

**FINAL ENVIRONMENTAL ASSESSMENT  
FOR THE  
REPAIR OF THE GARRISON SLOUGH RAILROAD  
TRESTLE BRIDGE  
AT  
EIELSON AIR FORCE BASE, ALASKA**



**Department of the Air Force  
May 2023**



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Prepared By:

**Department of the Air Force**

**May 2023**

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## COVER SHEET

### FINAL ENVIRONMENTAL ASSESSMENT FOR THE REPAIR OF THE GARRISON SLOUGH RAILROAD TRESTLE BRIDGE AT EIELSON AIR FORCE BASE, ALASKA

**Responsible Agency:** Department of the Air Force (Air Force)

**Affected Location:** Eielson Air Force Base (AFB), Alaska.

**Report Designation:** Final Environmental Assessment (EA).

**Abstract:** This EA evaluates the potential environmental impacts of the proposed action in compliance with the National Environmental Policy Act of 1969 (NEPA) (42 United States [U.S.] Code [U.S.C.] § 4331 *et seq.*), Council on Environmental Quality (CEQ) regulations that implement NEPA procedures (40 Code of Federal Regulations [CFR] Parts 1500–1508), and the Air Force’s *Environmental Impact Analysis Process* promulgated at 32 CFR Part 989. The Proposed Action would replace the existing 50-year-old Garrison Slough railroad trestle bridge with a culvert system consisting of concrete headwalls and two 60-inch culverts conveying Garrison Slough under the railroad. In addition, two existing adjacent 48-inch culverts beneath Arctic Avenue would be replaced with two 60-inch culverts and the road repaved. This EA evaluates and supports decision-making for the Proposed Action at Eielson AFB.

The purpose of the Proposed Action is to maintain a reliable method to convey coal supply to the Central Heat and Power Plant (CHPP) at Eielson AFB. The Proposed Action would address deficiencies of the aging railroad trestle bridge to maintain a reliable method of providing coal to the CHPP and jet propellant fuel to the bulk fuel storage facility. The need for the Proposed Action is that the Garrison Slough railroad trestle bridge has become unreliable and is degrading. The freeze/thaw cycle and associated rail expansion and contraction has led to erosion in the abutments, which has created a differential in rail height. The repeated force of trains traveling over the uneven railway surface has resulted in a rotation of the pile bents. The existing culverts at Arctic Avenue are insufficient to carry higher stormwater flows of Garrison Slough. Left unchecked, these deficiencies would degrade the ability of Eielson AFB to meet Air Force, Department of Defense, state and/or federal requirements, and to support current and future mission requirements of the 354th Fighter Wing (354 FW).

Under the No Action Alternative, the Air Force would not repair or replace the Garrison Slough railroad trestle bridge. The trestle bridge would continue to degrade until its ultimate failure presenting a safety risk. The impending failure of the Garrison Slough railroad trestle bridge would disrupt operations at the CHPP and eliminate the secondary method of jet fuel delivery preventing the 354 FW from fulfilling its mission.

The EA analyzes the potential environmental impacts associated with the Proposed Action and No Action Alternative and will aid in determining whether a Finding of No Significant Impact can be prepared, if an Environmental Impact Statement is required, or if the No Action Alternative should be selected. The Proposed Action would have beneficial impacts to safety and railroad transportation; negligible or non-existent impacts on socioeconomics, environmental justice, land use, and cultural resources; and minor, temporary impacts on the acoustic environment, air quality, natural resources, earth resources, infrastructure, and transportation. With impact minimization measures and compliance with permits and procedures, the Proposed Action would not result in significant impacts to surface water, wetlands, the 100-year floodplain, hazardous materials/wastes, or contaminated sites.

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## TABLE OF CONTENTS

Section	Page
<b>1.0 PURPOSE OF AND NEED FOR ACTION .....</b>	<b>1-1</b>
<b>1.1 Introduction .....</b>	<b>1-1</b>
<b>1.2 Background .....</b>	<b>1-1</b>
<b>1.3 Purpose of and Need for the Proposed Action .....</b>	<b>1-1</b>
<b>1.4 Interagency and Intergovernmental Coordination and Consultations, and Public Involvement.....</b>	<b>1-4</b>
1.4.1 Public Notifications.....	1-4
1.4.2 Public and Agency Comments .....	1-5
<b>1.5 Permits and Regulatory Requirements.....</b>	<b>1-5</b>
1.5.1 Relevant NEPA Documents .....	1-6
<b>1.6 Decision to be Made.....</b>	<b>1-7</b>
<b>2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES .....</b>	<b>2-1</b>
<b>2.1 Proposed Action.....</b>	<b>2-1</b>
<b>2.2 Selection Standards for Project Alternatives .....</b>	<b>2-1</b>
<b>2.3 Alternatives Carried Forward for Analysis.....</b>	<b>2-2</b>
2.3.1 No Action Alternative .....	2-3
2.3.2 Proposed Action: Replace Garrison Slough Trestle Bridge with Culvert System.....	2-3
<b>2.4 Alternatives Considered but Eliminated from Further Analysis .....</b>	<b>2-4</b>
2.4.1 Repair Existing Bridge .....	2-4
2.4.2 Construct New Trestle Bridge on the Current Location.....	2-6
2.4.3 Construct New Trestle Bridge Upstream.....	2-6
<b>2.5 Summary of Potential Environmental Consequences .....</b>	<b>2-6</b>
<b>3.0 AFFECTED ENVIRONMENT .....</b>	<b>3-1</b>
<b>3.1 Land Use.....</b>	<b>3-2</b>
3.1.1 Resource Definition.....	3-2
3.1.2 Affected Environment.....	3-2
<b>3.2 Acoustic Environment .....</b>	<b>3-4</b>
3.2.1 Resource Definition.....	3-4
3.2.2 Affected Environment.....	3-4
<b>3.3 Air Quality.....</b>	<b>3-5</b>
3.3.1 Resource Definition.....	3-5
3.3.2 Affected Environment.....	3-6

<b>3.4</b>	<b>Water Resources .....</b>	<b>3-6</b>
3.4.1	Resource Definition.....	3-6
3.4.2	Affected Environment.....	3-7
3.4.2.1	Groundwater.....	3-7
3.4.2.2	Surface Water.....	3-7
3.4.2.3	Stormwater .....	3-8
3.4.2.4	Wetlands.....	3-8
3.4.2.5	Floodplains.....	3-8
<b>3.5</b>	<b>Safety and Occupational Health.....</b>	<b>3-11</b>
3.5.1	Resource Definition.....	3-11
3.5.2	Affected Environment.....	3-11
3.5.2.1	General Safety .....	3-11
3.5.2.2	Fire Safety .....	3-11
3.5.2.3	Airfield Safety .....	3-11
<b>3.6</b>	<b>Hazardous Materials/Wastes and Contaminated Sites .....</b>	<b>3-12</b>
3.6.1	Resource Definition.....	3-12
3.6.2	Affected Environment.....	3-13
3.6.2.1	Hazardous Materials.....	3-13
3.6.2.2	Hazardous Waste .....	3-14
3.6.2.3	Toxic Substances.....	3-14
3.6.2.4	Contaminated Sites.....	3-14
3.6.2.5	Perfluoroalkyl and Polyfluoroalkyl Substances.....	3-15
<b>3.7</b>	<b>Natural Resources.....</b>	<b>3-15</b>
3.7.1	Resource Definition.....	3-15
3.7.2	Affected Environment.....	3-15
3.7.2.1	Wildlife.....	3-17
3.7.2.2	Vegetation .....	3-17
3.7.2.3	Special Status Species .....	3-17
<b>3.8</b>	<b>Cultural Resources .....</b>	<b>3-18</b>
3.8.1	Resource Definition.....	3-18
3.8.2	Affected Environment.....	3-18
<b>3.9</b>	<b>Earth Resources .....</b>	<b>3-19</b>
3.9.1	Resource Definition.....	3-19
3.9.2	Affected Environment.....	3-19



<b>3.10</b>	<b>Infrastructure.....</b>	<b>3-20</b>
3.10.1	Resource Definition.....	3-20
3.10.2	Affected Environment.....	3-21
3.10.2.1	Facilities .....	3-21
3.10.2.2	Energy .....	3-21
3.10.2.3	Stormwater Management.....	3-21
3.10.2.4	Solid Waste Management.....	3-21
3.10.2.5	Communications.....	3-22
<b>3.11</b>	<b>Transportation .....</b>	<b>3-22</b>
3.11.1	Resource Definition.....	3-22
3.11.2	Affected Environment.....	3-22
<b>4.0</b>	<b>ENVIRONMENTAL CONSEQUENCES .....</b>	<b>4-1</b>
<b>4.1</b>	<b>Land Use.....</b>	<b>4-1</b>
4.1.1	Proposed Action .....	4-1
4.1.2	No Action Alternative .....	4-2
<b>4.2</b>	<b>Acoustic Environment .....</b>	<b>4-2</b>
4.2.1	Proposed Action .....	4-2
4.2.2	No Action Alternative .....	4-2
<b>4.3</b>	<b>Air Quality.....</b>	<b>4-2</b>
4.3.1	Proposed Action .....	4-3
4.3.2	No Action Alternative .....	4-5
<b>4.4</b>	<b>Water Resources .....</b>	<b>4-5</b>
4.4.1	Proposed Action .....	4-5
4.4.1.1	Groundwater.....	4-5
4.4.1.2	Surface Water.....	4-5
4.4.1.3	Stormwater .....	4-6
4.4.1.4	Wetlands.....	4-6
4.4.1.5	Floodplains.....	4-7
4.4.2	No Action Alternative .....	4-7
<b>4.5</b>	<b>Safety and Occupational Health.....</b>	<b>4-8</b>
4.5.1	Proposed Action .....	4-8
4.5.2	No Action Alternative .....	4-8
<b>4.6</b>	<b>Hazardous Materials/Wastes and Contaminated Sites .....</b>	<b>4-8</b>
4.6.1	Proposed Action .....	4-8

4.6.1.1	Hazardous Materials .....	4-8
4.6.1.2	Hazardous Wastes .....	4-9
4.6.1.3	Toxic Substances .....	4-9
4.6.1.4	Contaminated Sites .....	4-9
4.6.1.5	Perfluoroalkyl and Polyfluoroalkyl Substances.....	4-10
4.6.2	No Action Alternative .....	4-10
<b>4.7</b>	<b>Natural Resources.....</b>	<b>4-10</b>
4.7.1	Proposed Action .....	4-10
4.7.2	No Action Alternative .....	4-11
<b>4.8</b>	<b>Cultural Resources .....</b>	<b>4-11</b>
4.8.1	Proposed Action .....	4-11
4.8.1.1	Archaeological Resources .....	4-11
4.8.1.2	Architectural Resources.....	4-11
4.8.2	No Action Alternative .....	4-11
<b>4.9</b>	<b>Earth Resources .....</b>	<b>4-11</b>
4.9.1	Proposed Action .....	4-12
4.9.2	No Action Alternative .....	4-12
<b>4.10</b>	<b>Infrastructure.....</b>	<b>4-12</b>
4.10.1	Proposed Action .....	4-12
4.10.2	No Action Alternative .....	4-13
<b>4.11</b>	<b>Transportation.....</b>	<b>4-13</b>
4.11.1	Proposed Action .....	4-13
4.11.2	No Action Alternative .....	4-13
<b>4.12</b>	<b>Cumulative Effects.....</b>	<b>4-13</b>
4.12.1	Relevant Past, Present, and Reasonably Foreseeable Actions.....	4-14
4.12.1.1	United States Air Force F-35A Operational Beddown – Pacific EIS .....	4-15
4.12.1.2	United States Air Force F-35A Operational Beddown – Pacific Supplemental EIS .....	4-15
4.12.1.3	Installation Restoration (PFOS/PFOA) Cleanup Actions.....	4-16
4.12.1.4	Minor Construction, Repair, and Self-Help Projects.....	4-16
4.12.1.5	Construction of PATRIOT Battery Locations and Support Locations and Exercise Participation .....	4-16
4.12.1.6	South Loop Taxiway Design Project, Phase I .....	4-16
4.12.2	Resource Analysis .....	4-17

4.12.2.1	Air Quality.....	4-17
4.12.2.2	Water Resources.....	4-17
4.12.2.3	Natural Resources.....	4-18
4.12.2.4	Cultural Resources.....	4-19
4.12.2.5	Earth Resources.....	4-19
4.12.2.6	Transportation .....	4-19
4.12.2.7	Contaminated Sites.....	4-19
<b>4.13</b>	<b>Other NEPA Considerations.....</b>	<b>4-20</b>
4.13.1	Consistency and Compliance with Other Federal, State, and Local Plans, Policies, and Regulations.....	4-20
4.13.2	Relationship of Short-Term and Long-Term Productivity .....	4-21
4.13.3	Irreversible and Irretrievable Commitments of Resources.....	4-22
<b>5.0</b>	<b>LIST OF PREPARERS .....</b>	<b>5-1</b>
<b>6.0</b>	<b>PERSONS AND AGENCIES CONSULTED/COORDINATED.....</b>	<b>6-1</b>
<b>7.0</b>	<b>REFERENCES.....</b>	<b>7-1</b>
<b>APPENDIX A</b>	<b>INTERAGENCY/INTERGOVERNMENTAL AND GOVERNMENT-TO-GOVERNMENT COORDINATION AND CONSULTATION, AND PUBLIC PARTICIPATION.....</b>	<b>A-1</b>
<b>APPENDIX B</b>	<b>AIR CONFORMITY APPLICABILITY MODEL REPORT .....</b>	<b>B-1</b>

## LIST OF FIGURES

Figure 1.1-1. Location Map.....	1-2
Figure 1.1-2. Project Location .....	1-3
Figure 2.3-1. Project Area.....	2-5
Figure 3.1-1. Existing Land Use at Eielson AFB.....	3-3
Figure 3.2-1. A-Weighted Sound Levels from Typical Sources .....	3-5
Figure 3.4-1. Project Area Wetlands.....	3-9
Figure 3.4-2. Project Area Floodplains .....	3-10
Figure 3.6-1. ERP/IRP Sites.....	3-16

## LIST OF TABLES

Table 1.5-1. List of Existing Eielson AFB Environmental Permits .....	1-5
Table 2.5-1. Summary of Potential Environmental Consequences .....	2-6
Table 4.3-1. Construction Emissions Estimates for Proposed Action .....	4-3
Table 4.12-1. Summary of Relevant Past, Present, and Reasonably Foreseeable Actions .....	4-14
Table 4.13-1. Summary of Applicable Environmental Regulations and Regulatory Compliance .....	4-20
Table 5.1-1. List of Preparers .....	5-1
Table 6.1-1. Persons and Agencies Consulted / Coordinated.....	6-1



## GLOSSARY OF ABBREVIATIONS AND ACRONYMS

Acronym	Definition	Acronym	Definition
354 CES	354th Civil Engineer Squadron	OSHA	Occupational Safety and Health Administration
354 FW	354th Fighter Wing	PCB	polychlorinated biphenyl
AAC	Alaska Administrative Code	PFAS	perfluoroalkyl and polyfluoroalkyl substances
ACM	asbestos-containing materials	PFOA	perfluorooctanoic acid
ADEC	Alaska Department of Environmental Conservation	PFOS	perfluorooctane-sulfonic acid
AFB	Air Force Base	PM <sub>2.5</sub>	particulate matter less than or equal to 2.5 micrometers
AFI	Air Force Instruction	PM <sub>10</sub>	particulate matter less than or equal to 10 microns in diameter
APDES	Alaska Pollutant Discharge Elimination System	ppm	million
APE	Area of Potential Effects	PSD	Prevention of Significant Deterioration
APZ	Accident Potential Zones	RCRA	Resource Conservation and Recovery Act
BMP	Best Management Practice	ROD	Record of Decision
CEQ	Council on Environmental Quality	SHPO	State Historic Preservation Office(r)
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	SOx	sulfur oxides
CFR	Code of Federal Regulations	SWPPP	Storm Water Pollution Prevention Plan
CHPP	Central Heat and Power Plant	U.S.	United States
CO	carbon monoxide	U.S.C.	U.S. Code
CO <sub>2</sub> e	carbon dioxide equivalent	USACE	U.S. Army Corps of Engineers
dB	decibels	USEPA	U.S. Environmental Protection Agency
dBA	A-weighted decibels	USFWS	U.S. Fish and Wildlife Service
DoD	Department of Defense	VOC	Volatile Organic Compound
EA	Environmental Assessment		
EIS	Environmental Impact Statement		
EO	Executive Order		
ERP	Environmental Restoration Program		
FEMA	Federal Emergency Management Agency		
FNSB	Fairbanks North Star Borough		
FONPA	Finding of No Practicable Alternative		
FONSI	Finding of No Significant Impact		
GHG	greenhouse gas		
HAP	hazardous air pollutant		
HAZMART	Hazardous Materials Pharmacy Program		
IDP	Installation Development Plan		
IRP	Installation Restoration Program		
JP-8	jet propellant 8		
LBP	lead-based paint		
MMRP	Military Munitions Response Program		
MSAT	Mobile Source Air Toxics		
NAAQS	National Ambient Air Quality Standards		
NEPA	National Environmental Policy Act		
NHPA	National Historic Preservation Act		
NOx	nitrogen oxides		
NRHP	National Register of Historic Places		

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## **1.0 PURPOSE OF AND NEED FOR ACTION**

### **1.1 Introduction**

The Department of the Air Force (Air Force) proposes to repair the 50-year-old Garrison Slough railroad trestle bridge and adjacent culverts at Arctic Avenue at Eielson Air Force Base (AFB), Alaska. Eielson AFB is located in Central Alaska, approximately 20 miles southeast of Fairbanks, within the Fairbanks North Star Borough (Figure 1.1-1). The Garrison Slough railroad trestle bridge is located in the northern portion of the installation and carries the railroad over Garrison Slough. The project location is shown in Figure 1.1-2. The railroad parallels Arctic Avenue through the project area.

This Environmental Assessment (EA) evaluates the potential environmental impacts of the proposed project in compliance with the National Environmental Policy Act of 1969 (NEPA) (42 United States [U.S.] Code [U.S.C.] § 4331 *et seq.*), Council on Environmental Quality (CEQ) regulations that implement NEPA procedures (40 Code of Federal Regulations [CFR] Parts 1500–1508), and the Air Force's *Environmental Impact Analysis Process* promulgated at 32 CFR Part 989. This EA evaluates and supports decision-making for repairing the Garrison Slough railroad trestle bridge at Eielson AFB.

### **1.2 Background**

The 354th Fighter Wing (354 FW) is the host unit at Eielson AFB with the mission to provide combat-ready airpower, advanced integration training, and a strategic arctic basing option. To accomplish that mission, the 354 FW implements flying operations, mission support, maintenance, and medical care functions. The 354 FW is host to 10 tenant units.

### **1.3 Purpose of and Need for the Proposed Action**

The purpose of the Proposed Action is to maintain a reliable method to convey coal supply to the Central Heat and Power Plant (CHPP) and a secondary delivery system for jet propellant (Figure 1.1-2). The Proposed Action would address deficiencies of the aging railroad trestle bridge to maintain a reliable method of providing coal to the CHPP and jet propellant 8 (JP-8) fuel to the bulk fuel storage facility. Currently, all coal is delivered to the CHPP by rail. Rail is the secondary method of JP-8 fuel deliveries to Eielson AFB. Objectives in repairing the bridge include uninterrupted continuous coal delivery, simplification of bridge maintenance, and protection and continued operation of an adjacent JP-8 fuel pipeline and communication lines. The need for the Proposed Action is that the Garrison Slough railroad trestle bridge has become unreliable and is degrading. The freeze/thaw cycle and associated rail expansion and contraction has led to erosion in the abutments, which has created a differential in rail height. The repeated force of trains traveling over the uneven railway surface has resulted in a rotation of the pile bents. Left unchecked, these deficiencies would degrade the ability of Eielson AFB to meet Air Force, Department of Defense (DoD), state and/or federal requirements, and to support current and future mission requirements. The existing culverts at Arctic Avenue are insufficient to carry higher stormwater flows of Garrison Slough, which tends to back up and cause erosion and flooding at the railroad bridge and Arctic Avenue. The Proposed Action would address requirements necessary to fulfill and support the 354 FW mission.

