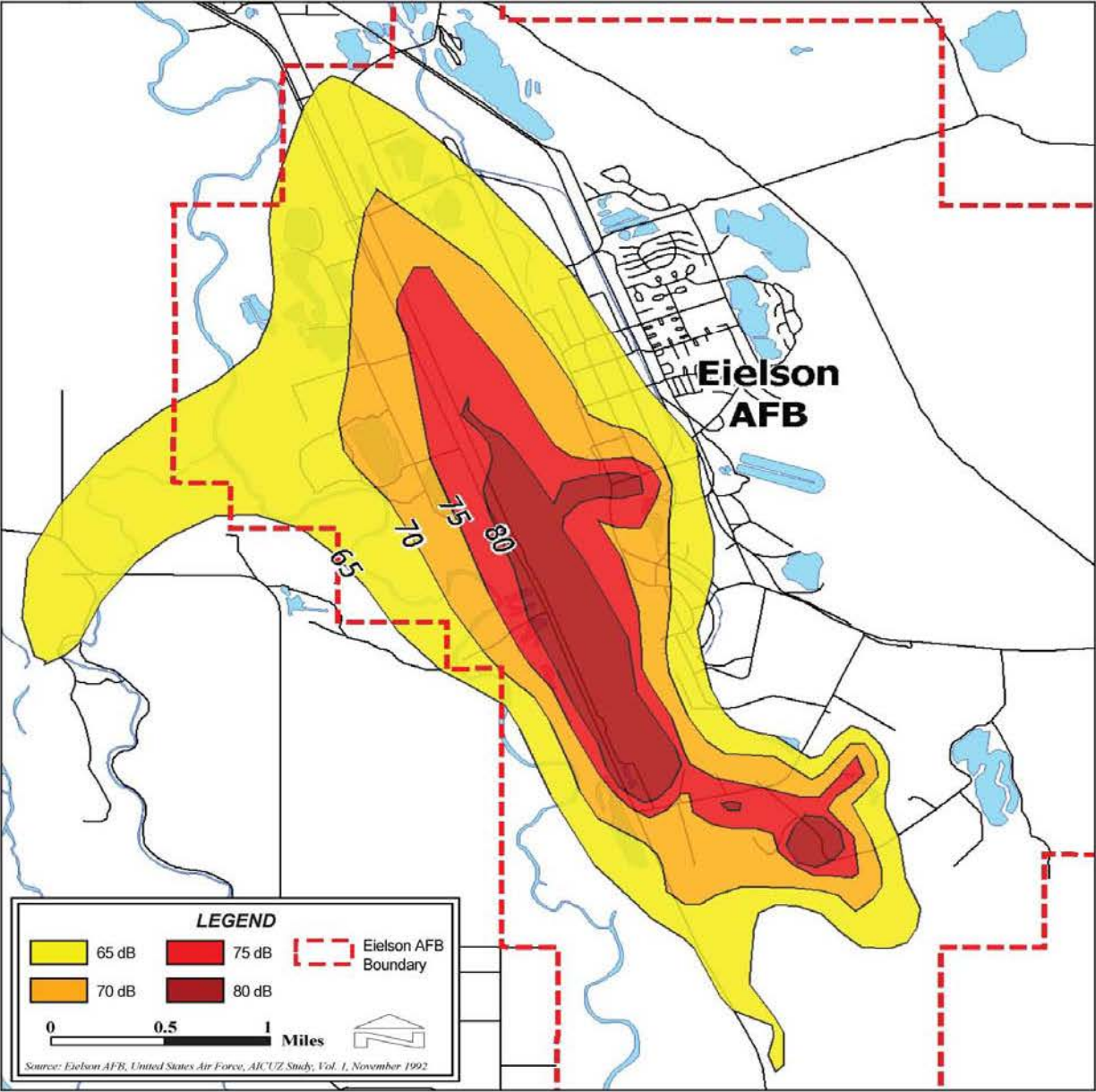
Projects associated with the Proposed Action would be located in noise compatible areas for their particular land use and AICUZ. Noise at Eielson is not anticipated to significantly change through the implementation of projects under the Proposed Action. Soundproofing in structures adjacent to the airstrip and other sitting and noise reduction measures are addressed through the base's AICUZ program and the Base Comprehensive Plan.