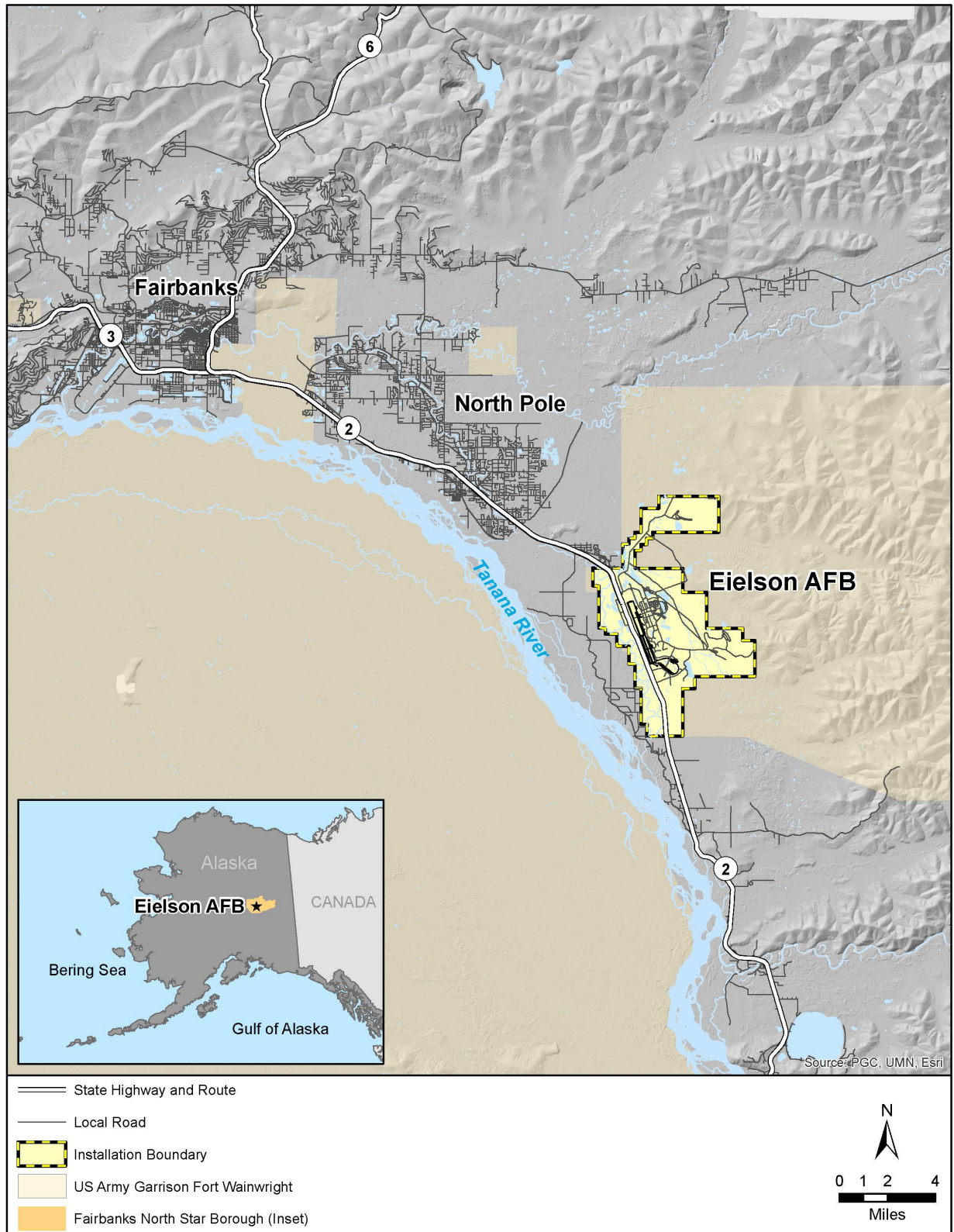


Figure 1.1-1. Location Map





Figure 1.1-2. Project Location

## **1.4 Interagency and Intergovernmental Coordination and Consultations, and Public Involvement**

### **1.4.1 Public Notifications**

The Air Force initiated interagency coordination during the scoping phase of this EA in accordance with the requirements of NEPA (40 CFR 1501.9(b)). Scoping letters that provided a description of the Proposed Action were sent to: City of Fairbanks; City of Delta Junction; City of North Pole; Fairbanks North Star Borough; U.S. Army Corps of Engineers (USACE), Fairbanks Regulatory Field Office; U.S. Fish and Wildlife Service (USFWS), Fairbanks Fish and Wildlife Office; Alaska Department of Conservation (ADEC); ADEC Division of Water; ADEC Division of Air Quality; ADEC Division of Spill Prevention and Response; Alaska Department of Military and Veterans Affairs; Alaska Department of Fish and Game; Alaska Department of Fish and Game, Division of Habitat; Alaska Department of Natural Resources; Alaska Department of Natural Resources, Office of History and Archaeology; Alaska Department of Natural Resources, Division of Mining, Land, and Water; Alaska Railroad Corporation; Fairbanks Economic Development Corporation; Fairbanks Convention and Visitors Bureau; Alaska Department of Transportation, Northern Region; and Cold Climate Housing Research Center. Appendix A provides copies of the correspondence.

The National Historic Preservation Act (NHPA) and its regulations in 36 CFR Part 800 direct federal agencies to consult with federally recognized Indian tribes when a proposed action or alternative may have an effect on tribal lands or on properties of religious and cultural significance to a tribe. Federally recognized tribes that are historically affiliated with lands in the vicinity of the proposed action have been invited to consult on the proposed undertaking to determine if it has potential to affect properties of cultural, historical, or religious significance to the tribes. Interagency Coordination and Government-to-Government consultation materials for this EA are included in Appendix A.

CEQ regulations also direct agencies to provide the public early notification for any projects with the potential to impact wetlands or floodplains prior to approval of a Finding of No Significant Impact (FONSI)/Finding of No Practicable Alternative (FONPA) and implementation of the Proposed Action per Air Force Manual 32-7003. The Air Force met this requirement through the publication of a Notice for Early Public Review of a Proposed Activity within Wetlands and Floodplains, Eielson AFB. Appendix A provides copies of the notification.

CEQ regulations direct agencies to involve the public in preparing and implementing their NEPA procedures. The Air Force published a notice of availability of the Draft EA in the *Fairbanks Daily News-Miner* newspaper on March 5, 2023 and initiated the 30-day review and comment period (Appendix A). The Draft EA was available for review on the internet at: <https://www.eielson.af.mil/> and at the following library: Noel Wien Public Library, 1215 Cowles Street, Fairbanks, AK 99701.

The public was invited to submit comments by any of the following methods:

- Electronically, via email to: 354fw.pa.publicaffairs@us.af.mil
- In writing, by mail to: 354th Fighter Wing Public Affairs, 354 Broadway Avenue, Suite 15A, Eielson AFB, AK 99702

Notification letters were mailed or emailed to 27 elected officials, and federal, state, regional and local agencies, tribes, and other stakeholders. The notices are provided in Appendix A.



### 1.4.2 Public and Agency Comments

One comment from a state agency was received during the public review and comment period from the Alaska Department of Environmental Conservation (ADEC) – Division of Prevention and Response, Contaminated Sites Program. This comment was carefully reviewed by the U.S. Air Force and considered in this Final EA. This comment will also be considered in reaching the final decision about implementing the Proposed Action. This comment is provided in Appendix A.

The comment noted that the proposed project footprint will impact a known contaminated site including the Eielson AFB perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) plume area. Contaminated soil and groundwater generated by the construction will need to be characterized and disposed of, as appropriate. The comment also made note that the Draft EA acknowledges site conditions and regulatory compliance issues previously scoped with ADEC, including the permitting of dewatering activities where applicable. All work in known contaminated sites requires a work plan and ADEC approval prior to the activities taking place.

There are no notable changes made to the Final EA as a result of comments submitted during the public comment period.

## 1.5 Permits and Regulatory Requirements

New permits may be required for the Proposed Action. Table 1.5-1 summarizes existing applicable federal, state, and local Eielson AFB permits. The EA evaluates if the Proposed Action would require any changes or updates to these permits. Management actions and procedures would need to be reviewed, coordinated, and/or updated to ensure Air Force compliance with applicable instructions, guidance, and directives.

Table 1.5-1. List of Existing Eielson AFB Environmental Permits	
Resource Area	Permit
Air Quality	Title V Operating Permit AQ0264TVP02, Rev. 5
Water Quality	APDES Stormwater
	USACE Section 401/404 Permit
Solid Waste	Biosolids Land Application Permit # SWZCP002-24
	Asbestos Landfill Permit # SWYA065-22
	Coal Ash Landfill Permit # SWZA021-25
Hazardous Materials	Above Ground Storage Tank Registration Certification

Legend: APDES = Alaska Pollutant Discharge Elimination System; USACE = United States Army Corps of Engineers.

The Clean Water Act, Title 33 U.S.C. §1251 *et seq.* Sections 401 and 402, and the State of Alaska water quality regulations require a state issued permit, the Alaska Pollutant Discharge Elimination System (APDES) permit, and compliance with provisions of permits regarding discharge of effluents to surface waters and additional wetland protection. All construction activities with the potential to impact stormwater quality or disturb more than 1 acre of land must be permitted under the APDES regulation administered by ADEC. A Storm Water Pollution Prevention Plan (SWPPP) would need to be developed and a Notice of Intent would need to be filed prior to construction in accordance with the APDES General Permit for Discharges from Large and Small Construction Activities AKR100000.

Several laws and regulations are pertinent to the treatment of cultural resources, such as the NHPA, as amended, the Archaeological Resources Protection Act of 1979, and Air Force Instruction (AFI) 32-7065,

*Cultural Resources Management*, which specifies proper procedures for cultural resource management at Eielson AFB.

Hazardous Materials Transportation Law (49 U.S.C. 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 U.S.C. 703 *et seq.*) requires consultation to determine whether construction or operation of project facilities has any impacts on migrating bird populations.

Executive Order (EO) 11988, *Floodplain Management* and EO 11990, *Protection of Wetlands*, require the heads of federal agencies to find that there is no practicable alternative before the agency takes certain actions impacting wetlands or floodplains. To address this requirement, the Secretary of the Air Force's designated agent 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 FONPA, will be based on the floodplain analysis in this EA and will state which alternative, the Proposed Action or the No Action Alternative, will be selected as the appropriate course of action. The Proposed Action evaluated in this EA is expected to require a FONPA. The FONPA will be combined with the FONSI (if applicable) 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.

There are no known occurrences of any federal or state listed species in the project area. See Section 3.7.2.3, Special Status Species. Therefore, no consultation under Section 7 of the Endangered Species Act was required.

### 1.5.1 Relevant NEPA Documents

Material relevant to a NEPA document may be incorporated by reference in accordance with CEQ regulations (40 CFR 1502.21), with the intent of reducing a document's size. A number of documents provide information directly related to the preparation of this EA. The applicable content of these documents is incorporated by reference due to their relevance to the Proposed Action and evaluation of potential impacts addressed in this EA. These documents include:

- **Environmental Assessment for Infrastructure Improvements in the Base Developed Area at Eielson Air Force Base, Alaska** (U.S. Air Force, 2011) – This programmatic EA analyzed the potential environmental effects from six infrastructure improvement projects implemented at Eielson AFB from 2011 through 2015. The infrastructure improvements were designed to be consistent with the development goals of Eielson AFB, including supporting RED FLAG-Alaska. The infrastructure improvement projects were located within the developed portion of the base in areas that avoided wetlands and the 100-year floodplain. The purpose of the programmatic EA was to use resources more efficiently, provide an environmental analysis that addressed cumulative consequences of different projects within the base developed area, and make infrastructure more responsive to changing needs. This programmatic approach avoided piecemeal environmental documentation and analysis while eliminating redundancy.
- **Environmental Impact Statement for United States Air Force F-35A Operational Beddown – Pacific** (U.S. Air Force, 2016) – This Environmental Impact Statement (EIS) evaluated the potential consequences of the operational beddown of two F-35A squadrons (up to 54 aircraft and

1,563 personnel) at Eielson AFB. Elements of the aircraft beddown included: infrastructure construction, demolition, renovations, additional personnel, and increases in aircraft operations at the airfield and in the Joint Pacific Alaska Range Complex airspace. The Record of Decision (ROD) for this EIS was signed in April 2016.

- **Supplemental Environmental Impact Statement for United States Air Force F-35A Operational Beddown – Pacific** (U.S. Air Force, 2017) – This Supplemental EIS addressed changes made since the February 2016 completion of the F-35A Operational Beddown – Pacific EIS and April 2016 ROD. After the ROD was signed, several new infrastructure projects were identified and evaluated in this Supplemental EIS: provide additional stormwater runoff control; develop equipment and material laydown areas; and provide additional heat, water, and power to the South Loop area. The ROD for this Supplemental EIS was signed in December 2017.

## **1.6 Decision to be Made**

The EA evaluates whether the Proposed Action would result in significant impacts on the human environment. If significant impacts are identified, Eielson AFB would undertake mitigation to reduce impacts to below the level of significance, undertake the preparation of an EIS addressing the Proposed Action, or select the No Action Alternative, whereby the Proposed Action would not be implemented. This EA is a planning and decision-making tool that will be used to guide Eielson AFB in implementing the Proposed Action in a manner consistent with Air Force standards for environmental stewardship.

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## 2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

### 2.1 Proposed Action

The Proposed Action would replace the existing 50-year-old Garrison Slough railroad trestle bridge with a culvert system consisting of concrete headwalls and two 60-inch culverts conveying the waters of Garrison Slough under the railroad. In addition, two existing adjacent 48-inch culverts beneath Arctic Avenue that convey the waters of Garrison Slough would also be replaced with two 60-inch culverts.

### 2.2 Selection Standards for Project Alternatives

The NEPA and CEQ regulations mandate the consideration of reasonable alternatives for the proposed action. “Reasonable alternatives” are those that also could be utilized to meet the purpose of and need for the Proposed Action. Per the requirements of 32 CFR Part 989.8(c), selection standards are used to identify alternatives for meeting the purpose and need for the Air Force action.

The scope and location of the Proposed Action and its alternatives have undergone comprehensive review by Eielson AFB subject matter experts. Potential alternatives to the Proposed Action were evaluated according to three universal selection standards that are documented in the Eielson AFB *Installation Development Plan* (Eielson AFB, 2016a). The three universal selection standards are described below.

**Standard 1: Planning Constraints (Installation Development Plan [IDP] Chapter 6)** – Planning constraints are either man-made or natural elements that may create significant limitations on the operation or construction of buildings, roadways, utility systems, airfields, and other facilities. These constraints, when considered collectively with capacity opportunities at Eielson AFB, allow for the identification of areas open for development, along with areas suitable for redevelopment to support growth. Planning constraints at Eielson AFB involve natural and cultural resource information, environmental quality issues, airspace restrictions, operational safety requirements, and the built environment (Eielson AFB, 2016a). Standard 1 addresses compatibility with the following features:

- Operational – Operational planning constraints limit development because of mission-related activities, such as flying and maintaining aircraft, as well as storing fuel, munitions, and other potentially hazardous cargo. Operational constraints at Eielson AFB include explosive safety quantity-distance arcs and munitions storage, rail and vehicle transportation routes, utility and fuel lines, airfield clearances, compatible land use, and antiterrorism considerations (Eielson AFB, 2016a).
- Natural – Natural planning constraints, such as natural, environmental, and cultural resources, may limit development and restrict where mission activities can occur. Alternatives must be protective of the environment. Wetlands and floodplains are major development constraints at Eielson AFB. Natural, environmental, and cultural resources also provide positive aesthetic, cultural, and recreational attributes that substantially contribute to the overall quality of life on base (Eielson AFB, 2016a).
- Built – Built planning constraints are related to the condition, functionality, or effectiveness of infrastructure systems, facilities, and other man-made improvements. Infrastructure systems must be able to reliably and cheaply transport large quantities of fuel, be durable enough to last in the harsh Alaskan environment without massive maintenance needs for years to come, be able to be implemented without mission delays, and must fit within the existing infrastructure system. Built

planning includes goals for reduction of scheduled and unscheduled maintenance of infrastructure and facilities. The built constraints at Eielson AFB include historic structures and historic or archaeological sites (Eielson AFB, 2016a).

- Land Use Compatibility – Land use compatibility constraints are associated with land use designations (e.g., airfield, administrative, recreation) on the base and with ensuring that planning considerations account for compatibility between proposed and existing uses (e.g., commercial or service functions may not be compatible with the airfield mission operations).

**Standard 2: Installation Capacity Opportunities (IDP Chapter 7)** – These are the capabilities of Eielson AFB’s existing infrastructure and facilities to meet existing and projected mission needs. Installation capacities provide planning guidance on improvements needed to accommodate future growth while adequately serving Eielson AFB’s supported populations and missions (Eielson AFB, 2016a). Standard 2 addresses mission operations (e.g., developable land, airfield pavements, fuel systems, and munitions storage areas), mission support (e.g., housing, medical, dining, fitness, and lodging), built infrastructure (e.g., water/wastewater systems, utilities, and transportation networks), and quality of life (e.g., youth center; childcare; shopping; and moral, welfare, and recreation).

**Standard 3: Sustainability Development Indicators (IDP Chapter 8)** – This refers to the ability to operate into the future without decline in either the mission or the natural and man-made systems that support it, which creates a sustainable base. Sustainability is a holistic approach to asset management that seeks to minimize the negative impacts of the Air Force’s mission and operations on the environment (Eielson AFB, 2016a). This standard directs the scale of the facility/infrastructure development and how and where that development should occur to best support sustainability of the base through consideration of the following: energy, water, wastewater, air quality, waste reduction, space optimization, encroachment, airfield, environmental impact analysis process, natural/cultural resources, community planning, external sustainability, and climactic vulnerability. Sustainability seeks to minimize the negative impacts of the Air Force’s mission and operations on the environment.

## 2.3 Alternatives Carried Forward for Analysis

NEPA and its implementing regulations require the Air Force to develop and identify reasonable alternatives to a Proposed Action. In determining the scope of alternatives to be considered, emphasis is placed on what is “reasonable.” Reasonable alternatives include those “that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant” (CEQ, 1986).

Based on the selection standards and purpose of and need for the Proposed Action, only one action alternative, the Proposed Action, will be analyzed within this EA. The EA also evaluates the No Action Alternative.



### **2.3.1 No Action Alternative**

Under the No Action Alternative, the Garrison Slough railroad trestle bridge would not be repaired or replaced. The trestle bridge would continue to degrade until its ultimate failure presenting a safety risk. The impending failure of the Garrison Slough railroad trestle bridge would disrupt operations at the CHPP and eliminate the secondary method of jet fuel delivery preventing the 354 FW from fulfilling its mission. This is not supportive of the Proposed Action's purpose and need. The No Action Alternative was carried forward for further analysis, consistent with CEQ guidelines to provide a baseline against which to measure the impacts of the Proposed Action.

### **2.3.2 Proposed Action: Replace Garrison Slough Trestle Bridge with Culvert System**

The Air Force proposes to replace the 50-year-old, deteriorating Garrison Slough railroad trestle bridge with a culvert system in order to maintain a reliable method of providing coal to the CHPP and JP-8 fuel to the bulk fuel storage facility. The culvert system would consist of concrete headwalls on the upstream and downstream sides of the railroad, earthen wingwalls armored with rip rap, and two 60-inch polymer coated corrugated metal pipe culverts that would convey the waters of Garrison Slough under the railroad. The culverts would be encased in bedding material and topped with ballast that would support the railroad track. Two existing, aging 48-inch diameter culverts beneath Arctic Avenue, downstream of the railroad, would be replaced with two 60-inch culverts to meet hydraulic requirements. Approximately 90 feet of Arctic Avenue above the culverts would be removed, reconstructed, and repaved. Guardrails would be installed and disturbed areas revegetated. The existing alignments of the railroad and Arctic Avenue would be maintained. Stone riprap would be added to the slough bottom and sides between the rail bridge and Arctic Avenue to reduce scouring of the slough bottom and sides. Existing channel bed elevations would be retained upstream and downstream of the new culvert systems.

The project includes demolition of the existing railroad bridge and Arctic Avenue surface, and deconstruction of the slough railroad track. The deconstructed railroad track components would be reused. An existing JP-8 fuel line, routed along the north side of the existing trestle bridge between the bridge and Arctic Avenue, would be protected from damage during construction activities. Existing fiber optic cable would be protected or rerouted in coordination with Alaska Communications Systems. Twenty-eight 10- and 12-inch railroad trestle timber support piles would be cut at the slough bed grade.

Soils unsuitable for structural support would be excavated and backfilled with Department of Transportation and Public Facilities approved material. Project design and construction would include provisions for addressing permafrost should it be encountered during excavations. Excavated soils would be stockpiled and tested according to federal and state requirements. If found, contaminated soil or groundwater would be managed in accordance with federal and state regulations. Polychlorinated biphenyl (PCB) contaminated soil would be removed, along with any existing creosote-contaminated timber supports.

Existing drainage patterns would be maintained, including Garrison Slough and drainage patterns of the surrounding contributing runoff surfaces. Alterations to the bathymetry of the slough would be minimized to prevent environmental and floodplain impacts. The culvert system would be designed to decrease area flood susceptibility and improve hydrologic connectivity. The project would be designed to withstand freeze/thaw cycles in sub-arctic conditions. During construction of the culvert system, dams would be installed upstream and downstream of the railroad, and the slough would be dewatered using procedures that prevent spreading contamination and as set forth in required permits from the State of Alaska. Flow

in the slough would be maintained at all times by incorporation of a flow bypass. Water would be pumped through the bypass and discharged downstream of Arctic Avenue.

Demolition and site clearing activity would be organized and performed to minimize interference with existing roads, walks, or other occupied facilities. Arctic Avenue may be closed during construction and alternate routes/detours provided. The railroad bridge would have a maximum 6-day shutdown and may require multiple shutdowns. The culvert system would be designed to have a 50-year design lifespan and would reduce and simplify maintenance requirements. The project area is shown in Figure 2.3-1.

***Application of Selection Standards:*** The Proposed Action would provide reliable and safe delivery of coal and JP-8 fuel to Eielson AFB by rail and would satisfy the selection standards. The Proposed Action would maintain railroad operations during construction and in the future and would minimize the risk of service disruption (Selection Standards 1 and 2). The Proposed Action would provide a cost-effective improvement in infrastructure to meet existing and projected mission needs (Selection Standard 3). The new structures would reduce unscheduled maintenance by eliminating continual repairs needed on the current railroad trestle and by replacing the bridge with a new structure that requires less maintenance (Selection Standard 1, 2, and 3). The project would improve hydraulic flow and add channel protection to eliminate channel scour and associated deterioration. The new structures would provide a 50-year functional life. By maintaining the alignment of the existing bridge and roadway, the Proposed Action would meet sustainability requirements by minimizing impacts to wetlands and soils (Selection Standard 3).

## **2.4 Alternatives Considered but Eliminated from Further Analysis**

### **2.4.1 Repair Existing Bridge**

An alternative was considered to repair the trestle bridge as-is by rebuilding retaining walls and abutments and adding wing walls to the retaining walls to prevent the railroad ballast from eroding into the slough.

***Selection Standard Applicability:*** This alternative would satisfy the immediate need to prevent disruption of rail service, but compared with a permanent culvert bridge, would require increased, continual maintenance of a bridge that is approaching the end of its design life (Selection Standard 2). A repair in place would not resolve the differential elevation of the bridge and railroad track due to the freeze/thaw cycle. Continual and frequent repairs would not be technically or economically feasible. Future rail operations and fuel deliveries could be interrupted due to the potential for unscheduled downtime during frequent maintenance activities (Selection Standard 3). Frequent maintenance activities and potential failure of the aging bridge would also have the potential to increase safety and environmental risks. Therefore, this alternative would not satisfy the selection standards or meet the purpose of and need for the Proposed Action and was not analyzed further.



Figure 2.3-1. Project Area

## 2.4.2 Construct New Trestle Bridge on the Current Location

An alternative to construct a new pile-supported railroad trestle bridge on the current alignment was considered. The existing bridge would be demolished and new support piles, abutments, and decking would be installed. This alternative would require a longer duration of construction that would necessitate the construction of a temporary rail bypass on Arctic Avenue to allow for continual delivery of coal to the CHPP.

**Selection Standard Applicability:** Construction of a temporary rail bypass would affect the nearby JP-8 fuel pipeline and communication line, as well as result in additional wetland impacts (Selection Standards 2 and 3). A new bridge would also have a higher initial cost and would require more maintenance than a culvert structure (Selection Standard 3). Therefore, this alternative would not satisfy the selection standards or meet the purpose of and need for the Proposed Action and was not analyzed further.

## 2.4.3 Construct New Trestle Bridge Upstream

An alternative to construct a new pile-supported railroad trestle bridge upstream was considered. New support piles, abutments, and decking would be installed at a new location on Garrison Slough.

**Selection Standard Applicability:** A new bridge at a new location would involve more extensive impacts to wetlands, due to presence of more wetlands in upstream areas, and contaminated soils when compared to using the same bridge alignment (Selection Standards 2 and 3). A new bridge would have a higher initial cost and would require more maintenance than a culvert structure (Selection Standard 3). Therefore, this alternative would not satisfy the selection standards or meet the purpose of and need for the Proposed Action and was not analyzed further.

## 2.5 Summary of Potential Environmental Consequences

Table 2.5-1 Summarizes the potential environmental consequences of the Proposed Action and No Action Alternative based on the detailed impacts analysis presented in Chapter 4.0. Potential impacts to socioeconomics and environmental justice are considered to be negligible or non-existent so they were not analyzed in detail in this EA.

Table 2.5-1. Summary of Potential Environmental Consequences		
Resource Area	No Action Alternative	Proposed Action
Land Use	No impact	No changes to land use. No significant impact.
Acoustic Environment	No impact	Temporary construction noise. No off-base impact. No significant impact.
Air Quality	No impact	Short-term, minor impacts. No significant impact.
Water Resources – Groundwater	No impact	Impacts from hazardous materials would be minimized through compliance with federal regulations, AFI 32-7086, <i>Hazardous Materials Management</i> , and the base Oil and Hazardous Substances Discharge Prevention and Contingency Plan. No significant impact.
Water Resources – Surface Water	Continued erosion of railroad ballast into Garrison Slough. Long-term, localized adverse impacts to water resources. No significant impact.	Impacts to surface water quality would be minimized or eliminated by the incorporation of stormwater runoff controls and BMPs to limit potential erosion and runoff. Short-term diversion in water flow of Garrison Slough. Existing flow would be restored upon completion of construction. Impacts from dewatering of the work area would be minimized by the construction contractor obtaining a dewatering permit and adhering to permit

**Table 2.5-1. Summary of Potential Environmental Consequences**

Resource Area	No Action Alternative	Proposed Action
		conditions. Implementation of project-specific SWPPP would include use of BMPs to contain and manage sediment within project site and minimize transport of sediment to surface waters. No significant impact.
Water Resources – Wetlands	Direct fill of wetlands would be avoided. Continued erosion of railroad ballast into Garrison Slough may result in long-term, adverse impacts to wetlands. No significant impact.	Impacts to less than one-half acre of wetlands and waters of the U.S. would be mitigated by incorporation of impact minimization measures and complying with the terms of a USACE Clean Water Act Section 404 Wetlands Permit, Alaska Department of Fish and Game Title 16 Fish Habitat Permit, and an ADEC SWPPP. A Unified Federal Policy for Quality Assurance Project Plan would be required to be submitted to ADEC and USEPA for approval prior to construction. Potential for spreading of contamination during construction as a result of dewatering would be minimized by obtaining and adhering to dewatering permit conditions. No significant impact.
Water Resources – Floodplains	No opportunity for improvement of hydraulic connectivity and flood reduction.	Impact to less than one acre of the 100-year floodplain. Culvert system would maintain existing 100-year storm flood levels and improve hydraulic connectivity. Project would be designed and constructed to meet all required floodplain protection measures. No significant impact.
Safety and Occupational Health	Continuing, worsening safety risk to the railroad and maintenance personnel. Deterioration may prohibit use, resulting in negative impacts on the facility mission.	Beneficial impact to safety conditions of the railroad crossing. Would provide a long-term, safer maintenance solution.
Hazardous Materials/Wastes and Contaminated Sites	No impact	With impact minimization measures and compliance with permits, procedures, and institutional controls for ERP/IRP sites, no significant impact.
Natural Resources	Continued erosion would result in increased impacts to water quality and habitat of Garrison Slough and downstream.	No effect on federal threatened or endangered species or state listed species. No adverse effects on migratory birds or Birds of Conservation Concern. Limited removal of previously disturbed vegetation would not impact high value vegetation or habitat. Alaska Department of Fish and Game Title 16 Fish Habitat Permit and General Permit for Excavation Dewatering would be required. Temporary displacement of wildlife. No significant impacts.
Cultural Resources	No impact	No effect on historic architectural or archaeological resources. In the event of inadvertent discovery of archaeological or human remains, construction activities would immediately stop and appropriate offices would be notified.
Earth Resources	No impact	Short-term impacts to soils during construction. SWPPP would identify potential pollutant sources and identify measures to prevent or control releases into stormwater. No unique seismic risks. No significant impact.



**Table 2.5-1. Summary of Potential Environmental Consequences**

<b>Resource Area</b>	<b>No Action Alternative</b>	<b>Proposed Action</b>
Infrastructure	Potentially significant adverse impact on infrastructure if railroad trestle bridge would continue to degrade until its ultimate failure.	Temporary impact to rail service, offset through adjustment of coal deliveries prior to work at bridge. No impact to fuel pipeline or communications lines. Non-hazardous solid waste and debris generated during construction and demolition would be recycled or disposed at designated areas. No significant impact.
Transportation	The trestle bridge would continue to degrade until its ultimate failure or would require increased maintenance, presenting a safety risk and a potentially significant adverse impact on transportation.	Minor, temporary impacts to internal base circulation at Arctic Avenue during construction, but detour and signage would minimize impact. Temporary maximum 6-day shutdown of rail service, offset through adjustment of coal deliveries prior to work. Long-term beneficial impact from new structures reducing service interruptions due to unscheduled maintenance and continual repairs of current railroad bridge and by replacing the bridge with a new structure that requires less maintenance.

*Legend:* ADEC = Alaska Department of Environmental Conservation; AFI = Air Force Instruction; BMP = Best Management Practice; ERP/IRP = Environmental Restoration Program/Installation Restoration Program; SWPPP = Storm Water Pollution Prevention Plan; USACE = United States Army Corps of Engineers; USEPA = United States Environmental Protection Agency.

### 3.0 AFFECTED ENVIRONMENT

This chapter presents a description of the environmental resources and baseline conditions that could be affected from implementing the Proposed Action. The level of detail used in describing a resource is commensurate with the anticipated level of potential environmental impact. The following resources are examined in detail in this EA: land use, acoustic environment, air quality, water resources, safety and occupational health, hazardous materials/wastes and contaminated sites, natural resources, cultural resources, earth resources, infrastructure, and transportation. The extent of the affected environment, or region of influence, for each resource category is within Eielson AFB, except for air quality. The region of influence for air quality is part of the Northern Alaska Intrastate Air Quality Control Region, which extends beyond Eielson AFB.

The potential impacts to the following resource areas are considered to be negligible or non-existent so they were not analyzed in detail in this EA.

**Socioeconomics:** Construction activities would generate a number of jobs during the construction period and contribute minor beneficial impacts to local income and spending. These effects are typical of ongoing base activity, which would not be expected to fluctuate significantly. The Proposed Action would not result in changes to existing employment or long-term change in regional economics. Under the No Action Alternative, there would be no changes to baseline conditions. Therefore, Socioeconomics is not carried forward for detailed analysis in this EA.

**Environmental Justice:** EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, requires Federal agencies to consider any potentially disproportionate human health or environmental risks their activities, policies, or programs may pose to minority or low-income populations. EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, requires Federal agencies to identify and assess health risks and safety risks that may disproportionately affect children.

The construction and demolition associated with implementing the Proposed Action at Eielson AFB would not be expected to adversely impact any human populations in the region. Construction-related noise impacts would be minor and would cease once the construction period is complete. Impacts to air and water quality are expected to be minor and would not impact human population. Any impacts to traffic associated with construction would be minor and short-term and are not expected to significantly impact any nearby communities. Standard construction site safety precautions would be implemented to ensure children would not be exposed to health or safety risks as a result of the Proposed Action. Therefore, no human populations, low-income or minority, would be negatively impacted as a result of the Proposed Action. There are no environmental health and safety risks associated with the Proposed Action that would disproportionately affect children. Under the No Action Alternative, there would be no changes to baseline conditions. Therefore, Environmental Justice is not carried forward for detailed analysis in this EA.

### **3.1 Land Use**

#### **3.1.1 Resource Definition**

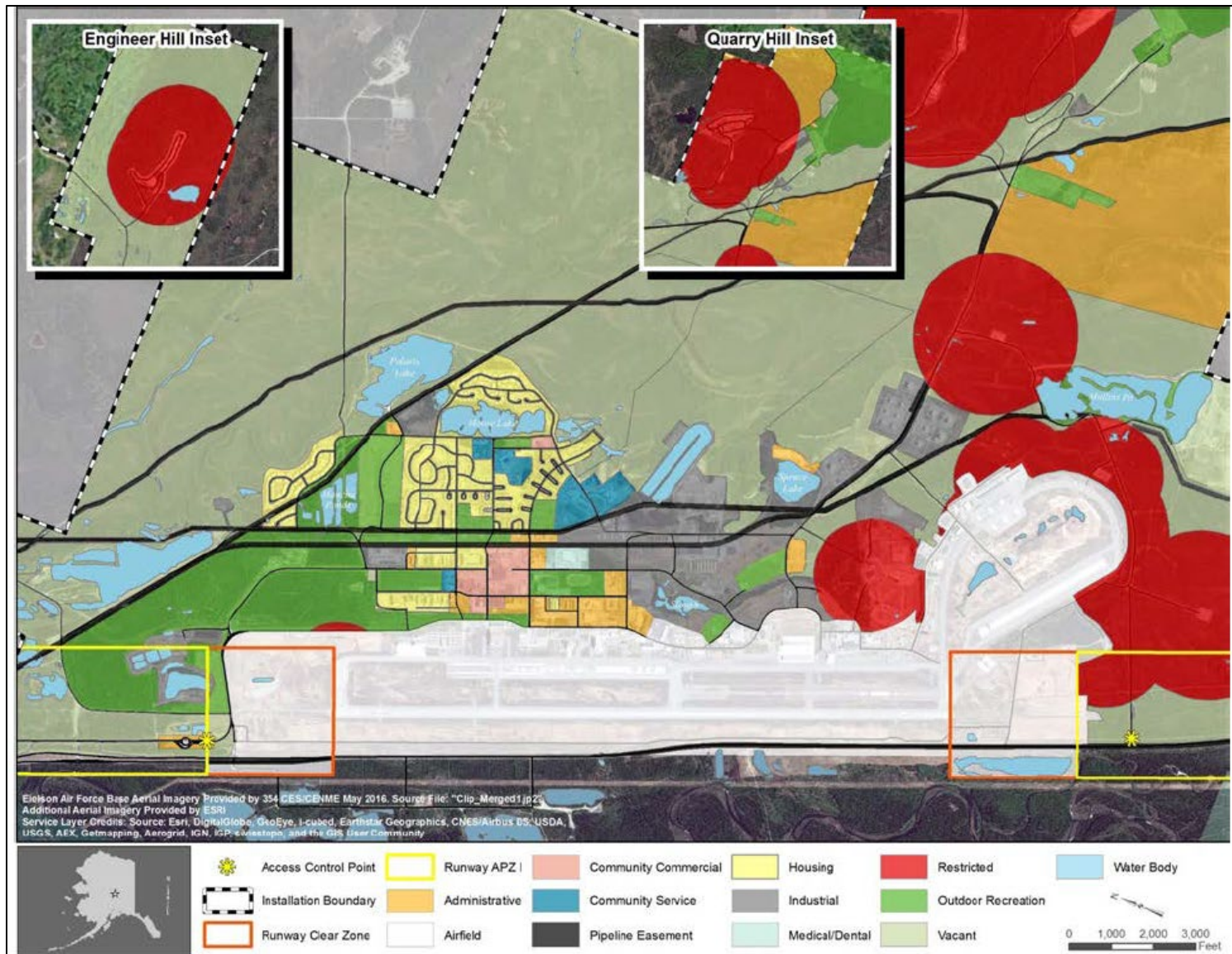
Land use often refers to human modification of land for residential or economic purposes. Land use categories typically include agriculture (includes livestock production), forestry, residential, commercial, industrial, transportation, utilities, mining, recreation, and communication. Land uses are frequently regulated by management plans, land use plans, comprehensive plans, and local zoning and ordinances. These plans and regulations assist in identifying where future development can occur, so it is compatible with surrounding land uses, and in protecting specially designated or environmentally sensitive uses. On military bases, land use is typically divided into operation and support functions. Land use planning is primarily accomplished via the master planning process using component plans, such as Installation Development Plans, Environmental Restoration Plans, Integrated Natural Resources Management Plan, and Air Installations Compatible Use Zones processes.

#### **3.1.2 Affected Environment**

The affected environment for land use for this EA is within the Eielson AFB fence line in the immediate area of the project area. The project area contains a watercourse, transportation corridor, and pipeline easement, and lies adjacent to vacant and recreational land use areas. The airfield runway accident potential zone (APZ) I is approximately 500 feet west of the site. The CHPP is within the industrial area in the southeast portion of Eielson AFB (refer to Figure 1.1-2). Figure 3.1-1 is an excerpt from the IDP for Eielson AFB (Eielson AFB, 2016a) showing the existing land use at the base.

The IDP was prepared in accordance with Unified Facilities Criteria 2-100-01, *Installation Master Planning*. It provides a strategic vision and broad analysis of the base setting, planning constraints, capacity for growth, sustainable development, and future development planning. Installation master planning is iterative and, as such, Area Development Plans further define land use at the district level and include illustrative plans and regulating plans. In addition, network plans consider linkages and systems such as utilities, transportation, and parks/open spaces. Area Development Plans, network plans, and the IDP are linked plans that can be implemented in total or incrementally and together form the Master Plan for the base. The IDP divides the base into 12 planning districts to help define future planning areas and development: Housing, Schools, Recreation, Industrial, Administrative Support, Dormitory Campus, Medical, Community Support, Airfield Operations, 168th Wing, Airfield, and Munitions (Eielson AFB, 2016a). The project area is a transportation corridor that lies between Planning District 3, Recreational and Planning District 4, Industrial (Eielson AFB, 2016a).





Source: (Eielson AFB, 2016a).

Figure 3.1-1. Existing Land Use at Eielson AFB

## 3.2 Acoustic Environment

### 3.2.1 Resource Definition

Noise is defined as unwanted or annoying sound that interferes with or disrupts normal human activities. Although continuous and extended exposure to high noise levels (e.g., through occupational exposure) can cause hearing loss, the principal human response to noise is annoyance. The response of different individuals to similar noise events is diverse and is influenced by the type of noise, perceived importance of the noise, its appropriateness in the setting, time of day, type of activity during which the noise occurs, and sensitivity of the individual. Noise may also affect wildlife through disruption of nesting, foraging, migration, and other life-cycle activities.

Noise and sound levels are expressed in logarithmic units of decibels (dB). A sound level of 0 dB is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech has a sound level of approximately 60 dB; sound levels above 120 dB begin to be felt inside the human ear as discomfort. Sound levels between 130 to 140 dB are felt as pain (Berglund & Lindvall, 1995).