Due to the existing ambient noise and the intermittent occurrences, noise impacts of the proposed action would be less than significant.

4.14 Noise: Environmental Consequences of No Action

There would be no noise impacts derived from construction under the no action alternative.

Figure 4-1 Noise Ranges



4.15 Hazardous Materials and Contaminated Sites: Environmental Consequences to the Proposed Action

Contractor personnel may generate hazardous waste during construction or renovation. Under the Proposed Action, reconfiguration of the interior of a building or its re-development into an alternative use to support RF-A would result in the production of regulated waste in the form of ACMs and construction debris containing lead-based paints. Removal of ACMs from a building would remove the potential for these materials to affect personnel occupying this building. Removal of interior fluorescent lighting would result in additional debris containing polychlorinated biphenyls (PCBs) in ballasts.

Building renovation would involve no ground disturbing activities. Institutional controls would maintain IRP compliance. All hazardous waste management would conform to Eielson's Hazardous Waste Management Plan. Storage and disposal contractor generated wastes would be the responsibility of the site contractor. Any soil suspected of petroleum or other contamination, discovered during the construction or demolition process, would be tested and remediated in accordance with proper base IRP. Hazardous waste disposal associated with building renovation will be managed by Eielson's Hazardous Waste Facility.

In the event of fuel spillage during construction, the contractor would be responsible for its containment, clean up, and related disposal costs. The contractor would have sufficient spill cleanup supplies readily available on the response vehicle and/or at the site to contain any spillage. In the event of a contractor-related release, the contractor shall immediately notify the 354 CEAN- Environmental Quality (377-SPIL) of the release and take appropriate actions to correct its cause and prevent future occurrences.

During construction, there is the potential to encounter contaminated soils. Projects proposed for siting on an IRP site will require that the proponent work with the 354 CEAN- Installation Restoration office to develop an Environmental Work Plan that will be coordinated and approved by the state of Alaska and USEPA before any construction can begin. Contaminated soils generated during construction will be handled according to the Environmental Work Plan. This may include soil being transported to a soil remediation facility. Projects conducted under this EA would result in an increase in the remediation of ACM, lead-based paint, and contaminated soil. The net effect would be a decrease in the presence of these materials within the BDA and a net improvement of the environment. Exposure risk to base personnel would ultimately be reduced. Better tracking of hazardous wastes generated from new construction and renovation would occur through the database associated with this EA. If excavation is necessary, the top two feet of soil shall be set aside for possible reuse, as it is normally weathered. Below that level the soil shall be removed in levels and stock-piled so that it may be returned to the same level from which it came. The soil shall be examined for visual changes in soil character and screened for volatile organic material using a photoionization detector (PID). Soil that fails the screening shall be separated from the other soil so that it does not contaminate the soil that passes the screening, and set aside for disposal. Soil that must be disposed of shall be handled in accordance with applicable State of Alaska Statutes and in coordination with the base Installation Restoration Project Office.

Infrastructure improvement projects associated with the Proposed Action would produce a positive impact within the BDA.

With these measures in place, the potential for impacts from contaminants would be less than significant.

4.16 Hazardous Materials and Contaminated Sites: Environmental Consequences of No Action

Under the No Action Alternative, construction and demolition of the projects within the BDA of the type described by this EA would not occur. Management of hazardous wastes or materials would continue under existing Eielson AFB programs, and there would be no environmental consequences to these resources. Removal of ACMs and lead-based paint from existing facilities would not occur. Opportunities for contaminated soil remediation would not occur.

4.17 Visual: Environmental Consequences to the Proposed Action

Potential impacts to land use are evaluated by determining if an action is compatible with existing land use and in compliance with adopted land use plans and policies. In general, land use impacts would be considered significant if they were to (1) be inconsistent or noncompliant with applicable land use plans and policies; (2) prevent continued use or occupation of an area; or (3) be incompatible with adjacent or nearby land use to the extent public health or safety is threatened. Impacts to visual characteristics of the base would be significant if proposed construction and renovation projects would cause the visual environment to change from that described for the base.