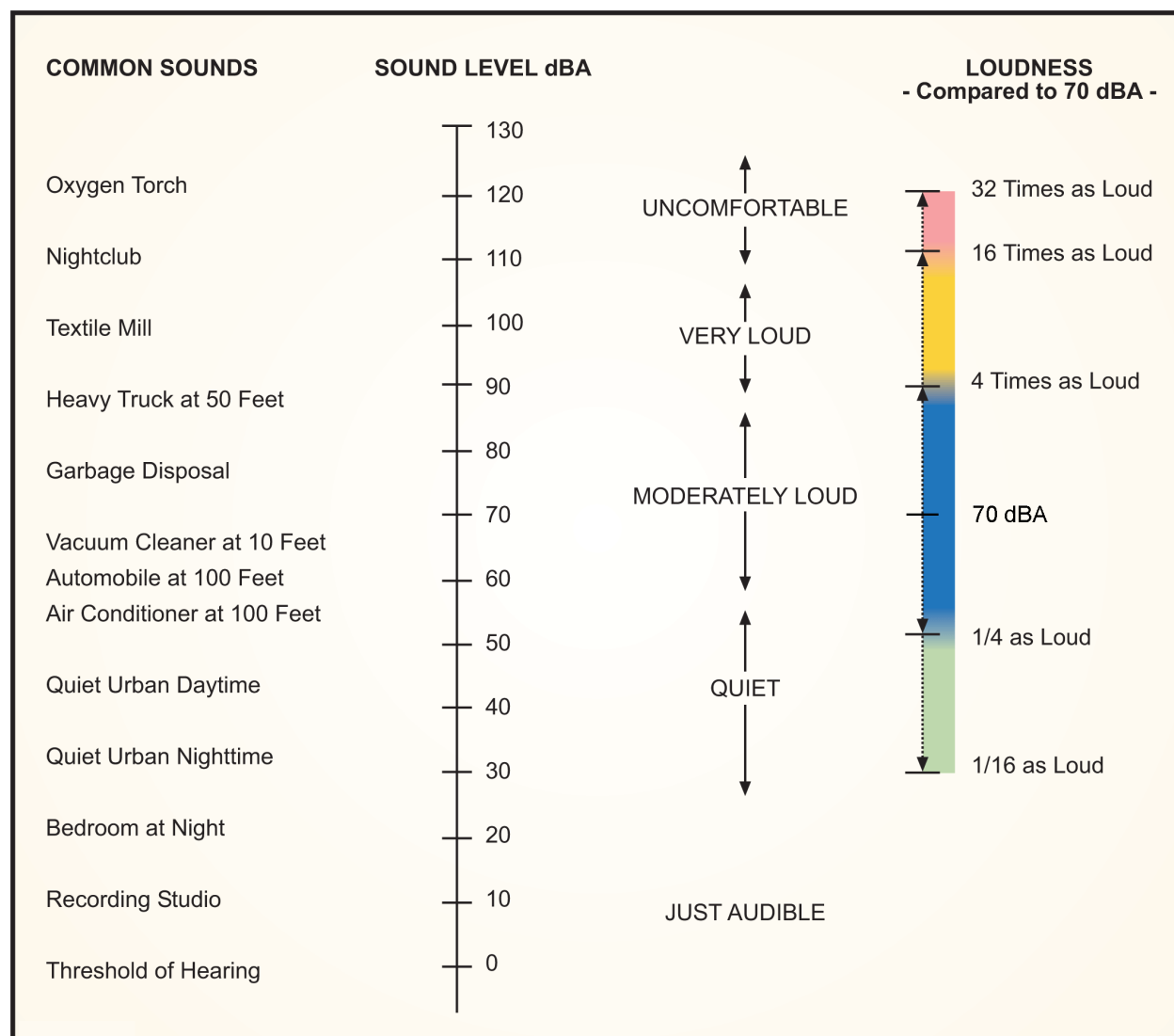
Environmental noise measurements are usually on an “A-weighted” scale that minimizes very low and very high frequencies in order to replicate human sensitivity. It is common to add the “A” to the measurement unit in order to identify that the measurement has been made with this filtering process (dBA). Figure 3.2-1 provides a chart of A-weighted sound levels from typical noise sources. Some noise sources (e.g., air conditioner, vacuum cleaner) are continuous sounds that maintain a constant sound level for some period of time. Other sources (e.g., automobile, heavy truck) are the maximum sound produced during an event like a vehicle pass-by. Other sounds (e.g., urban daytime, urban nighttime) are averages taken over extended periods of time.

Under the Noise Control Act of 1972, the Occupational Safety and Health Administration (OSHA) established workplace standards for noise. The minimum requirement states that constant noise exposure must not exceed 90 dBA over an 8-hour period. The highest allowable sound level to which workers can be constantly exposed is 115 dBA and exposure to this level must not exceed 15 minutes within an 8-hour period. The standards limit instantaneous exposure, such as impact noise, to 140 dBA. If noise levels exceed these standards, employers are required to provide hearing protection equipment that will reduce sound levels to acceptable limits. Alaska has adopted the Federal regulations by reference.

Active duty and reserve components of the Air Force, as well as civilian employees and contracted personnel working on Air Force bases, must comply with OSHA regulations (29 CFR § 1910.95 *Occupational Noise Exposure*); DoD Instruction 6055.12, *Hearing Conservation Program* (December 2010); and AFI 48-127, *Occupational Noise and Hearing Conservation Program*.

### 3.2.2 Affected Environment

Many sources may generate noise and contribute to the total noise impact. The sound environment at and near Eielson AFB is dominated by military aircraft noise. Noise levels from aircraft operations that exceed background noise levels at an airfield typically occur beneath main approach and departure corridors, in local air traffic patterns around the airfield, and in areas immediately adjacent to parking ramps and aircraft staging areas. Other activities produce noise, such as construction, operation of ground support equipment for maintenance purposes, and vehicle traffic, but such noise is transitory and contributes negligible impacts to the overall noise environment.



Sources: Derived from (Harris, 1979) and (Federal Interagency Committee on Aviation Noise, 1997).

**Figure 3.2-1. A-Weighted Sound Levels from Typical Sources**

### 3.3 Air Quality

#### 3.3.1 Resource Definition

Air quality is defined by ambient air concentrations of specific pollutants determined by the U.S. Environmental Protection Agency (USEPA) to be of concern with respect to the health and welfare of the general public. As part of the Clean Air Act, the USEPA has established National Ambient Air Quality Standards (NAAQS) for major pollutants of concern, called “criteria pollutants.” These criteria pollutants include carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), coarse particulate matter (PM<sub>10</sub>), fine particulate matter (PM<sub>2.5</sub>), and lead. Volatile Organic Compounds (VOCs) and NO<sub>x</sub> are precursors to the formation of ozone. Lead, while a criteria pollutant, is no longer a component of gasoline, which historically was the greatest source of human exposure. Because there are no sources of lead associated with the action, it is not analyzed further. The NAAQS represent maximum

levels of background pollution that are considered safe, with an adequate margin of safety to protect the public health and welfare. Based on measured ambient criteria pollutant data, the USEPA designates areas in the U.S. as having air quality better than (attainment) or worse than (nonattainment) the NAAQS. Areas that have improved air quality from nonattainment to attainment are designated as maintenance areas. When an area is designated in nonattainment and/or in maintenance, the General Conformity Rule is applied. The intent of this rule is to ensure that federal actions do not adversely affect the timely attainment of air quality standards in areas of nonattainment or maintenance.

In addition to criteria pollutants, the USEPA has defined 187 substances as hazardous air pollutants (HAPs). HAPs emitted from mobile sources are called Mobile Source Air Toxics (MSATs). MSATs would be the primary HAPs emitted by mobile sources during construction. Construction equipment, however, would be operated intermittently, for the duration of construction, and would produce negligible ambient HAPs in a localized area. Therefore, MSAT emissions are not considered further in this analysis.

Greenhouse gases (GHGs) are also regulated under the federal Clean Air Act. GHGs are gases that trap heat in the atmosphere. Both natural processes and human activities generate these emissions. The accumulation of GHGs in the atmosphere regulates the earth's temperature. Eielson AFB is subject to 40 CFR Part 98, *Mandatory Greenhouse Gas Reporting* due to fuel consumption for heating.

EO 14008, *Tackling the Climate Crisis at Home and Abroad* (Federal Register Vol 86, No. 19, pp. 7619–7633, 2021) instructs agency heads to prepare Climate Action Plans for their agency operations. The Air Force is currently preparing their plan and goals to meet the requirements of EO 14008 and EO 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability* (Federal Register Vol. 86, No. 236 pp. 70935–70943, 2021).

### 3.3.2 Affected Environment

Eielson AFB is within the Northern Alaska Intrastate Air Quality Control Region (40 CFR 81.246). However, it is not located in the portion of the Fairbanks North Star Borough (FNSB) that is designated nonattainment. Eielson AFB is located approximately 4 miles southeast of the nonattainment area designated for particulate matter less than or equal to 2.5 micrometers (PM<sub>2.5</sub>), and several miles farther from the CO maintenance area, which is localized in the Fairbanks/Fort Wainwright area. Eielson AFB is classified as attainment for all criteria pollutants, and therefore General Conformity does not apply to the Proposed Action.

Eielson AFB operates under a permit shield for air quality Title V operating permit number AQ0264TVP02, Rev 5 (May 27, 2020). Operating under a permit shield means that an application for a permit renewal has been submitted, but a new permit has not been issued by the ADEC. Additionally, the installation maintains a minor source specific permit (AQ0264MSS06P 2020) for a generator.

## 3.4 Water Resources

### 3.4.1 Resource Definition

Water resources include the quantity and quality of groundwater and surface water bodies, stormwater, wetlands, and floodplains. **Groundwater** includes subsurface hydrologic resources and is typically a reliable and safe fresh water source. **Surface water** includes all rivers, streams, lakes, and ponds that are used for various applications including recreation, sustenance, irrigation, flood control, and human health. Surface waters in the U.S. are protected under the Clean Water Act, the goal of which is “to restore and

maintain the chemical, physical, and biological integrity of the Nation's waters." *Stormwater* is excess surface water that occurs or collects during periods of frequent precipitation.

**Wetlands** generally include swamps, marshes, bogs, and similar areas. Wetlands serve as the transition between terrestrial habitats and aquatic habitats. They are defined by the USACE as areas "that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions" (Environmental Laboratory, 1987).

**Floodplains** are defined by EO 11988, *Floodplain Management* (May 1977) as "the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a 1 percent chance of flooding in any given year." Areas subject to a 1 percent chance of annual flooding are also referred to as 100-year floodplains and areas subject to a 0.2 percent chance of annual flooding are referred to as 500-year floodplains. Floodplains are managed in accordance with EO 11988, which requires federal agencies avoid, to the extent practicable, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and avoid direct or indirect support of floodplain development whenever there is a practicable alternative. If impacts cannot be avoided, the appropriate flood risk management strategies need to be applied to the design and construction of buildings or structures.

### 3.4.2 Affected Environment

The affected environment for water resources is focused on the water resource features that occur at, adjacent to, immediately down gradient from, or underlying the proposed project area at Eielson AFB.

#### 3.4.2.1 Groundwater

The Tanana River Valley contains an extensive, shallow, unconfined aquifer system. The Tanana Valley Alluvial Aquifer is approximately 45 to 50 miles wide, 250 feet thick, and 8 to 10 feet below ground surface at the base. The Tanana River is the primary water source for the aquifer, with secondary contributions from the Chena River. The Chena River typically only contributes water when its stage is high, and the Tanana River is low. The Tanana River gets approximately 85 percent of its water from snowmelt of the Alaska Range and 15 percent from the Yukon-Tanana Uplands (Alaska Community Action on Toxics, 2003).

#### 3.4.2.2 Surface Water

Eielson AFB is positioned in the Tanana River Valley on a low, relatively flat, floodplain terrace that is approximately 2 miles north of the active river channel. Surface waters in the form of wetlands, lakes, ponds, and streams total approximately 87 percent (or 17,273 acres) of Eielson AFB, and severely constrain the potential for new development within the base. There are 13 lakes and 91 ponds totaling 602 acres. There are five freshwater streams that total approximately 29 miles that flow through the base into the Tanana River (Eielson AFB, 2016a). Garrison Slough is an impaired water body channelized through the developed area of the base. Garrison Slough receives direct runoff from the urban and industrial areas of the base. The water in Garrison Slough is discolored; contains algae; has a high concentration of minerals; and exceeds present USEPA Maximum Contaminant Levels. The site is a known ADEC active contaminated site for the Garrison Slough PCB contamination (Eielson AFB, 2017a).

#### 3.4.2.3 Stormwater

The majority of on-base stormwater flow is overland or sheet flow directed towards Garrison Slough and French Creek. Garrison Slough passes directly through the developed portion of the base and is primarily an engineered drainage channel that drains to Moose Creek. Portions of the slough are enclosed in culverts. French Creek is located along the eastern boundary of the base. The existing culverts at Arctic Avenue are insufficient to carry higher stormwater flows of Garrison Slough, which tends to back up and cause erosion and flooding at the railroad bridge and Arctic Avenue.

To identify and manage areas where stormwater contamination could occur due to industrial processes, sectors have been established and categorized by the types of industrial operations that occur there. These sectors are managed and maintained in accordance with the base 2016 SWPPP, which describes standard operating procedures, best management practices (BMPs), and an assessment of contamination potentials. Eielson AFB received coverage under the ADEC APDES, Construction General Permit number AKR100000, for discharges from large and small construction activities. When new permits are needed, Eielson AFB applies for coverage.

#### 3.4.2.4 Wetlands

Permafrost, or permanently frozen ground, is soil that has been frozen for at least 2 years, which results in poor drainage leading to heavily saturated and wet surface soil conditions. Additionally, many standing water bodies and depressions in the topography fill/flood after precipitation and snowmelt, making conditions favorable for wetland areas to occur. Approximately 52 percent of Eielson AFB is wetlands, composed of 9,453 acres of vegetated wetlands and 792 acres of lakes, ponds, and streams (Eielson AFB, 2017b). The most commonly observed vegetated wetlands are dominated by black spruce. Brush and groundcover vegetation in black spruce wetlands often comprise bog rosemary (*Andromeda polifolia*), low bush cranberry (*Vaccinium vitis-idaea*), and thick layers of moss. Figure 3.4-1 shows wetland areas within and adjacent to the project area, which are based on USFWS National Wetland Inventory. The affected area is classified as watercourse and riverine wetlands.

#### 3.4.2.5 Floodplains

The Federal Emergency Management Agency (FEMA) map for Eielson AFB identifies approximately 52 percent of the base (10,318 acres) within the 100-year floodplain of the Tanana River. Outside of the developed portions of the base, the FEMA 100-year floodplain is dominated by a mixture of vegetation types that serve to slow the force of floodwaters by trapping or filtering out woody material and silt as floodwaters approach the developed areas of the base. Since its establishment in 1943, the Eielson AFB flightline has never been flooded, despite past substantial Tanana River flood events, resulting from unusually heavy summer rains (Eielson AFB, 2017b). Figure 3.4-2 shows the FEMA 100-year floodplains within and adjacent to the project area. The project area is not within or adjacent to the 500-year floodplain.



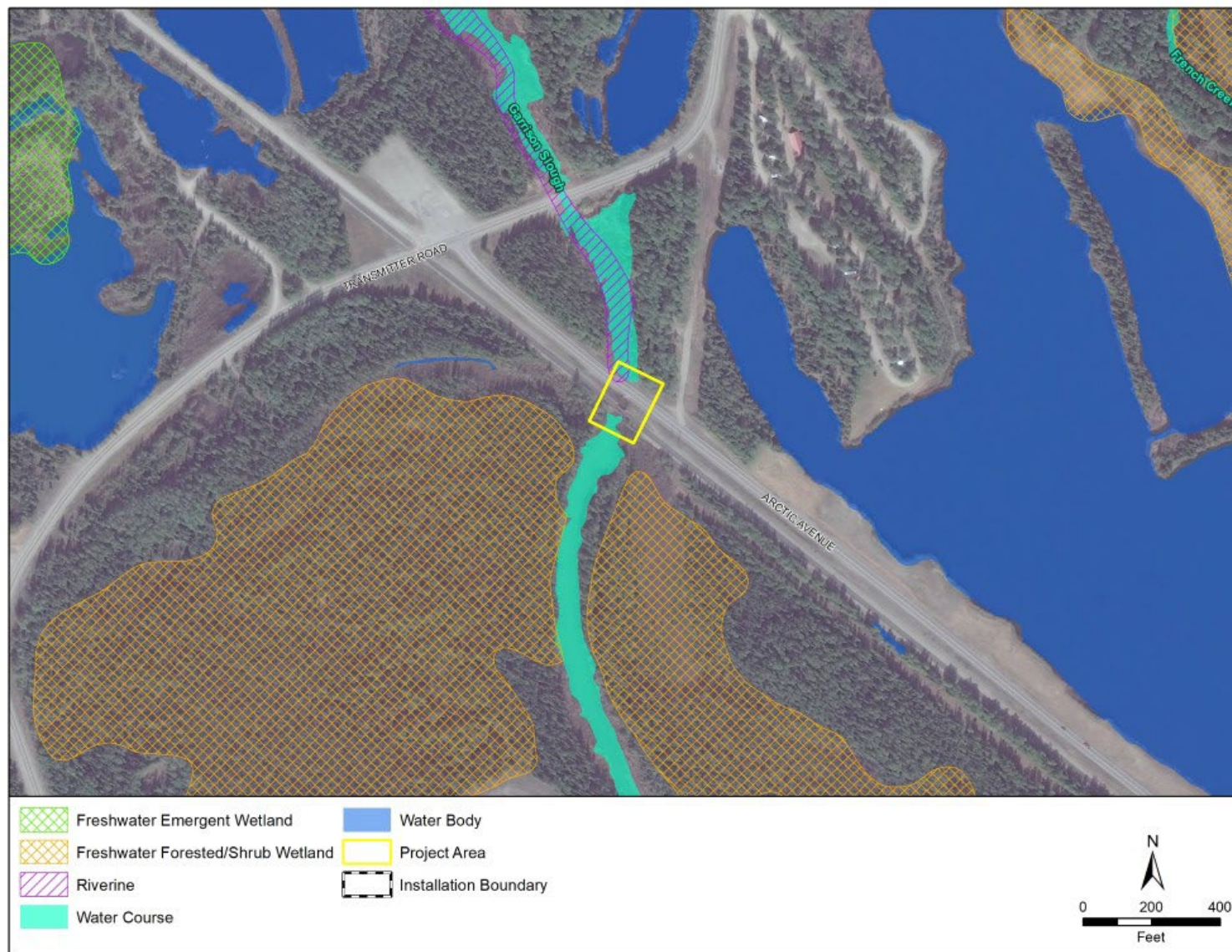


Figure 3.4-1. Project Area Wetlands



Figure 3.4-2. Project Area Floodplains



### **3.5 Safety and Occupational Health**

#### **3.5.1 Resource Definition**

Eielson AFB is a closed installation and access is controlled by the installation commander. Except for special events, public access is not permitted (U.S. Air Force, 2019). This section addresses the operational safety of the employees, visitors, and military personnel living and working at Eielson AFB as it pertains to the Proposed Action. General, airfield, and fire safety addresses issues associated with operations and maintenance activities that support base operations, including fire response.

#### **3.5.2 Affected Environment**

The affected environment for safety is the project area, including Garrison Slough, Arctic Avenue, fuel and fiber optic lines crossing the project area, and adjacent recreational areas.

##### **3.5.2.1 General Safety**

The Eielson AFB Safety office provides safety education and training in order to enhance mission capability and promote personal safety, both on- and off-duty. The ground safety office provides a myriad of safety education and training classes, including newcomer orientation, all-terrain vehicle training, and motorcycle safety training. The priority is to train personnel who use those vehicles to complete their mission. However, families and dependents are also provided training so they can practice riding safely on base. Through both mission essential and recreational training courses for these types of vehicles, the safety office reduces risk of injury and death related to improper use.

##### **3.5.2.2 Fire Safety**

The 354 FW Fire and Emergency Services provides fire and crash response at Eielson AFB. The unit has a sufficient number of trained and qualified personnel and possesses all equipment necessary to respond to aircraft accidents and structure fires. There are no response equipment shortfalls (Eielson AFB, 2007).

Eielson AFB has two fire stations. The closest station to the project area is Station 1, located at the airfield along Flightline Avenue. Eielson AFB maintains mutual aid agreements for additional fire protection and crash response services with numerous communities in FNSB. These include the City of Fairbanks, City of North Pole, U.S. Army-Fort Wainwright, Fairbanks International Airport, FNSB, Chena-Goldstream Fire and Rescue, Ester Volunteer Fire Department, North Star Volunteer Fire Department, Salcha Fire and Rescue, Steese Volunteer Fire Department, and the University of Alaska Fairbanks Fire Department [Eielson AFB no date in (U.S. Air Force, 2016)].

Wildfires are frequent in the interior of Alaska. The Eielson AFB firefighters, through a mutual aid agreement, provide forest fire fighting support to the surrounding community (Johnson, 2017).

##### **3.5.2.3 Airfield Safety**

Eielson AFB clear zones, APZ, and safety zones have been established around the airfield to minimize the results of a potential accident. Within clear and safety zones associated with the runways, construction is either prohibited (Clear Zones) or limited in terms of placement and height (APZ). Areas around the airfield where experience has shown most aircraft accidents occur are designated as APZs.

The Clear Zone is an area 3,000 feet wide by 3,000 feet long located at the immediate end of the runway. No building is allowed in the Clear Zone for safety reasons (Eielson AFB, 2007).

APZ I, located approximately 500 feet west of the project area, is a 3,000-foot-wide by 5,000-foot-long area located just beyond the Clear Zone. The APZ I has land use compatibility guidelines that allow a variety of industrial, manufacturing, transportation, communication, utilities, wholesale trade, open space, and agricultural uses. Uses that concentrate people in small areas are prohibited.

APZ II is 3,000 feet wide and extends 7,000 feet beyond APZ I. Compatible land uses include the same as those for APZ I, as well as low-density single-family residential, and those personal and business services and commercial retail trade uses with low intensity or scale of operation. High-density functions such as multistory buildings, places of assembly (e.g., theaters, schools, churches), and high-density offices are prohibited (Eielson AFB, 2007).

### 3.6 Hazardous Materials/Wastes and Contaminated Sites

#### 3.6.1 Resource Definition

Hazardous materials, hazardous wastes, and toxic substances can all be classified as “hazardous substances” as defined by the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 because they may present a threat to human health and/or the environment. The phrase “hazardous substance” is used in the EA to describe any item or agent (i.e., biological, chemical, or physical) that has the potential to cause harm to humans, animals, or the environment.