Currently identified facility and infrastructure construction and renovation projects associated with RF-A would not require a change in the designated existing or future land use in the Eielson AFB area. Renovation of any buildings or their re-development to an alternate use could have no implications for land use or visual resources. New facilities would be constructed on previously disturbed ground consistent with base visual construction guidelines; no new construction would occur outside of the already developed portion of Eielson AFB.

Guidelines designed to protect government assets from terrorist activities identify minimum standards to address facility design and layout. Such standards include mitigation of perpendicular approach paths to inhabited buildings, minimal concealment of foreign objects around building parameters, and set back distances for facilities.

Recreational facilities in the Eielson AFB area would not have long-term effects from any programmatic development. Some short-term disruption could occur as a result of construction vehicle traffic or parking of construction personnel vehicles in recreational parking areas. This would primarily occur during weekday working hours and should not affect the recreational areas during weekends.

No impacts to land use or visual resources are anticipated.

4.18 Visual: Environmental Consequences of No Action

There would be no visual impacts derived from construction under the no action alternative.

4.19 Cultural Resources: Environmental Consequences to the Proposed Action

Direct impacts can be assessed by identifying the types and locations of proposed activities and determining the exact location of cultural resources that could be affected. Indirect impacts generally result from increased use of an area.

The ROI for direct impacts to cultural resources consists of areas that require ground disturbance (e.g., facility/utility construction within the BDA) and buildings requiring renovation, alteration, demolition, or abandonment.

Excavation for gravel removal or to support construction activities could result in inadvertent discoveries, although this is unlikely. A review process for all excavation deeper than 6 inches below the ground surface is required. Eielson uses AF Form 103, Base Civil Engineer Work Clearance Request, to ensure all appropriate offices, including 354 CEAN Natural & Cultural Resources Manager, review the proposed excavation. If significant, undiscovered archaeological resources or human remains are encountered, excavation will stop in the immediate vicinity of the discovery, and the individual responsible for implementing the work (e.g., the noncommissioned officer in charge or job foreman) will immediately notify the 354 CEAN Natural & Cultural Resources Manager of the find. The 354 CEAN will ensure that the Standard Operating Procedures (SOPs) outlined in Sections 4.2.1, 4.2.2, and 4.2.3 of the ICRMP are implemented.

No impacts to cultural resources would likely result from the proposed action as cultural resources on base lands have been fairly well surveyed. Under any circumstances where cultural resources were discovered on base lands, all activities would cease until a cultural resource specialist evaluated the find.

4.20 Cultural Resources: Environmental Consequences of No Action

Under the No Action Alternative, specific construction or demolition projects would not take place as proposed. Impacts to cultural resources are not expected under this alternative. Resources would continue to be managed in compliance with federal law and Air Force regulations.

4.21 Vegetation: Environmental Consequences to the Proposed Action

Where applicable, habitat loss and disturbance due to construction are quantified for biological resources. Potential habitat degradation due to post-construction invasion of noxious weeds is addressed.

Construction, demolition, and renovation activities associated with the Proposed Action would occur in the portions of the base that are already developed. Potentially affected second growth habitat within the BDA is occupied by species assumed to have adapted behavior to an airport environment. Any disturbance effects associated with construction would be minor or temporary and have no impact on species distribution or abundance.

4.22 Vegetation: Environmental Consequences of No Action

No impacts to vegetation would result from the No Action Alternative.

4.23 Wildlife Resources: Environmental Consequences to the Proposed Action

In interior Alaska, the U.S. Fish and Wildlife Service has designated primary migratory bird breeding and nesting season to be between May 1 and July 15. Construction would occur before May 1 or after July 15 to avoid impacts to migratory and nesting birds. Construction personnel would also adhere to Migratory Bird Treaty Act guidelines for the duration of the project.

The proposed action would result in the loss of a small amount of bird habitat with the clearing of the vegetation. There may be the possibility of minor disruptions to wildlife movement in the

area during construction phase. Increased activities such as operation of heavy equipment could result in temporary displacement of wildlife. However, these impacts would be limited in duration and scope.

4.24 Wildlife Resources: Environmental Consequences of No Action

No impacts to wildlife resources would occur with this alternative.