**Hazardous materials** are defined by 49 CFR Part 171.8 as “hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (49 CFR 172.101), and materials that meet the defining criteria for hazard classes and divisions” in 49 CFR Part 173. **Hazardous wastes** are defined by the Resource Conservation and Recovery Act (RCRA) at 42 U.S.C. Section 6903(5), as amended by the Hazardous and Solid Waste Amendments, as: “a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.” Special hazards include **toxic substances** that are poisonous or can cause health effects. These substances include asbestos-containing material (ACM), PCBs, and lead-based paint (LBP). USEPA is given authority to regulate these special hazard substances by the Toxic Substances Control Act Title 15 U.S.C. Chapter 53. USEPA has established regulations regarding asbestos abatement and worker safety under 40 CFR Part 763 with additional regulation concerning emissions (40 CFR Part 61). Whether from lead abatement or other activities, depending on the quantity or concentration, the disposal of the LBP waste is regulated by RCRA at 40 CFR Part 260. The disposal of PCBs is addressed in 40 CFR Parts 750 and 761.

**Contaminated sites** are areas in which soil and groundwater resources have been polluted with hazardous chemicals. In 1986, Congress created the Defense Environmental Restoration Program. This program, regulated under CERCLA, addresses the identification and cleanup of hazardous substances and military munitions remaining from past activities at U.S. military installations and formerly used defense sites. The USEPA and State of Alaska jointly regulate the sites with CERCLA contaminants. Several programs exist within the Defense Environmental Restoration Program including the Environmental Restoration Program (ERP)/Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP). The DoD developed the ERP to identify, investigate, and remediate potential environmental

contamination sites on DoD property. Environmental response actions are planned and executed under the program in a manner consistent with CERCLA, the RCRA, and other applicable laws. The MMRP addresses issues related to munitions and explosives of concern and munitions constituents associated with Munitions Response Areas. Eielson AFB has 9 Munitions Response Area sites in their MMRP (U.S. Air Force, 2016). No MMRP sites are in the vicinity of the proposed project area.

Air Force installations manage hazardous materials and hazardous wastes in accordance with Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention* (Department of the Air Force, 2020a) and ERP/IRP sites in accordance with Air Force Instruction 32-7020, *Environmental Restoration Program* (Department of the Airforce, 2020b).

### **3.6.2 Affected Environment**

The affected environment for hazardous materials, hazardous wastes, toxic substances, and contaminated sites includes Eielson AFB and the site of the Proposed Action.

#### **3.6.2.1 Hazardous Materials**

Hazardous materials are used at Eielson AFB in support of facility operations and maintenance including petroleum, oil, and lubricants management and distribution. Types of hazardous materials used include solvents, solder (lead and silver), batteries, liquid cooling oil, lubricating oils, sludge oil, hydraulic fluid, paint, JP-8 fuel, diesel fuel, gasoline, antifreeze, scrap metal, and bead blast metals (lead and cadmium).

Hazardous materials are stored and handled in accordance with the facility Hazardous Materials Management Plan (Eielson AFB, 2015b). Hazardous materials used by tenants and contractor personnel are controlled through the Hazardous Materials Pharmacy Program (HAZMART)/Installation HAZMART Management Program pollution prevention process (AFI 32-7086, February 2015). Eielson AFB uses Enterprise Environmental Safety and Occupational Health Management Information System to track hazardous materials on base. This process provides centralized points of contact and management of the acquisition, tracking, use, handling, and disposition of hazardous materials and offers support for the turn-in, recovery, reuse, recycling, or disposal of hazardous wastes.

The HAZMART process includes review and approval by Eielson AFB personnel to ensure users are aware of exposure and safety risks [Eielson AFB 2010 in (U.S. Air Force, 2016)]. The Defense Logistics Agency determines the ultimate off-site disposition of recycled materials including metals and other recyclable materials. The Hazardous Materials Program Manager works with all shops on base to ensure compliance with hazardous material requirements.

The Eielson AFB Oil Discharge Prevention and Contingency Plan (Eielson AFB, 2016b) addresses spill prevention, contingency planning, and emergency response. This integrated plan satisfies the applicable federal and state regulatory requirements for a Spill Prevention, Control, and Countermeasure Plan, Facility Response Plan, and RCRA Contingency Plan and Emergency Procedures. In addition, the State of Alaska requires an Oil and Hazardous Substance Discharge Prevention and Contingency Plan and a Facility Response Plan for the Flint Hills Resources to Eielson AFB Pipeline. Each generation point has a site-specific contingency plan, which addresses spill prevention and emergency actions specific to materials and activities associated with the site [Eielson AFB 2010 in (U.S. Air Force, 2016)].

### 3.6.2.2 Hazardous Waste

Eielson AFB is regulated as a large quantity hazardous waste generator under RCRA (generates >1,000 kilograms of hazardous waste per month). The Eielson AFB *Hazardous Waste Management Plan* [ (Eielson AFB, 2017c); Eielson AFB 2014d in (U.S. Air Force, 2016)] governs the Eielson AFB Hazardous Waste Management Program. Building 4388 houses the hazardous waste facility that serves as the 90-day central accumulation site. In addition to the 90-day accumulation site, there are 27 satellite accumulation points near work locations and three other accumulation sites. The Civil Engineer Environmental Element oversees the Hazardous Waste Program, and the Infrastructure Systems oversees the operations and management of the hazardous waste facility [Eielson AFB 2014d in (U.S. Air Force, 2016)]. Typical hazardous waste streams for aircraft maintenance include: abrasive blast media; aerosol cans; alodine; asbestos brakes; batteries; filters for oil and fuel; paint booth filters; parts washer filters; glycol; hydrazine (F-16 aircraft); oil/water separator sludge; paints and primer wastes; solvent contaminated media; rinse water; sealing kits and compounds; used oil and fuels; parts washer and solvent tank sludge; and weapons cleaning solution [Eielson AFB 2014d in (U.S. Air Force, 2016)].

### 3.6.2.3 Toxic Substances

The Asbestos Management and Operations Plan provides guidance for identifying ACM and managing asbestos wastes, disposed of at an on-base permitted landfill. The Asbestos Material Program is coordinated by the Civil Engineer Environmental Element, but generally implemented by the Base Civil Engineer, who maintains building survey records, project reviews, and material removals (Eielson AFB, 2012). Older structures and facilities on Eielson AFB may have been painted with LBP. Alterations of structures suspected of containing LBP are conducted in accordance with applicable regulations and according to the Eielson AFB Lead-Based Paint Management Plan [ (Eielson AFB, 2015c) (U.S. Air Force, 2016)]. Samples of potential LBP are screened using a Toxicity Characteristic Leachate Procedure to determine if the LBP meets/exceeds RCRA levels, to determine the proper disposal process [Air Force 2013a in (U.S. Air Force, 2016)]. Proper disposal of any resulting lead-containing wastes is conducted in accordance with federal regulations, including the Toxic Substances Control Act and the Occupational Safety and Health Act (U.S. Air Force, 2016).

All PCB transformers and large capacitors on Eielson AFB are certified to contain less than 50 parts per million (ppm) PCBs. Items still in service, such as light ballasts manufactured before 1978 and not labeled “NO PCBs,” are containerized, marked with the date removed from service, and turned in to the hazardous waste facility for disposal. PCB articles such as capacitors, electric motors, and pumps with 50 ppm PCBs or greater must be disposed of through the hazardous waste facility (U.S. Air Force, 2016).

### 3.6.2.4 Contaminated Sites

Activities conducted at Eielson AFB have contaminated soil and groundwater with hazardous chemicals. In November 1989, Eielson AFB was listed on the National Priorities List of federal Superfund sites by USEPA. In the 1994 Remedial Investigation and Feasibility Study for Eielson AFB, 66 source areas of possible contamination were found. These sites were evaluated through the CERCLA. In the 1995 ROD, many of the potential sites were found not to pose an unacceptable risk to human health and the environment and were closed by USEPA and ADEC. Several sites were given a conditional closure and were placed under “institutional controls” to prevent people from being exposed to any remaining contamination. Sources of contamination at Eielson AFB include both closed and active unlined landfills, shallow trenches where weathered tank sludge was buried, a drum storage area, and other disposal and

spill areas. Following cleanup, operation and maintenance activities and monitoring are ongoing (USEPA, 2019).

Figure 3.6-1 shows the ERP/IRP sites within or near the proposed project area. Garrison Slough, a tributary to the Tanana River, contains elevated concentrations of PCBs, pesticides, and other contaminants. Elevated concentrations of PCBs have been found in soil, sediment, and fish tissue. Fish tissue concentrations of PCBs (Aroclor 1260) continue to decline, though they are still significantly higher in fish from Garrison Slough than in fish from other water bodies (ADEC, 2019).

#### **3.6.2.5 Perfluoroalkyl and Polyfluoroalkyl Substances**

Aqueous Film Forming Foam traditionally contained perfluorooctane-sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) and contaminated solids. PFOS/PFOA are part of a large group of lab-made chemicals known as perfluoroalkyl and polyfluoroalkyl substances (PFAS). Eielson AFB recently discovered issues with Aqueous Film Forming Foam containing PFOS and PFOA affecting groundwater. The project area is within a PFAS groundwater plume, and Garrison Slough is listed for PFAS and petroleum contamination under ADEC File Number 107.38.140 (Shannon & Wilson, 2021). These substances are extremely persistent in the environment and known to bioaccumulate in humans and wildlife. Toxicological studies on animals indicate that these substances may have potential developmental, reproductive, and systemic effects. Health-based advisories or screening levels have been developed by USEPA and state agencies; however, the USEPA has not issued a maximum contaminant level for drinking water (USEPA, 2017).

### **3.7 Natural Resources**

#### **3.7.1 Resource Definition**

Natural resources include living, native, or naturalized plant and animal species, and the habitats within which they occur. Plant associations are referred to as vegetation, while animal species are generally referred to as wildlife. Habitat can be defined as the resources and conditions present in an area that produce occupancy, including survival and reproduction, by a given organism (Hall, Krausman, & Morrison, 1997).

Natural resources may be divided into three categories: wildlife, vegetation, and special status species. Special status species, for purposes of this assessment, are those species listed as threatened or endangered under the Endangered Species Act (16 U.S.C. 1531 *et seq.*), and species afforded federal protection under the Migratory Bird Treaty Act (16 U.S.C. 703 *et seq.*).

#### **3.7.2 Affected Environment**

The affected environment for natural resources includes the area that would be disturbed by the demolition and construction at the railroad trestle bridge, Arctic Avenue, and the channel banks of Garrison Slough. Natural resources are described in detail in the Eielson AFB Integrated Natural Resources Management Plan and summarized below (Eielson AFB, 2017b).



Figure 3.6-1. ERP/IRP Sites



### 3.7.2.1 Wildlife

A variety of bird, mammal, and fish species inhabit areas within the affected environment. Eielson AFB is located in the Tanana Valley, which provides habitat for year-round resident bird species, as well as summer-breeding habitat for various migratory bird species. Bird species occurring on Eielson AFB include, but are not limited to, the spruce grouse (*Dendragapus canadensis*), ruffed grouse (*Bonasa umbellus*), northern goshawk (*Accipiter gentilis*), great horned owl (*Bubo virginianus*), willow ptarmigan (*Lagopus lagopus*), and rock ptarmigan (*Lagopus mutus*). More than 30 mammal species have been identified at Eielson AFB including moose (*Alces alces*), black bear (*Ursus americanus*), brown/grizzly bear (*Ursus arctos*), snowshoe hare (*Lepus americanus*), marten (*Martes americana*), red squirrel (*Tamiasciurus hudsonicus*), beaver (*Castor canadensis*), muskrat (*Ondatra zibethicus*), and mink (*Mustella vison*). Fish species present in Garrison Slough include northern pike, arctic grayling, whitefish (*Coregonus nasus*), burbot (*Lota lota*), and rainbow trout (Eielson AFB, 2017b).

### 3.7.2.2 Vegetation

Eielson AFB is located within the Yukon-Tanana Uplands ecoregion that is characterized by rounded mountains and hills of boreal forest or taiga habitats. These boreal forests are dominated by woodland evergreen species of black spruce (*Picea mariana*) and white spruce (*Picea glauca*). Large stands of deciduous forests that include balsam poplar (*Populus balsamifera*), paper birch (*Betula papyrifera*), and quaking aspen (*Populus tremuloides*) are found in boreal forests on and surrounding Eielson AFB. The on-base developed areas have been planted with a variety of native and introduced plant species. These developed areas are landscaped and maintained by Eielson AFB, which focuses on maintaining vegetation in early stages of succession to discourage use by wildlife inhabiting surrounding areas (Eielson AFB, 2017b).

The vegetation in the project area, which totals approximately one acre, consists primarily of grass with sparse black spruce. The proposed project area has previously been constructed on and is highly disturbed.

### 3.7.2.3 Special Status Species

According to the USFWS Environmental Conservation Online System, Information for Planning and Consultation, there are no species covered by the Endangered Species Act that are resident in FNSB or Eielson AFB (USFWS, 2022). The Alaska Department of Fish and Game also identifies state endangered species; however, there are no known species found in the FNSB or in Eielson AFB (Alaska Department of Fish and Game, 2017). Additionally, there are no areas designated as critical habitat on Eielson AFB. Birds of Conservation Concern that may be present during the breeding season between May and July are lesser yellowlegs (*Tringa flavipes*) and olive-sided flycatcher (*Contopus cooperi*) (USFWS, 2022).

Eielson AFB is located along the migratory bird Pacific Flyway and many species of migratory birds are known to occur at Eielson AFB; many of these are waterfowl that use the abundant wetlands, ponds, and lakes in and surrounding Eielson AFB. Species listed under the Migratory Bird Treaty Act that are known to occur at Eielson AFB include, but are not limited to, western sandpiper (*Calidris mauri*), osprey (*Pandion haliaetus*), Pacific loon (*Gavia pacifica*), common loon (*Gavia immer*), American kestrel (*Falco sparverius*), black-bellied plover (*Pluvialis squatarola*), and Canada goose (*Branta canadensis*).

Both the bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are known to occur at Eielson AFB, though no nesting has been recorded. Both eagles receive protection under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

### 3.8 Cultural Resources

#### 3.8.1 Resource Definition

Cultural resources are any district, site, building, structure, or object considered important to a culture, subculture, or community for scientific, traditional, religious, or any other reason. Cultural resources include prehistoric (before European contact) and historic archaeological resources, architectural resources, and traditional cultural properties. The cultural resources discussed in this chapter include those that meet the specific criteria of the NHPA and its associated regulations. However, other cultural resources such as plants, animals, or geological materials may be important to a culture, but are not eligible under the NHPA. Cultural resources are also protected under the Archaeological Resource Protection Act (16 U.S.C. §§ 470aa-470mm; Public Law 96-95 and amendments), the Native American Graves Protection and Repatriation Act (Public Law 101-601; 25 U.S.C. § 3001 *et seq.*), and the American Indian Religious Freedom Act (Public Law 95-341; 42 U.S.C. § 1996). Compliance with Section 106 of the NHPA, which directs federal agencies to consider the effect of a federal undertaking on a historic property, is outlined in the Advisory Council on Historic Preservation's regulations, "Protection of Historic Properties" (36 CFR Part 800). The NHPA and associated Section 106 compliance also include guidance for American Indian consultation regarding cultural significance of potential religious and sacred sites (54 U.S.C. § 300101 *et seq.*).

Historic properties are eligible for listing on the National Register of Historic Places (NRHP) if they are important in American history from an architectural, archaeological, engineering, or cultural standpoint. A traditional cultural property is one that is eligible for inclusion in the NRHP because of its association with cultural practices or beliefs of a living community, which are rooted in that community's history, and are important in maintaining the continuing cultural identity of the community.

#### 3.8.2 Affected Environment

The Area of Potential Effects (APE) is the geographic area or areas within which an undertaking (project, activity, program, or practice) may cause changes in the character or use of any historic properties present (36 CFR 800.16(d)). The APE is influenced by the scale and nature of the undertaking and may be different for various kinds of effects caused by the undertaking. The 354 FW determined the APE for cultural resources for this Proposed Action comprises the site where the project would occur and the areas adjacent to the project site (see Figure 2.3-1). For archaeological resources, potential effects would be limited to the project area.

An architectural survey of 67 facilities at the base was completed in 2018 (LG2 Environmental Solutions, 2018). The types of surveyed resources included personnel services, storage, public works, recreational, and airfield buildings and structures and two linear resources (a railroad and a fuel pipeline). The surveyed resources were built between 1947 and 1971. Of the 67 resources, the survey recommended five wooden guard towers as eligible for listing in the NRHP as contributing resources to the Engineer Hill Historic District, which would not be affected by the Proposed Action. The Garrison Slough railroad trestle bridge was recommended not eligible for listing in the NRHP. The Alaska Office of History and



Archaeology concurred with the recommendations of the 2018 architectural survey in March 2019 (Alaska Office of History and Archaeology, 2019). There are no architectural resources within the APE.

The APE for the Proposed Action is located within a developed area and has low probability for the discovery of unknown archaeological resources. In 1996, the *Archaeological Survey and Assessment of Prehistoric Cultural Resources on Eielson Air Force Base, Alaska* investigated the entire Eielson AFB. The survey used a predictive model to divide the base into three survey areas, which were investigated using pedestrian survey and subsurface testing. The survey found no evidence of prehistoric or non-military land use by Athabaskans or Euro-Americans on Eielson AFB but recommended that the area around Quarry Hill be considered to have a high potential for unanticipated discovery of archaeological sites based on the environmental conditions and the discovery of mammoth bones in the area (Northern Land Use Research, 1996). During preparation of the F-35A Pacific Beddown EIS, local Alaska Native tribes and organizations with potential ties to the base were consulted on whether they were aware of any traditional resources, and no resources were identified (U.S. Air Force, 2016). Additionally, a search of the Alaska Heritage Resources Survey online geographic information system mapping system did not identify any archaeological resources in the APE for the Proposed Action (Alaska Office of History and Archaeology, 2018). Federally recognized tribes that are historically affiliated with lands in the vicinity of the proposed action have been invited to consult on the proposed undertaking to determine if it has potential to affect properties of cultural, historical, or religious significance to the tribes. Interagency Coordination and Government-to-Government consultation materials for this EA are included in Appendix A.

### **3.9 Earth Resources**

#### **3.9.1 Resource Definition**

Earth resources includes the topography, geology, and soils of Eielson AFB. This discussion includes an overall description of the regional geological setting as well as a description of the topography, geology, soils, permafrost, and geologic hazards associated with the affected environment. These terms are defined below.

- Topography – natural and fabricated features of a place or region, which show relative positions and elevations at the earth's surface.
- Geology – defined by the distinctive, dominant, easily mapped and recognizable physical characteristics and features of a volume of rock.
- Soils – unconsolidated earthen materials overlying rock.
- Permafrost – permanently frozen layer of soil at variable depths below the surface.
- Geologic Hazards – adverse geologic conditions capable of causing damage or loss of property and life; for purposes of this analysis, it includes seismic activity from earthquakes or fault ruptures.

#### **3.9.2 Affected Environment**

The affected environment for earth resources is the project area. Eielson AFB lies east of the Tanana River on the floodplain of the river with elevations ranging from 525 to 550 feet above mean sea level. Generally level, the topography of Eielson AFB slopes gently downward to the northwest at a gradient of approximately 6 feet per mile.

The project area is located within the Tanana Lowlands physiographic province, which forms a large arcuate band of alluvial sediments between the Alaska Range and the Yukon-Tanana Uplands. The Lowlands consist of vegetated floodplains and low benches cut by the Tanana River and its tributaries. Soils in the Tanana Lowlands consist of interbedded alluvial sands and gravels covered by silty over bank deposits. The thickness of alluvial sediments overlying bedrock of the project area is unknown. Former slough channels are commonly filled with organic silt and peat deposits. These deposits are laterally discontinuous and vary in thickness. The portion of the Tanana Lowlands in which the project area is located has not been glaciated (Shannon & Wilson, 2022).

The project area is in a discontinuous permafrost zone. Permafrost is defined as material that has been colder than 32 degrees Fahrenheit (0 degrees Celsius) for at least two consecutive years. The presence of permafrost is widespread in the area, although its nature and occurrence vary. Permafrost ground temperatures in the area are generally only a few tenths of a degree below freezing. Removal of trees and insulating ground cover generally leads to degradation of the permafrost. Seasonal frost depths can exceed 12 feet in areas kept clear of insulating snow cover, such as roads, runways, taxiways, and parking areas. In natural, undisturbed vegetated areas with thick organic surface cover, seasonal frost depths may be less than 2 feet (Shannon & Wilson, 2022).

Alaska is one of the most seismically active regions in the U.S. (Alaska Earthquake Center, 2018a). Eielson AFB is located north of the Denali Fault (Haeussler & Plafker, 2004) and numerous smaller faults are mapped in the Tanana River basin (Eielson AFB, 2017b). According to Earthquake Tracker 2022, over 3,325 earthquakes greater than magnitude 1.5 have occurred in the past year in the Central Alaska region, which encompasses the FNSB and Eielson AFB (Earthquake Tracker, 2022). In the summer and fall of 2014, several earthquakes of around magnitude 5.0 were felt in the region. Historically, a magnitude 7.3 earthquake occurred in 1937, with the epicenter at Salcha Bluff, about 13 miles southeast of Eielson AFB. In November 2018, the epicenter of a magnitude 7.0 earthquake was located near Anchorage (Alaska Earthquake Center, 2018b).

### **3.10 Infrastructure**

#### **3.10.1 Resource Definition**

Infrastructure in this EA includes facilities (airfields, buildings, training operations areas, housing, base community facilities, recreation) and utilities (energy production, drinking water production, storage, and distribution; wastewater collection, treatment, and disposal; stormwater management; solid waste management; and communications). Transportation systems and traffic are addressed separately in Section 3.11.

EO 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*, requires federal departments and agencies to immediately commence work to confront the climate crisis.

The Energy Policy Act of 2005 requires no less than 7.5 percent (in Fiscal Year 13 and later) of total electricity consumed by the federal government to come from renewable energy. Renewable energy is currently not a viable option for Eielson AFB, but AFI 90-1701 requires consideration of opportunities to increase energy efficiency.

### 3.10.2 Affected Environment

#### 3.10.2.1 Facilities

The affected environment for infrastructure includes the railroad, Arctic Avenue, the CHPP, and the bulk fuel storage facility.

#### 3.10.2.2 Energy

Eielson AFB generates its own electricity at the CHPP located at the southern end of Arctic Avenue, east of the airfield. The plant provides steam heat and electricity powered by five coal-fired boilers. Coal is supplied by rail from nearby coal mines. The railroad track crosses Garrison Slough via the trestle bridge that is proposed for replacement under the Proposed Action. The plant has adequate capacity to support operations (Eielson AFB, 2016a). The CHPP is considered mission-critical and is a priority for maintenance projects.

There are 179 aboveground and 28 underground fuel storage tanks on base with a total capacity for 28 million gallons of jet fuel. The tanks are discussed further in Section 3.6, *Hazardous Materials/Wastes and Contaminated Sites*. In addition, the fuel pipeline that traverses the project area connects to a refinery in the city of North Pole, located north of Eielson AFB. The pipeline network carries fuel to operations supporting aircraft, watercraft, vehicle operations, and power generation (Eielson AFB, 2016a). The fuel infrastructure is generally in good condition with adequate capacity.

#### 3.10.2.3 Stormwater Management

The majority of on-base stormwater flow is overland or sheet flow directed towards Garrison Slough and French Creek. Garrison Slough passes directly through the developed portion of the base and drains to Moose Creek. It is primarily an engineered drainage channel that is a designated degraded waterbody. Portions of the slough are enclosed in culverts. Garrison Slough is the only impaired water body located on Eielson AFB (refer to Section 3.4, *Water Resources*). French Creek is located along the eastern boundary of the base. General BMPs for pollution prevention and protection of waterbodies applies to all base activities. The Eielson AFB SWPPP details standard operating procedures, BMPs, and assessment of contamination potential. Stormwater leaving regulated industrial sectors on the base is contained on-site by structural BMPs or flows into Garrison Slough (Eielson AFB, 2016c).

The state of Alaska is responsible for administering the National Pollutant Discharge Elimination System stormwater permit. Eielson AFB operates under the APDES Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity (Permit No. AKR060000).

#### 3.10.2.4 Solid Waste Management

A contractor collects solid waste (industrial and domestic). Scrap metal is collected for recycling. Eielson AFB owns and operates three permitted active disposal areas: Quarry Hill Inert Waste Monofill for disposing of coal ash and limited amounts of clean construction/demolition debris (Permit No. SWZA021-25); Eielson AFB Asbestos Landfill for disposal of ACM (Solid Waste Permit No. SWYA065-22); and permitted areas near the runway for sewage sludge (Biosolids permit number SWZCP002-24) (354 CES, 2015). Generally, there are no capacity issues, with Eielson AFB operating at their permitted levels (Eielson AFB, 2016c). Construction contractors are allowed to dispose of clean concrete and asbestos on base to reduce construction costs related to disposal of these materials at other locations within the FNSB.

Eielson AFB sustainability goals included a 50 percent reduction, reuse, or recycling of non-hazardous solid waste by 2019, and a 60 percent reduction in construction debris waste by 2020 (Eielson AFB, 2016a). As of 2016, the rate was 4.7 percent reduction in tons of non-hazardous solid waste per year, and zero reduction of construction debris (Eielson AFB, 2016a).

#### **3.10.2.5 Communications**

In 2005, Eielson AFB completed the Combat Information Transport System, including replacement of network switches, manholes, and duct banks (contained in 4-inch polyvinyl chloride) throughout the base. There are five nodes in the system connected by fiber, and the system has expansion capacity.

### **3.11 Transportation**

#### **3.11.1 Resource Definition**

Transportation addressed in this EA refers to the roadway system and railroad.

#### **3.11.2 Affected Environment**

The affected environment for transportation is the Arctic Avenue and the railroad within the project area. The roadway systems on base are considered to have adequate capacity, but there are plans for modernization and pavement improvements (Eielson AFB, 2016a). Eielson AFB is serviced internally by a roadway network composed of approximately 45 miles of paved road (U.S. Air Force, 2011). Arctic Avenue is one of the primary north-south access routes within the base. The roadway system is primarily utilized by military and civilian employees of Eielson AFB. Eielson AFB has one main access gate, Hursey Gate, and a visitor's center located on the north end of the base that leads vehicular traffic from Richardson Highway, along the Old Richardson Highway to Flightline and Central Avenues. Arctic Avenue may be accessed from several east-west routes.

Eielson AFB is accessed by the Alaska Railroad. The existing rail system on Eielson AFB consists of 9.86 miles of railroad track (Eielson AFB, 2016a). The rail system is used primarily for transport of coal to the CHPP. The railroad trestle over Garrison Slough, south of Transmitter Road, is 50 years old and degraded, which could affect reliable delivery of fuel and coal for the CHPP.

## 4.0 ENVIRONMENTAL CONSEQUENCES

Chapter 4 presents the environmental consequences of implementing the Proposed Action at Eielson AFB for each resource category presented in Chapter 3. The potential effects of the Proposed Action are compared against the baseline conditions described in Chapter 3. Environmental consequences are evaluated as either a direct or an indirect impact. NEPA (40 CFR Part 1508.1) defines “direct effects” as those specifically caused by the action and that occur at the same time and place. “Indirect effects” are caused by the action and are later in time or farther removed in distance but are reasonably foreseeable. Cumulative effects are effects on the environment that result from the incremental effects of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions, and are presented in Section 4.12.

The following impact avoidance measures would be incorporated into the design of each project.

- Coordinate construction footprint and land route with Eielson AFB Environmental Element Office.
- Incorporate sediment and erosion control measures to include installing silt fencing, storm drain inlets, tree protection, temporary sediment traps and diversion dikes within project limits.
- Adhere to ADEC administered stormwater general permit under APDES and project-specific SWPPP.
- Place gravel at entrance to construction site to reduce soil tracking on paved roads.
- Control fugitive dust with BMPs.
- Evaluate any demolition site for asbestos or LBP.
- Plan and implement abatement and disposal requirements for asbestos or LBP.
- 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 the Eielson AFB Environmental Element Office.
- Implement revegetation of disturbed areas.
- Revegetate existing vegetation or other ground surface.
- Document all adherence to project criteria and adherence to mitigation measures.

### 4.1 Land Use

The impact analysis is focused on the localized impacts to land use within the context of the Eielson AFB IDP. There would be no impacts to land use outside of the base.

#### 4.1.1 Proposed Action

The Proposed Action would not result in changes to land use. The replacement of the Garrison Slough railroad trestle bridge and culverts beneath Arctic Avenue would be consistent with existing and future

use of the site for transportation purposes. The existing and future use of the project area would be compatible with airfield Clear Zones and APZs.

#### **4.1.2 No Action Alternative**

Under the No Action Alternative, the repair or replacement of the railroad trestle bridge would not be implemented. There would be no changes to land use as a result of the No Action Alternative. Land would continue to be used for its current purposes.

### **4.2 Acoustic Environment**

#### **4.2.1 Proposed Action**

The proposed project would be implemented in 2023 and take approximately 6 months. Construction activities would result in minor, adverse effects on highly localized noise environments during demolition and construction activities. The project would use basic construction equipment, such as those routinely used in demolition, paving, and grading. The operation of heavy equipment and trucks during demolition and construction would result in intermittent, daytime noise impacts and would likely not be noticeable over the predominating airfield noise.

The primary noise concern would be noise exposure to construction workers who would be in proximity to the equipment generating noise. The use of standard personal protective equipment, as required by OSHA for contractors and the Air Force for military personnel, would mitigate any possible adverse noise exposures for contracted construction personnel and military personnel who may be located in proximity to the construction activities. Construction work contractors would address noise and mitigation in requisite Health and Safety Plans that the Air Force would review and approve. Noise exposures solely resulting from the implementation of the Proposed Action would be unlikely and would not be significant. No off-base impacts would result from implementing the Proposed Action.

#### **4.2.2 No Action Alternative**

Under the No Action Alternative, the repair or replacement of the railroad trestle bridge would not be implemented. No construction-related noise impacts would occur. The acoustic environment at Eielson AFB would remain unchanged.

### **4.3 Air Quality**

Air quality impacts within the affected environment were reviewed relative to federal, state, and local air pollution standards and regulations. The project air quality analysis uses the USEPA's Prevention of Significant Deterioration (PSD) permitting threshold of 250 tons per year as an initial indicator of the local significance of potential impacts to air quality. Indicators do not trigger a regulatory requirement; however, they provide an indication or a warning that the action is potentially approaching a threshold that would trigger a regulatory requirement. It is important to note that these indicators only provide a clue to the potential impacts to air quality. In the context of criteria pollutants for which the proposed project region is in attainment of National Ambient Air Quality Standards, the analysis compares the annual net increase in emissions estimated for each project alternative to the 250 tons per year PSD permitting threshold. The PSD permitting threshold represents the level of potential new emissions below which a new or existing major stationary source may acceptably emit without triggering the requirement to obtain a permit. No similar regulatory indicator is available for mobile source emissions, which are the primary sources for construction activities under this proposal. Lacking any regulatory mobile source



emissions thresholds, the 250 tons per year per pollutant indicator was used to equitably assess mobile source emissions from the Proposed Action. If the intensity of any net emissions increase for the Proposed Action is below 250 tons per year in the context of an attainment criteria pollutant, the indication is the air quality impacts would likely not be result in significant impacts, such as placing the area in nonattainment for the pollutant.

In response to the Interagency and Intergovernmental Coordination for this project, the ADEC responded in their June 3, 2019 letter that, “The proposed action is not currently in a nonattainment or maintenance area for air quality control under the Clean Air Act. Therefore, projects receiving federal funds or approvals do not require a conformity analysis under General and Transportation Conformity regulations. However, particular attention should be given during any construction activities to take reasonable precaution per 18 Alaska Administrative Code (AAC) 50.045.(d) to prevent fugitive dust” (see Appendix A for letter).

#### 4.3.1 Proposed Action

The proposed project would be implemented in 2023 and take approximately 6 months. Construction activity in Alaska is largely seasonal, with the greatest activity generally occurring from May through September.

A total of 292 truck trips have been estimated for mobilization/demobilization, demolition, excavation, fill, road repair, and materials movement activities over an estimated 6-month period.

Construction emission estimates were prepared using the Air Force Air Conformity Applicability Model. Emissions would primarily be generated by diesel-powered construction equipment operating on-site, trucks removing or delivering materials from the construction areas, and dust created by grading and other bare earth construction activities.

Results of the modeling are presented in Table 4.3-1. Detailed information on the modeling can be found in Appendix B.

Table 4.3-1. Construction Emissions Estimates for Proposed Action							
Activity	EMISSIONS (TONS/YEAR)						CO <sub>2e</sub>
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	
<b>2023</b>							
Total Construction Estimate	0.185	1.108	1.198	0.003	0.102	0.047	284
Comparative Indicator	250	250	250	250	250	250	n/a
Exceedance (Yes/No)	No	No	No	No	No	No	n/a

*Legend:* CO = carbon monoxide; NO<sub>x</sub> = nitrogen oxides; SO<sub>x</sub> = sulfur oxides; PM<sub>2.5</sub> = particulate matter less than or equal to 2.5 microns in diameter; PM<sub>10</sub> = particulate matter less than or equal to 10 microns in diameter; VOC = Volatile Organic Compound. VOCs and NO<sub>x</sub> are precursors to the formation of ozone; CO<sub>2e</sub> = CO equivalent for GHG; n/a = not applicable.

The total construction emission estimates for VOCs, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are all well below the comparative indicator threshold of 250 tons per year. BMPs for construction activities and dust control include:

### ***Construction Equipment***

- Plan construction scheduling to minimize vehicle trips.
- Verify idling restrictions through unscheduled inspections.
- Non-road Vehicles and Equipment: Non-road vehicles and equipment should meet, or exceed, the USEPA Tier 4 exhaust emissions standards for heavy-duty, non-road compression-ignition engines (e.g., construction equipment, non-road trucks).
- Prevent tampering and conduct unscheduled inspections to ensure these measures are followed.
- Use ultra-low sulfur diesel fuel (15 ppm maximum) in construction vehicles and equipment.
- Regularly maintain diesel engines to keep exhaust emissions low. Follow the manufacturer's recommended maintenance schedule and procedures. Smoke color can signal the need for maintenance (e.g., blue/black smoke indicates that an engine requires servicing or tuning). Lacking availability of non-road construction equipment that meets Tier 4 engine standards, the responsible agency should commit to using USEPA-verified particulate traps, oxidation catalysts and other appropriate controls where suitable to reduce emissions of diesel particulate matter and other pollutants at the construction site.
- Consider alternative fuels and energy sources for equipment such as natural gas and electricity (plug-in or battery).

### ***Fugitive Dust Source Controls***

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative, where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour. Limit speed of earth-moving equipment to 10 miles per hour.

Based on the presented calculations and assumptions, the emissions associated with construction activities proposed at Eielson AFB would be minor and not significant. A Record of Air Analysis has been prepared to document that the impacts would not be significant, and can be found in Appendix B.

### ***Climate Change***

Climate change presents a global problem caused by increasing concentrations of GHG emissions. While climate change results from the incremental addition of GHG emissions from millions of individual sources, the significance of an individual source alone is impossible to assess on a global scale beyond the overall need for global GHG emission reductions to avoid catastrophic global outcomes. Therefore, the quantitative analysis of carbon dioxide equivalent (CO<sub>2</sub>e) emissions in this EA is for disclosing the local net effects (increase or decrease) of the Proposed Action. The cumulative impacts section discusses the net change in GHG emissions from the Proposed Action.

#### 4.3.2 No Action Alternative

Under the No Action Alternative, the repair or replacement of the railroad trestle bridge would not be implemented. No construction-related air emissions from these projects would occur. Air emissions would not be notably different from those that occur today.

### 4.4 Water Resources

#### 4.4.1 Proposed Action

##### 4.4.1.1 Groundwater

Implementation of the Proposed Action would involve the use of vehicles and equipment with the potential for spills or leaks of petroleum, oil, and lubricants that could migrate to the shallow groundwater aquifer. Potential groundwater impacts from hazardous materials would be minimized through compliance with federal regulations, AFI 32-7086, *Hazardous Materials Management*, and the base Oil and Hazardous Substances Discharge Prevention and Contingency Plan. These regulations, instructions, and plans include detailed measures for minimizing the potential for accidental releases of polluting substances, material handling, and spill prevention and response procedures. Hazardous wastes generated by demolition and construction activities would be managed in a manner that would prevent these wastes from leaking, spilling, and potentially polluting groundwater, in accordance with applicable federal, state, and local regulations and the requirements of the base Hazardous Waste Management Plan. Therefore, potential impacts to groundwater resources would be minimized by compliance requirements that would be incorporated into design and construction of the Proposed Action.

##### 4.4.1.2 Surface Water

Ground-disturbing activities associated with implementation of the Proposed Action would include excavation and grading, which could result in the potential for increased sediment being carried to Garrison Slough. Impacts to surface water quality would be minimized or eliminated by the incorporation of stormwater runoff controls and BMPs to limit potential erosion and runoff. Construction-related erosion control measures could include, but not be limited to, erosion control blankets, soil stabilizers, temporary seeding, silt fencing, hay bales, sandbags, and storm drain inlet protection devices. Existing soils would be excavated, stockpiled, and tested according to federal and state requirements. If found, contaminated soil or groundwater would be managed in accordance with federal and state regulations. PCB contaminated soil would be removed to ensure PCB contamination is not released or transported to water resources. The Proposed Action would not result in an increase of impervious surfaces, and existing drainage patterns would be maintained, including Garrison Slough and the drainage patterns of the surrounding contributing runoff surfaces.

Interruption to Garrison Slough flow would occur during culvert construction when dewatering dams are in place. Flow in the slough would be maintained at all times by the incorporation of a flow bypass. Localized damming and dewatering of the work area may require bypass pumping. The diversion in water flow would be short in duration and existing flow would be restored upon completion of construction. Impacts from dewatering of the work area would be minimized by the construction contractor obtaining a dewatering permit and adhering to permit conditions. Therefore, potential impacts to surface water from implementation of the Proposed Action would be minimized and would not be significant.

#### 4.4.1.3 Stormwater

Construction and demolition associated with the Proposed Action would involve clearing, grading, filling, and excavation that would result in disturbance to the ground surface. Such disturbance would have the potential to cause soil erosion and transport of sediment into waterways via stormwater. Sediment entering waterways has the potential to cause increased turbidity and suspended solids and carry pollutants contained in the sediment into the surrounding waterways. To minimize these impacts, the Proposed Action would require development and implementation of a project-specific SWPPP. The SWPPP would implement the use of BMPs to contain and manage sediment within project site and minimize the transport of sediment to surface waters. In addition, the project would be designed with controls for long-term stormwater catchment and management consistent with the base-wide stormwater management system. Therefore, the short-term potential impacts to surface water that could occur with implementation of the Proposed Action would be managed to negligible levels.

#### 4.4.1.4 Wetlands

Wetlands associated with Garrison Slough are located downstream from the railroad trestle bridge and adjacent to the downstream side of Arctic Avenue. The Proposed Action would remove approximately 1,600 cubic yards of soil from less than one-half acre of wetlands and waters of the U.S. The Proposed Action would permanently place a total of approximately 900 cubic yards of fill into less than one-half acre of wetlands and waters of the U.S. (including in wetlands and in the slough).

The Proposed Action would have temporary impacts to waters of the U.S. The replacement of the existing trestle bridge with a culvert system would involve installing concrete headwalls on the upstream and downstream sides of the new berm and culvert system. Construction and demolition associated with construction activities would involve clearing, grading, filling, and excavation that would result in disturbance to the ground surface. While flow in the slough would be maintained at all times, incorporation of a flow bypass, localized damming, and dewatering of the dammed work area would be required (U.S. Army Corps of Engineers Alaska District, 2018). Such disturbance would have the potential to cause soil erosion and transport of sediment directly into Garrison Slough. Sediment entering waterways has the potential to cause increased turbidity and suspended solids and carry pollutants contained in the sediment into the surrounding waterways, which could impact water quality.

The Proposed Action would incorporate the following impact minimization and mitigation measures:

- Site access would be via the existing road system, limiting impacts to existing vegetation.
- Construction limits would be staked and clearly demarcated.
- Natural vegetation would be retained where possible. Topsoil (a blend of organic material), native plant seeding, and vegetation would be placed to rehabilitate disturbed areas.
- Fill would be limited to the amount necessary.
- The construction pad would be stabilized to minimize erosion and sedimentation into wetlands and watered to reduce dust.
- Borrow material would originate from a permitted source.
- Wetland water quality would be protected during construction through best management practices including:
  - Temporary and permanent stabilization measures.

- Sediment prevention measures would be placed, maintained, and would remain until fill and exposed earthwork attributable to the project are stabilized and revegetated.
- The Proposed Action would be designed and constructed to meet all required floodplain protection measures.
- The construction contract would include all permit stipulations and conditions.

This action would require obtaining and complying with the terms of a USACE Clean Water Act Section 404 Wetlands Permit (Nationwide Permit 14-Linear Transportation Project), Alaska Department of Fish and Game Title 16 Fish Habitat Permit, and an ADEC SWPPP. In addition, due to the active contamination at the site, a Unified Federal Policy for Quality Assurance Project Plan would be required to be submitted to ADEC and USEPA for approval prior to construction. The Unified Federal Policy for Quality Assurance Project Plan would outline the sampling and disposal plan for excavated soil in a manner that would be protective of water resources. Further, the potential for spreading of water contamination during construction as a result of dewatering of the dammed work area would be minimized by obtaining and adhering to dewatering permit conditions.