4.25 Threatened and Endangered Species: Environmental Consequences to the Proposed Action

No threatened or endangered species occur on base; therefore no impacts to these species would occur. Based on the most recent consultation with USFWS, no impacts to threatened and endangered species would result from any of the alternatives considered in this EA.

4.26 Threatened and Endangered Species: Environmental Consequences of No Action

No impacts to threatened and endangered species would occur with this alternative. Proposed infrastructure improvements at Eielson AFB would include demolition, new construction, renovations, and infrastructure upgrades. These infrastructure improvements would support RF-A and other host and tenant missions. A range of activities could occur that would enhance base capacity, improve infrastructure, and tailor facilities to support current and future missions and improve quality of life features. Construction activities would generate a number of jobs during the construction period and contribute to local earnings and spending. These effects are part of ongoing base activity and not expected to fluctuate significantly. Infrastructure improvements would be typical of base projects, would be within the BDA, and would not result in significant changes to existing employment or long-term change in regional economics.

The short-term increase in construction-related employment would not adversely nor disproportionately affect environmental justice populations. Similarly, there are no anticipated special health or safety risks to children associated with these actions.

4.27 Socioeconomic: Environmental Consequences to the Proposed Action

Proposed infrastructure improvements at Eielson AFB would include demolition, new construction, renovations, and infrastructure upgrades. These infrastructure improvements would support RF-A and other host and tenant missions. A range of activities could occur that would enhance base capacity, improve infrastructure, and tailor facilities to support current and future missions and improve quality of life features. Construction activities would generate a number of jobs during the construction period and contribute to local earnings and spending. These effects are part of ongoing base activity and not expected to fluctuate significantly. Infrastructure improvements would be typical of base projects, would be within the BDA, and would not result in significant changes to existing employment or long-term change in regional economics.

The short-term increase in construction-related employment would not adversely nor disproportionately affect environmental justice populations. Similarly, there are no anticipated special health or safety risks to children associated with these actions.

4.28 Socioeconomic: Environmental Consequences of No Action

Under the No Action Alternative, specific infrastructure improvement projects would not be implemented at Eielson AFB. Therefore, no socioeconomic effects or environmental justice concerns would result.

5.0 LIST OF PREPARERS

The following individuals were responsible for the content of this EA.

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Years of Experience: 30
EA: Draft EA Author and Revisions

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Years of Experience: 10
EA: Draft EA Review

6.0 LIST OF AGENCIES AND PERSONS CONSULTED

Table 6.1 Project Scoping		
Name and Agency / Position	Contact Information	Scoping Topic
Mr. Alan Simmons, Hazardous Materials / Tanks and Spill Reporting Manager	907-377-3836	Hazardous Materials / Spill Response
Mr. Bill Rice, Base Community Planner	907-377-2922 william.rice@eielson.af.mil	Land Use
Ms. Heidi Durako, Water Program Manager	907-377-1678	Water Quality / Stormwater
Mr. Marty Overlin, Superintendent CHPP	907-377-3151	Project Background / Rail Operations
Mr. Ron Gunderson, Chief Natural and Cultural Resources	907-377-5182	Natural and Cultural Resources
Ms. Ruth Forrester, Base Environmental Planner	907-377-3365 ruth.forrester@eielson.af.mil	Base Environmental Planning
Mr. Steve Parker, Installation Restoration Project Manager	907-377-5209	Contaminated Sites / Installation Restoration Plan
Mr. Thomas Slater, Natural and Cultural Resources Technician	907-377-5182 thomas.slater@eielson.af.mil	Natural Resources / Wetlands
Mr. Keith Guyer, Tutka, LLC/Air Force Subcontractor	907-272-8010 keith@tutkallc.com	Revisions to Draft EA
Ms. Amber Huckaba, Tutka, LLC/Air Force Subcontractor	907-272-8010 amber@tutkallc.com	Draft EA Review

7.0 REFERENCES

Council on Environmental Quality (CEQ). 1997. Considering Cumulative Effects Under the National Environmental Policy Act. Council on Environmental Quality, Executive Office of the President.

Durako, Heidi. 2010. Personal communications between Heidi Durako, (Water Program Manager) and Tutka regarding base water supply and wastewater treatment. October.

Forrester, Ruth. 2010. Personal communication between Ruth Forrester (354 CES/CEAO) and Tutka regarding base development projects on Eielson AFB, Alaska. September.

Gerlach, S.C., and P.M. Bowers. 1996. Archaeological Survey and Assessment of Prehistoric Cultural Resources on Eielson AFB, Alaska, Management Summary. Northern Land Use Research, Inc., Fairbanks, Alaska.

Mason, O., P. Bowers, and S.C. Gerlach. 1994. Predictive Model for the Discovery of Cultural Resources on Eielson AFB, Alaska. Northern Land Use Research, Inc. Fairbanks, Alaska.

Overlin, Marty. 2010. Personal communications between Marty Overlin, (Superintendent CHPP) and Tutka regarding base power plant and coal usage. October.

Parker, Steve. 2010. Personal communications between Steve Parker, (Installation Restoration Project Manager) and Tutka regarding IRP sites. October

Rice, Bill. 2010. Personal communications between Bill Rice, (Base Community Planner) and Tutka regarding socioeconomic impact of Eielson AFB. October

United States Air Force. 1996. The Omnibus Base Construction on Developed Land Programmatic Environmental Assessment. April 1993, Revised December 1996.

_____. 2007a. Eielson AFB Hazardous Waste Management Plan. 354 CES/CEVQ, Eielson AFB, Alaska. June.

_____. 2007b. Eielson AFB Asbestos Management and Operations Plan. MACTEC Engineering and Consulting, Inc., Fairbanks, Alaska. February.

APPENDIX A
**CHECKLIST FOR PROJECT INCLUSION IN THIS
PROGRAMMATIC ENVIRONMENTAL ASSESSMENT**

The following checklist is required for a proposed project to be included in this Programmatic EA. Proposed projects must be within the already-developed portion of Eielson AFB and must complete the attached checklist. The checklist permits rapid evaluation of EA applicability and provides an initial mechanism to track the project implementation. The checklist does not assess impacts but rather documents specific environmental attributes that are potentially affected by a proposed project. The checklist is not an impact summary and is not a NEPA document. The checklist helps the proponent of the proposed project and the 354 CES/CEAO determine the level of environmental analysis necessary for project decisions.

The checklist is to be completed and filed with a completed AF Form 813, Request for Environmental Impact Analysis for applicability review and project evaluation by 354 CES/CEAO Environmental Planning Function. Taken together, the two forms determine whether a proposed infrastructure project can be tiered to this EA or would require a separate environmental analysis. The decision of the analysis is stated on the filed AF Form 813.

Implementation Checklist for Omnibus Construction and Renovation Projects

Instructions: *Environmental Planning Function is to complete form during evaluation for inclusion in Programmatic EA (Air Force 2010) for projects within the already-developed portion of Eielson AFB. This checklist is to be attached as a supplement to AF Form 813 and is to facilitate project implementation tracking.*

SECTION I Background

1. Proponent:	2. Contact No.
3. Title of Project:	
4. Project Start Date:	5. Planned Completion Date:

SECTION II Environmental Attribute Involvement Summary. <i>Check appropriate box or circle, as indicated</i>	Yes	No
6. New tenant?		
7. Land Use of Project Area (<i>circle</i>) Industrial, Commercial, Residential, Recreational		
8. Project compatible with existing AICUZ?		
9. Project involves a designated historic property?		
10. Project occurs within a historic district?		
11. If yes, <i>circle one</i> Flightline / Quarry Hill		
12. Site occurs in wetland		
13. Site occurs within 100-year floodplain		
14. Site dewatering involved?		
15. SWPPP required		
16. Project involves net change in impervious surface?		
17. Is wellhead protection required?		
18. Additional fill required?		
19. If yes, <i>circle source</i> Cather's Lake / Mullen's Pit / Other / Offbase		
20. Construction/demolition waste generated?		
21. Asbestos abatement required?		
22. Lead-based paint involved?		
23. PCBs in lighting fixtures, transformers?		
24. IRP review / monitoring required?		
25. Contaminated soil removed?		
26. Vegetation removed?		
27. Revegetation/tree planting involved?		
28. New emission source involved?		
29. Air quality modeling required?		
30. New laws, policies, or directives applicable?		