Therefore, with impact minimization measures and the negligible amount of permanent and temporary wetland impacts within the context of Eielson AFB's 9,453 acres of wetlands and 792 acres of lakes, ponds, and streams, the Proposed Action would not have significant impacts to wetlands.

#### **4.4.1.5 Floodplains**

Most of the project area for replacing the Garrison Slough railroad trestle bridge (approximately less than one acre) is within the 100-year floodplain. There are no other practicable alternatives that would meet the purpose and need for the Proposed Action outside of the 100-year floodplain. The design of the culvert system would minimize potential harm to, or within, the floodplain. The 60-inch culvert system under the railroad, along with an upgraded 60-inch culvert system under Arctic Avenue, would maintain existing 100-year storm flood levels, decrease area flood susceptibility, and improve hydrologic connectivity. A FONPA will be issued to address these minimal potential impacts to the floodplain and the Proposed Action would be designed and constructed to meet all required floodplain protection measures. As a result, floodplain impacts from the Proposed Action would not be significant.

#### **4.4.2 No Action Alternative**

Under the No Action Alternative, the repair or replacement of the railroad trestle bridge would not be implemented. The No Action Alternative would avoid impacts to wetlands; however, there would be no improvement to hydraulic connectivity or flood susceptibility at the railroad bridge and Arctic Avenue. The existing open water flow of Garrison Slough through the pile-support trestle would not be affected, but Garrison Slough would continue to back up at the trestle and culverts under Arctic Avenue. The trestle bridge would continue to degrade until its ultimate failure, resulting in increased sediment entering the Garrison Slough. Railroad ballast would continue to erode into Garrison Slough, potentially further degrading the slough channel and resulting in long-term increased sediment in the slough. Under the No Action Alternative, there would potentially be long-term, localized adverse impacts to water resources that are anticipated to be less than significant.

## **4.5 Safety and Occupational Health**

### **4.5.1 Proposed Action**

Demolition, renovation, and construction activities for the Proposed Action would have the potential to impact health and safety of construction workers and base employees performing work at and adjacent to the proposed project area. Contracting firms conducting project work would be required to be in compliance with OSHA and all other applicable federal, state, and local safety regulations. As a result of these regulations, workers would be required to wear appropriate protective gear to minimize the level of risk. In addition, security fencing and other exclusionary measures may be implemented to limit access to demolition and construction areas to reduce potential risks to base employees, visitors, and military personnel.

Project activities would be planned to avoid spreading contamination from the ERP/IRP sites to the extent practicable. These sites are discussed in further detail in in Section 4.6, *Hazardous Materials/Wastes and Contaminated Sites*. A site-specific health and safety plan would be prepared and implemented to protect personnel and worker health and safety. As a result of these measures described above, impacts to personnel, visitor, and worker health and safety would not be significant.

During demolition and construction, access to some areas of the base via Arctic Avenue may be hindered by the presence of equipment and materials or roadway closure. An alternate route or detour would be provided to maintain access. Although base personnel would continue to have access to on-site emergency facilities, transportation time to health facilities may be slightly increased due to alteration of the access route and construction vehicle traffic. This impact would be short-term and would not be significant.

Currently, the Garrison Slough railroad trestle bridge is deteriorating, moving, and degrading to the point where its use has become unreliable. Continued use of the bridge presents safety concerns, not only for equipment, personnel, and cargo traversing the bridge, but from the threat of fire from the fuel pipeline located adjacent to the bridge. Movement of the trestle bridge and continued bank erosion has the potential to result in bridge failure and/or pipeline rupture. The Proposed Action would improve the safety conditions of the railroad crossing and would have a beneficial impact to safety. The Proposed Action would provide a long-term, safer maintenance solution.

### **4.5.2 No Action Alternative**

Under the No Action Alternative, the repair or replacement of the railroad trestle bridge would not be implemented. The No Action Alternative would present a continuing and worsening safety risk for the railroad and for maintenance personnel. Eventually, the bridge would deteriorate to the point where its use would be prohibited, resulting in negative impacts on safety and the facility mission.

## **4.6 Hazardous Materials/Wastes and Contaminated Sites**

### **4.6.1 Proposed Action**

#### **4.6.1.1 Hazardous Materials**

Demolition and construction activities associated with the Proposed Action would require the use of hazardous materials such as diesel fuel, gasoline, and propane to fuel equipment; hydraulic fluids, oils, and lubricants; welding and cutting gases; paints; solvents; adhesives; and batteries. The hazardous materials would be used in accordance with applicable federal, state, and Air Force regulations.



Hazardous materials would be brought to construction sites using existing or proposed public transportation routes. Transportation of all materials would be conducted in compliance with the U.S. Department of Transportation regulations and CFR Title 49, Subtitle B, Chapter I. Prior to the start of construction, construction contractors would be required to submit a hazardous material inventory to the Hazardous Materials Program Manager so that these materials can be tracked in the Environmental Safety, Occupational, and Health Management Information System. Hazardous materials usage during construction activities would be temporary and would be managed in accordance with federal and state regulations.

#### **4.6.1.2 Hazardous Wastes**

Construction and demolition activities would also result in a small short-term increase in the generation of hazardous waste. Hazardous waste generated from construction activities would likely include solvents, adhesives, lubricants, corrosive liquids, batteries, and aerosols that would not be used up in their entirety and could not be reused or recycled. All hazardous waste management would conform to Eielson AFB's Hazardous Waste Management Plan. Storage and disposal of contractor generated wastes would be the responsibility of the site contractors; all hazardous construction waste would be shipped off the base to the appropriate disposal facility site under a USEPA-issued identification number.

#### **4.6.1.3 Toxic Substances**

Construction and demolition activities have the potential to encounter toxic substances that were used in materials or electrical equipment at the time of original construction. If ACM is determined to be present at the site, an asbestos plan would be prepared. ACM wastes would be removed by the contractor and disposed of in accordance with state and federal regulations at Eielson AFB's permitted asbestos and coal ash landfill and remediation site. If the proposed project has the potential to encounter LBP, any flaking paint or paint removed from existing structures (or other painted surfaces) would be sampled for lead using the toxicity characteristic leaching procedure. If the results of the toxicity characteristic leaching procedure are 5.0 milligrams per liter or greater for lead, paint wastes would be disposed of as hazardous waste. Metal with paint still intact can be recycled under the RCRA exemption for scrap metal at a reputable recycler. Equipment known or suspected to contain PCBs would be removed, containerized, and turned in to the hazardous waste facility for disposal. Twenty-eight creosote treated timber piles would be removed from the proposed project area. The existing timber retaining walls would be removed and the timber piles would be cut off at the mud line. Creosote-contaminated timber debris would then be removed and disposed of at a permitted facility. Special considerations would be made to avoid impacting the adjacent JP-8 pipeline during bridge replacement/repair.

#### **4.6.1.4 Contaminated Sites**

Implementing the Proposed Action would impact the ERP/IRP site Garrison Slough. Disturbance of Garrison Slough sediments and soils would be coordinated with USEPA and ADEC to ensure all work is performed in accordance with the requirements of any institutional controls for the area. Excavated soils would be stockpiled and tested according to federal and state requirements. If found, contaminated soil or groundwater would be managed in accordance with federal and state regulations. PCB contaminated soil would be removed to ensure that contaminated materials are segregated and managed and disposed of in accordance with applicable regulations and instructions. Compliance with institutional controls and coordination with USEPA and ADEC for site-disturbing activities would ensure that no significant adverse impacts from contamination would occur.

#### **4.6.1.5 Perfluoroalkyl and Polyfluoroalkyl Substances**

The Proposed Action would not change the existing conditions with regard to PFAS presence in groundwater and Garrison Slough. Eielson AFB is working with the USEPA, ADEC, and the community to determine the appropriate course or courses of action to resolve the PFAS/PFOA issue.

In conclusion, if unanticipated hazardous materials, hazardous wastes, toxic substances, contaminated sediments or soils, or PFAS/PFOA are encountered or suspected to be present, properly trained and licensed contractors would be used to ensure that applicable federal and Air Force regulations regarding testing, handling, and disposal are followed for their characterization, collection, and disposal. As such, impacts associated with hazardous materials, hazardous wastes, toxic substances, contaminated materials, and PFAS/PFOA would not be significant.

#### **4.6.2 No Action Alternative**

Under the No Action Alternative, the repair or replacement of the railroad trestle bridge would not be implemented. Impacts to hazardous materials, wastes, and contaminated sites from proposed construction and demolition activities would not occur. Hazardous materials and wastes would continue to be managed in compliance with federal law and state and Air Force regulations. However, under the No Action Alternative, the bridge would continue to deteriorate, potentially releasing LBP and ACM into the surrounding environment. Additionally, continued erosion would put the JP-8 fuel pipeline at risk for leaks and rupture.

### **4.7 Natural Resources**

Natural resources impact analysis consisted of using knowledge of vegetation, wildlife, and special status species occurrence data in relation to where construction-related ground-disturbing activities would occur.

#### **4.7.1 Proposed Action**

As discussed in Section 3.7.2.3, according to the USFWS Information for Planning and Consultation and Eielson AFB Integrated Natural Resources Management Plan, there are no known occurrences of any federal or state listed species in the project area. Therefore, the Proposed Action would have no effect on federal threatened or endangered species or state listed species. Proposed construction and demolition activities would primarily occur within areas that have been previously disturbed and are actively managed. The construction contractor would be prohibited from disturbing bird nests or young. Therefore, implementation of the Proposed Action would not adversely affect migratory birds or Birds of Conservation Concern.

Any vegetation removal that may be required as part of bridge and culverts replacement and associated contaminated soil removal would be limited and have no significant effect on overall vegetation communities. Because the vegetation in the project area is highly disturbed, limited removal would not impact high value vegetation or habitat.

Interruption to Garrison Slough flow would occur during culvert construction when dewatering dams are in place. Flow in the slough would be maintained using a bypass system, and any interruption in water flow would be short in duration. Until recently, fish access near the trestle bridge had been restricted using screens due to PCB contamination in this portion of Garrison Slough. An Alaska Department of Fish and Game Title 16 Fish Habitat Permit and General Permit for Excavation Dewatering would be required for this project.

Wildlife in and around the project area would experience increases in noise levels due to construction-related activities and equipment usage. Such noise increases would be minor in intensity and temporary in duration. Wildlife in the project area is currently exposed to a variable noise environment due to the active railway, roadway, and aircraft activity. Wildlife in the immediate or surrounding areas could be temporarily displaced due to increased construction-related noise levels and would be expected to move to adjacent habitats. Similarly, wildlife using areas where vegetation would be removed would likely move to nearby similar habitat; therefore, the Proposed Action would not result in significant impacts to wildlife.

#### **4.7.2 No Action Alternative**

Under the No Action Alternative, the repair or replacement of the railroad trestle bridge would not be implemented and it would continue to degrade. Eventually, the bridge would deteriorate, and continued erosion would result in increased impacts to water quality and habitat of Garrison Slough and downstream.

### **4.8 Cultural Resources**

#### **4.8.1 Proposed Action**

##### **4.8.1.1 Archaeological Resources**

Based upon the previous archaeological survey and the procedures put in place by the Eielson AFB Integrated Cultural Resources Management Plan and Air Force regulations, there would be no effect under Section 106 of NHPA. In the event of inadvertent archaeological discoveries, or the discovery of human remains, construction activities in the area of the discovery would immediately stop and appropriate offices would be notified of the discovery (354 CES, 2014). Therefore, under NEPA, it is anticipated that there would be no significant impacts to archaeological resources from the Proposed Action at Eielson AFB. Federally recognized tribes that are historically affiliated with lands in the vicinity of the proposed action have been invited to consult on the proposed undertaking to determine if it has potential to affect properties of cultural, historical, or religious significance to the tribes. Interagency Coordination and Government-to-Government consultation materials for this EA are included in Appendix A.

##### **4.8.1.2 Architectural Resources**

The Proposed Action would have no effect on historic architectural resources because there are no architectural resources present in or near the project area. The Garrison Slough railroad trestle bridge was determined not eligible for inclusion in the NRHP. The Alaska State Historic Preservation Office concurred with the finding of No Historic Properties Affected on December 22, 2022 (see Appendix A for letter).

#### **4.8.2 No Action Alternative**

Under the No Action Alternative, the repair or replacement of the railroad trestle bridge would not be implemented. Impacts to cultural resources would not be anticipated. Cultural resources would continue to be managed in compliance with federal law and Air Force regulations.

### **4.9 Earth Resources**

Impacts to earth resources can be avoided or minimized if proper construction techniques, erosion control measures, and structural engineering components are incorporated into project design. The severity of an

impact would be related to the effectiveness and practicality of these techniques, measures, and components to minimize impacts to earth resources.

#### **4.9.1 Proposed Action**

The Proposed Action would include demolition of the existing bridge and roadway and construction of two culvert systems for the railroad and Arctic Avenue. The total combined size of the project area is approximately one acre. Grading, excavation, and leveling are anticipated during construction activities; however, no blasting or excavation of bedrock that would alter the geology of the project areas is anticipated. Potential impacts to topography during site preparation activities would not substantially alter or remove prominent geologic features.

Demolition activities would cause short-term impacts to soils in areas where existing structures would be demolished. Existing soils would be excavated, stockpiled, and tested according to federal and state requirements. If found, contaminated soil would be managed in accordance with federal and state regulations. PCB contaminated soil would be removed to ensure PCB contamination is not released or transported. Areas of new construction would also be subject to short-term impacts associated with clearing, grading, compaction, and potential erosion and sedimentation of exposed soils. A SWPPP would be prepared prior to construction. The SWPPP would identify potential pollutant sources associated with the project and would identify measures that would be implemented to either prevent or control releases into stormwater. The approved plan and permits would be obtained, and other BMPs would be implemented and monitored during construction activities. The SWPPP and BMPs would be implemented to avoid and minimize erosion and sedimentation.

As described in Section 3.9, soils containing discontinuous permafrost cover approximately two-thirds of Eielson AFB. Project design and construction would include provisions for addressing permafrost should it be encountered during excavation.

Although Eielson AFB lies in a seismically active area, most earthquakes are low in magnitude with only the highest few reaching a magnitude of 5.0 on the Richter scale. Proposed construction and demolition activities would not increase the potential for seismic events to occur. The proposed culvert systems would not be exposed to unique seismic risks requiring additional design and construction criteria beyond what is normal for the Fairbanks area. Therefore, no significant adverse seismic impacts would result from implementing the Proposed Action at Eielson AFB.

Overall, as discussed above, implementation of the Proposed Action would not result in significant impacts to earth resources.

#### **4.9.2 No Action Alternative**

Under the No Action Alternative, the repair or replacement of the railroad trestle bridge would not be implemented. There would be no impacts to earth resources under the No Action Alternative.

### **4.10 Infrastructure**

#### **4.10.1 Proposed Action**

Under the Proposed Action, operation of the railroad that transports coal to the CHPP would cease for a maximum of 6 days at a time while a 30-foot-long (9-meter) rail section on the trestle bridge is removed and replaced on the new concrete culvert. This temporary impact to rail service would be offset through adjustment of coal deliveries prior to this work at the bridge and would not adversely affect operation of

the CHPP. Operation of the JP-8 fuel pipeline and communications lines would be maintained and not adversely impacted.

Stormwater would be managed in accordance with an approved SWPPP and APDES Multi-Sector General Permit for Storm Water discharges. Non-hazardous solid waste and debris generated during construction and demolition would be recycled or disposed of at designated areas on base or at other locations within the FNSB.

The Proposed Action would not have significant impacts to infrastructure.

#### **4.10.2 No Action Alternative**

Under the No Action Alternative, the repair or replacement of the railroad trestle bridge would not be implemented. The trestle bridge would continue to degrade until its ultimate failure, presenting a safety risk and a potentially significant adverse impact on infrastructure.

### **4.11 Transportation**

#### **4.11.1 Proposed Action**

Construction activities under the Proposed Action could result in minor, temporary impacts to internal base transportation and circulation at Arctic Avenue. Arctic Avenue closures would be necessary during demolition and construction activities. Appropriate signage and detours to maintain access would be provided. Truck traffic and privately owned vehicle use by commuting project workers would generate temporary increases in vehicle trips per day, including approximately two truck trips, at the north gate and on base roads, particularly between 6:30 a.m. and 7:30 a.m. These effects would be minor and temporary, occurring only for the duration of the construction period.

A temporary maximum 6-day shutdown of rail service would occur on one or more occasions during construction and demolition. This temporary impact to rail service would be offset through adjustment of coal deliveries prior to suspension of rail service and would not adversely affect operation of the CHPP.

Long-term impacts of the Proposed Action would be beneficial to railroad service. The new structures would reduce unscheduled maintenance by eliminating continual repairs needed on the current railroad trestle and by replacing the bridge with a new structure that requires less maintenance. There would be no impacts to off-base transportation. Implementation of the Proposed Action would not have long-term, adverse, significant impacts to transportation, either on Eielson AFB or in adjacent areas.

#### **4.11.2 No Action Alternative**

Under the No Action Alternative, the repair or replacement of the railroad trestle bridge would not be implemented, and there would be no improvement to the railroad. There would be no temporary interruption of rail and vehicle traffic, except as may be required for continued maintenance of the deteriorating bridge. The trestle bridge would continue to degrade until its ultimate failure or would require increased maintenance, presenting a safety risk and a potentially significant adverse impact on transportation.

### **4.12 Cumulative Effects**

According to CEQ regulations, the analysis of cumulative effects should consider the potential environmental effects resulting from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency or person undertakes

such other actions (40 CFR 1508.1). Cumulative effects may occur when there is a relationship between a proposed action or alternative and other actions expected to occur in a similar location or during a similar timeframe. The effects may then be incremental and may result in cumulative impacts. Actions overlapping with or in proximity to the Proposed Action can reasonably be expected to have more potential for cumulative effects on “shared resources” than actions that may be geographically separated. Similarly, actions that coincide in the same timeframe tend to offer a higher potential for cumulative effects.

For the purposes of this EA, the analysis of cumulative effects is focused on the following in terms of timeline, region of influence, and planning context:

- **Timeline:** The analysis focuses on recent past actions and/or currently ongoing actions with continuing, additive, and significant relationship to the potential effects of the Proposed Action and reasonably foreseeable future actions through approximately 2023.
- **Region of Influence:** The study area for cumulative effects is defined by resource area and matches the potential area of effect for resources analyzed in Chapters 3 and 4. Generally, this is within the developed area of Eielson AFB.
- **Planning Context:** Eielson AFB is an active military base and over the years has undergone changes in missions and training requirements in response to defense policies, threats, and tactical and technological advances. Actions, and planning for those actions, has been and continues to occur in an iterative manner and, as such, could be approved in parts or as a whole depending upon mission and funding priorities, etc. The IDP (Eielson AFB, 2016a) is the most recently completed base-wide master planning document. Minor repairs and maintenance and improvement actions occur on an ongoing basis and are reviewed in context of the master planning framework and reviewed under NEPA.

Within this context, an interdisciplinary approach considering the input of base planners, environmental managers, operations staff, and resource analysts was undertaken in a deliberative manner to identify those actions relevant for analysis of potential cumulative effects with those of the Proposed Action. Note that some of the future actions remain in early planning stages and vary in the level of detail based on currently available and reasonably foreseeable data and planning.

#### 4.12.1 Relevant Past, Present, and Reasonably Foreseeable Actions

Table 4.12-1 summarizes the relevant past, present, and reasonably foreseeable actions identified for this cumulative effects analysis. This is followed by a brief description of each of these actions, with incorporation of relevant documentation by reference.

Table 4.12-1. Summary of Relevant Past, Present, and Reasonably Foreseeable Actions			
Action	Type / Level of Analysis	Decision Document (Date)	Lead Agency
<b>Recent Past/Ongoing</b>			
United States Air Force F-35A Operational Beddown – Pacific	NEPA / EIS	ROD (April 2016)	Air Force
United States Air Force F-35A Operational Beddown – Pacific	NEPA / Supplemental EIS	ROD (January 2018)	Air Force
Installation Restoration/Cleanup Actions	Installation Restoration	See description	Air Force



Table 4.12-1. Summary of Relevant Past, Present, and Reasonably Foreseeable Actions			
Action	Type / Level of Analysis	Decision Document (Date)	Lead Agency
Minor Construction, Repair, and Self-Help Projects	CATEX	Various	Eielson AFB and Tenants
<b>Reasonably Foreseeable Potential Future</b>			
Construction of PATRIOT Battery Locations and Support Locations and Exercise Participation	NEPA / EA	FONSI (Army-August 2018, Air Force – <i>on hold</i> )	Army
Minor Construction, Repair, and Self-Help Projects	CATEX	Various	Eielson AFB and Tenants
South Loop Taxiway Design Project, Phase I		Various	Eielson AFB

Legend: AFB = Air Force Base; CATEX = Categorical Exclusion; EA = Environmental Assessment; EIS = Environmental Impact Statement; FONSI = Finding of No Significant Impact NEPA = National Environmental Policy Act; ROD = Record of Decision.

#### 4.12.1.1 United States Air Force F-35A Operational Beddown – Pacific EIS

This EIS analyzed the proposed basing of up to 54 F-35A aircraft at Eielson AFB to include an additional 1,563 military and civilian personnel, and construction and/or modification of facilities for aircraft maintenance and operation. The associated actions that have the highest potential for additive and/or interactive impacts with the proposed actions analyzed in this EA relate to the extensive on-base construction efforts associated with the beddown. Notable impacts are summarized here (U.S. Air Force, 2016).

Total acreage disturbed by the F-35A support projects analyzed in the EIS was approximately 66 acres, which includes construction clearing/grading, landscaping, installation development, and access. About 21 acres of this total would be converted to impervious surfaces such as roofs and paved areas. Approximately 56 acres would be developed within the 100-year floodplain, according to FEMA mapping. All facilities would be constructed to conform to floodplain requirements and, thereby, mitigate adverse impacts. An estimated 17 acres of wetlands would be removed, and these impacts would be offset by purchasing wetland credits at local mitigation banks or pay in lieu of fees. Air emissions would remain consistent with federal and state standards and no conformity issues would arise. Construction costs and an increase in personnel and dependents would introduce beneficial economic benefits to the FNSB area (U.S. Air Force, 2016).

#### 4.12.1.2 United States Air Force F-35A Operational Beddown – Pacific Supplemental EIS

After the EIS ROD was signed, several new infrastructure projects were identified during the Site Action Task Force. The Supplemental EIS analyzed the implementation of three actions at Eielson AFB: provide additional stormwater runoff control; develop equipment and material laydown areas; and provide additional heat, water, and power to the South Loop. As presented in the Supplemental EIS, analysis established that no significant impacts would result from implementing any of the three proposed actions and their alternatives. Up to 26 acres of wetlands could be removed by the proposed actions. These potential adverse wetland impacts would be offset by paying in lieu fees for wetland credits at local mitigation banks. All the proposed actions and alternatives are located within the 100-year floodplain; however, there are no other practicable alternatives because the majority of the F-35A facilities being developed are in the South Loop of Eielson AFB and its entirety lies within the floodplain. Implementing

the stormwater runoff control project, however, would improve water flow around and away from F-35A facilities and the equipment and material laydown areas would be used temporarily and then returned to their original condition (U.S. Air Force, 2017).

#### **4.12.1.3 Installation Restoration (PFOS/PFOA) Cleanup Actions**

The Eielson AFB IRP, as described in Section 3.6, is multifaceted. One element of the program, addressing soils contaminated with PFOS/PFOAs, is noted herein in terms of potential cumulative impacts because the current/ongoing and potential future actions are occurring near some of the proposed project sites. Currently, such contaminated soils are being identified and stockpiled at designated, approved sites at Eielson AFB under approved protocols. Recent estimates are that there are 200,000 cubic yards of soils that are contaminated with PFOS/PFOA. The current protocol is to stockpile these soils while the remedial solution and best technology and practice is being evaluated. The consolidation and stockpiling is expected to lead to efficiencies with the remedial action. Treatment options range from burning to washing, and the future treatment action could occur on-site, off-base, or some combination thereof (Price & Tallant, 2018). Remedial investigations are currently in progress for PFOS/PFOA contamination at Eielson AFB.

#### **4.12.1.4 Minor Construction, Repair, and Self-Help Projects**

All actions undertaken by Eielson AFB and/or tenants of Eielson AFB are reviewed in accordance with 32 CFR Part 989 for potential environmental impacts. In recent years, such projects have generally qualified for a Categorical Exclusion, or an abbreviated EA was prepared to address the potential impacts. These projects are not evaluated in detail here because, by their nature, the potential impacts are negligible and highly localized in a manner that would not result in additive or interactive negative impacts in combination with the potential effects of the Proposed Action.

#### **4.12.1.5 Construction of PATRIOT Battery Locations and Support Locations and Exercise Participation**

U.S. Army North Command prepared an EA evaluating the potential environmental effects of activities associated with construction of PATRIOT Battery launch and support locations at Eielson AFB. Proposed construction activities would entail the construction of permeable gravel pads for PATRIOT Launching Stations, radars, and support equipment; limited widening of existing Engineer Hill gravel roads; new lighting; and relocation of fencing or re-fencing. Site activities would include removing part of the Engineer Hill perimeter fencing; clearing trees and shrubs inside and outside of the existing fencing; cutting, filling, grading, and compacting pads and roadways; laying and compacting gravel for the launcher and radar sites; and re-fencing. Any fill needed for construction would come from the project cut areas or from existing on-base resources. The entire site would continue to be enclosed by chain link fencing topped with concertina wire, and the radar area could be enclosed by engineer's tape during training exercises to safely limit ingress while the radar is in operation. The EA analysis identified no significant impacts to any resource area. The Army has signed the FONSI, but the Air Force has not and considers the project to be on hold (U.S. Army North Command, 2018).

#### **4.12.1.6 South Loop Taxiway Design Project, Phase I**

A design project is currently underway for a portion of the South Taxiway. The project, which started as a mill and overlay, proposes a full depth replacement of the South Loop taxiway with subsurface drainage under the new section of the taxiway. Due to the terrain of the site and requirements for drainage, the current design option proposes to drain water from under the taxiway to shallow injection wells instead of

taking the drain lines to the slough. Originally funded in Fiscal Year 2021, funding has since been deferred to a future year program.

#### **4.12.2 Resource Analysis**

The resources evaluated in detail in Chapter 4 for potential direct and indirect effects comprise the same resources initially analyzed for potential cumulative effects. These resources were further analyzed to determine whether they needed to be carried forward for analysis for cumulative effects. Wherever the potential impacts from the Proposed Action were found to result in no, negligible, or minor direct/indirect adverse impacts to these resource areas (in Chapter 4), those resource areas were not carried forward for detailed analysis here. In general, direct and/or indirect effects of the Proposed Action to these resource areas are localized and temporary, the respective resources are anticipated to recover within a short period of time, and another action is not expected to occur in the same localized area at the same time for cumulative impacts to be possible. These include the following resource areas: Land Use, Safety, Infrastructure; Acoustic Environment; Socioeconomics, Environmental Justice, and Protection of Children; and Hazardous Materials, Hazardous Wastes, and Toxic Substances. The remainder of the resource areas are assessed for potential cumulative effects in the subsections that follow.

##### **4.12.2.1 Air Quality**

Construction-related criteria pollutant air emissions are short-term and temporary by nature. Projects at the base that would contribute emissions consist of construction projects that are temporary and occur over several years of construction and some annual land maintenance projects involving clearing and/or thinning activities. New stationary sources would be efficient energy consumers and operate in conjunction with renewable energy sources. While a small overall increase in stationary source annual emissions may result from implementing the Proposed Action, they would be managed under the installation's air permit. The Proposed Action, when considered with present and reasonably foreseeable actions, would not interfere with the attainment status of the air quality district or pose a significant cumulative impact to air quality.

Implementing the Proposed Action construction activities would increase GHG emissions from Eielson AFB by approximately 284 total tons (refer to calculations in Appendix B). Most of these emissions would be temporary and would cease when construction was completed.

Climate change presents a global problem caused by increasing concentrations of GHG emissions. While climate change results from the incremental addition of GHG emissions from millions of individual sources, the significance of an individual source alone is impossible to assess on a global scale beyond the overall need for global GHG emission reductions to avoid catastrophic global outcomes. Therefore, the quantitative analysis of carbon dioxide equivalent emissions in this EA is for disclosing the net increase of the Proposed Action.

##### **4.12.2.2 Water Resources**

###### ***Groundwater***

Hazardous wastes generated by demolition and construction activities of the Proposed Action, when considered with past, present, and reasonably foreseeable projects, would be managed in a manner that would prevent these wastes from leaking, spilling, and potentially polluting groundwater, in accordance with applicable federal, state, and local regulations and the requirements of the base Hazardous Waste Management Plan (Eielson AFB, 2017c). Therefore, potential cumulative impacts to groundwater

resources would be minimized by compliance requirements that would be incorporated into design and construction of the Proposed Action and other projects.

### ***Surface Water***

Construction and demolition activities associated with the Proposed Action, when considered with past, present, and reasonably foreseeable projects could result in a temporary, cumulative increase in surface water turbidity. Such potential impacts would be minimized by adherence to BMPs and permitting requirements addressing stormwater control, spill prevention, and the SWPPP. With implementation of these management measures, no adverse cumulative impacts to surface water are anticipated.

### ***Floodplains***

The Proposed Action and most past, present, and reasonably foreseeable projects are within the 100-year floodplain. The maximum amount of floodplain-impacted acres for the Proposed Action is approximately one acre. The magnitude of the cumulative impact would be minimized because the Air Force incorporates flood mitigation measures and ensures that there is no practicable alternative to such development in the floodplain with each action in accordance with EO 11988, and DoD *Memorandum for Floodplain Management on Department of Defense Installations* (February 2014). Associated potential impacts to the floodplain would be limited to the displacement of floodplain capacity resulting from the fill and flood risk to the facility. Given the proposed scale of the impact relative to the scale of the Tanana River Valley floodplain, which is an open system that can absorb storm surge over a very large area, this loss in volume/capacity would result in a negligible increase in flood risk. Additionally, the design of the proposed projects would minimize potential harm to, or within, the floodplain. Therefore, the incremental impact of the Proposed Action on floodplains, when added to impacts from other past, present, and/or future projects, would be negligible.

### ***Wetlands***

As evaluated in Section 4.4, the Proposed Action would impact less than one-half acre of wetland and waters of the U.S. When considered with the potential 26 acres of impact for the F-35A Operational Beddown, the Proposed Action would have a minor cumulative effect on wetlands. With incorporation of impact minimization and mitigation measures and within the context of Eielson AFB's 9,453 acres of wetlands and 792 acres of lakes, ponds, and streams, this cumulative effect would not be significant.

#### **4.12.2.3 Natural Resources**

### ***Wildlife***

Construction and demolition activities associated with the Proposed Action would contribute minor temporary cumulative increases in noise levels when considered with past, present and reasonably foreseeable future projects where such projects are in proximity and aligned temporally. Should this occur, such impacts would be primarily in highly disturbed and developed portions of the base and would not be expected to result in impacts beyond temporary behavioral disturbance to wildlife, mostly limited to avoidance of the immediate area. Therefore, cumulative effects to wildlife would not be significant.

### ***Vegetation***

Vegetative clearance associated with the Proposed Action, as well as past, present, and reasonably foreseeable projects, would result in minor cumulative impacts that would occur primarily in developed

or already disturbed areas. The cumulative impact would not have additive and/or interactive impacts to vegetation communities or natural areas. Therefore, cumulative impacts to vegetation would be minor.

### ***Special Status Species***

The Proposed Action would have no effect on special status species. Therefore, no cumulative impacts to special status species are anticipated.

#### **4.12.2.4 Cultural Resources**

The Proposed Action would have no effect on cultural resources. Therefore, no cumulative cultural resources impacts are anticipated.

#### **4.12.2.5 Earth Resources**

The implementation of the Proposed Action would result in minor, localized, and temporary impacts to earth resources associated with construction activities. In the long term, there would be overall improved soil resource conditions due to addressing areas susceptible to erosion or correcting impacts of erosion to infrastructure. Therefore, the incremental impact of the Proposed Action with other past, present, and/or future projects to earth resources would be minor and beneficial in the long term.

#### **4.12.2.6 Transportation**

The Proposed Action would have minor, temporary impacts to transportation during construction by adding construction vehicles to roadways and a detour during the closure of Arctic Avenue.

Transportation would be affected by the increased population and mission activity resulting from the F-35A basing action. As each construction project is implemented, Eielson AFB ensures that pre-planning considers the requirements and best practices to reduce construction-related traffic delays, road closures, etc., such as designated staging areas, construction entrances, and advance notice to personnel working and/or commuting through affected areas of the base. In addition, the design phase of each project includes considerations for transportation integration and project-related improvements such as adequate parking, turning lanes, ingress and egress patterns, etc. For example, for the F-35A beddown, the South Gate was reopened to divert construction traffic from and minimize congestion at the north gate. This included proposed expansion of the South Gate vehicle inspection area to support commercial and construction equipment, as well as new entry and merge lanes established on both sides of Richardson Highway to minimize congestion along the highway (U.S. Air Force, 2016). The hauling of PFOS/PFOA contaminated soils off-base for treatment, should this be identified as part of the preferred remedial action, would be via designated routes that are used for similar efforts.

Therefore, the Proposed Action would have a minor additive cumulative impact with other ongoing and future actions where they would overlap in time.

#### **4.12.2.7 Contaminated Sites**

The implementation of the Proposed Action would have incremental cumulative impacts to the ongoing management of contaminated sites in combination with other past, present, and future actions. The cumulative impact would not be significant because each project would ensure that proposed uses are consistent with institutional controls, contaminated site management, and remediation activities in accordance with the base's ERP. If contaminated soils are encountered during implementation of any of the projects, close coordination among the base ERP leadership, and, if necessary, the USEPA and ADEC

would occur to avoid significant, cumulative impacts related to contaminated sites. Consequently, no adverse, cumulative impacts associated with contaminated sites are anticipated.

#### 4.13 Other NEPA Considerations

##### 4.13.1 Consistency and Compliance with Other Federal, State, and Local Plans, Policies, and Regulations

This EA assessed the Proposed Action and natural resource management actions to determine their consistency and compliance with applicable environmental regulations and other plans, policies, and controls. The Air Force has sought input from the various federal, state, and local agencies with management of responsibilities in the affected environment. The EA findings indicate that the Proposed Action would not conflict with the objectives of applicable plans, policies, and regulations. Table 4.13-1 provides a summary of environmental compliance requirements, and how they were achieved for the Proposed Action.

Table 4.13-1. Summary of Applicable Environmental Regulations and Regulatory Compliance			
Plans, Policies, and Controls	Regulatory Agency Authority	Status of Compliance	EA Section
NEPA (Public Law 91-190, 42 U.S.C. § 4341 <i>et seq.</i> as amended) 1969, and Air Force 32 CFR 989 procedures for NEPA implementation	Air Force	The EA was prepared in accordance with CEQ regulations implementing NEPA and Air Force NEPA procedures. Section 1.4.3 identifies the relevant NEPA documents.	All of document
Clean Air Act, 42 U.S.C. § 7401 <i>et seq.</i>	USEPA Division of Air Quality, ADEC	The EA air quality analysis concluded that emissions: (1) would not affect the current attainment status at Eielson AFB; (2) would comply with all applicable state and regional air agency permits, rules, and regulations; and (3) would not appreciably increase GHG.	Section 4.3
NHPA of 1966, as amended in 1980, 54 U.S.C. § 300101 <i>et seq.</i>	Alaska SHPO	The Proposed Action would have no effect on architectural resources.	Section 4.8
Archaeological Resources Protection Act of 1979, 16 U.S.C. § 470 <i>et seq.</i> ; Archaeological Resources Protection Act) of 1979, Final Uniform Regulations, 32 CFR Part 229 (1997).	Alaska SHPO	Due to the lack of NRHP-eligible archaeological sites or traditional cultural properties, and the procedures put in place by the Eielson AFB ICRMP and Air Force regulations for inadvertent archaeological discoveries, there would be no effect under Section 106 of NHPA for archaeological resources.	Section 4.8
Endangered Species Act of 1973, 16 U.S.C. § 1531 <i>et seq.</i>	USFWS	The Proposed Action would have no effect on federally listed species at Eielson AFB, as there are no listed species in areas identified for potential development.	Section 4.7



**Table 4.13-1. Summary of Applicable Environmental Regulations and Regulatory Compliance**

Plans, Policies, and Controls	Regulatory Agency Authority	Status of Compliance	EA Section
The Sikes Act of 1960 (16 U.S.C. § 670 <i>et seq.</i> ), as amended	Air Force	Eielson AFB would continue to manage its lands to support Air Force and Base mission requirements, to sustain natural resources while promoting biodiversity and providing resource commodities at a sustainable level and support the implementation of the base IDP.	Section 4.7
Migratory Bird Treaty Act of 1918, 16 U.S.C. §§ 703-712	USFWS	The Proposed Action would not adversely affect migratory birds.	Section 4.7
Bald and Golden Eagle Protection Act, 16 U.S.C. § 668 <i>et seq.</i>	USFWS	The Proposed Action would not adversely affect eagles.	Section 4.7
Clean Water Act, 33 U.S.C. §§ 1251-1387, as amended  Safe Drinking Water Act of 1974, 42 U.S.C. §§ 300f-300j-26, as amended	USEPA  USACE/Alaska  Division of Water, ADEC	A Clean Water Act Section 404 permit is required for potential wetland impacts and would be obtained prior to any ground-disturbing activities. Design of the stormwater runoff control areas will adhere to the Alaska Pollutant Discharge Elimination System permit and associated SWPPP. All applicable federal and state stormwater and erosion practices would be applied during construction activities.	Section 4.4
EO 11988, <i>Floodplain Management</i>	FEMA	The Proposed Action would occur within the 100-year floodplain; however, no building or facility construction is proposed that could expose people or buildings to inundation risks. Project would be designed and constructed to meet all required floodplain protection measures. No practicable alternatives for implementing the Proposed Action outside of the floodplain exists.	Section 4.4

*Legend:* ADEC = Alaska Department of Environmental Conservation; AFB = Air Force Base; CEQ = Council on Environmental Quality; CFR = Code of Federal Regulations; EA = Environmental Assessment; FEMA = Federal Emergency Management Agency; GHG = greenhouse gas; ICRMP = Integrated Cultural Resources Management Plan; IDP = Installation Development Plan; NEPA = National Environmental Policy Act; NHPA = National Historic Preservation Act; NRHP = National Register of Historic Places; SHPO = State Historic Preservation Office(r); SWPPP = Storm Water Pollution Prevention Plan; U.S.C. = United States Code; USACE = United States Army Corps of Engineers; USEPA = United States Environmental Protection Agency; USFWS = United States Fish and Wildlife Service.

#### 4.13.2 Relationship of Short-Term and Long-Term Productivity

Analysis of the relationship between a project's short-term impacts on the environment and the effects those impacts may have on the maintenance and enhancement of the long-term productivity of the affected environment is required under NEPA. Impacts that narrow the range of beneficial uses of the environment are of particular concern. The construction/demolition period for the Proposed Action would result in a minor short-term increase in employment, income, and net fiscal benefits and revenues in the surrounding community. Additionally, there would be a short-term increase for building supplies needed

to execute the project. It is not expected that the availability of these resources for other users would be reduced, as the Air Force would obtain supplies from a myriad of sources.

#### **4.13.3 Irreversible and Irretrievable Commitments of Resources**

NEPA requires environmental analysis to identify any irreversible and irretrievable commitments of resources involved in the implementation of the Proposed Action. Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that 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) that cannot be replaced within a reasonable timeframe. *Irretrievable* resource commitments involve the loss in value of an affected resource that cannot be restored because of the action (e.g., extinction of a threatened or endangered species or the disturbance of a cultural site). Implementing the Proposed Action would require a commitment of natural, physical, human, and fiscal resources. In all these categories, irreversible and irretrievable commitments of resources would occur.

Under the Proposed Action, the stormwater runoff control system would involve minor changes to the landscape and include manipulation of soil and vegetation planting. Equipment and material laydown areas would be established in already landscaped/managed areas and returned to their original state once their need is completed.

In terms of human resources, ground disturbance for the Proposed Action has a low probability of affecting previously unknown cultural resources. However, if unknown cultural resources are discovered during construction or site grading activities, work would be stopped immediately and procedures for inadvertent discovery implemented. This would minimize any irreversible or irretrievable effects to cultural resources. Human labor is generally not considered to be a resource in short supply and commitment to the Proposed Action would not have adverse effects on the continued availability of human labor resources. Fiscally, the construction would require a substantial expenditure of funds.

## 5.0 LIST OF PREPARERS

The individuals that contributed to the preparation of this EA are listed below.

Table 5.1-1. List of Preparers			
Name/Organization	Education	Resource Area	Years of Experience
Cristina Ailes/Cardno	B.S., Biology, Ecology, and Environmental Science B.A., International Studies	Water Resources and Land Use	16
Steve Brann/Cardno	B.A., Anthropology M.A., American Studies	Archaeology	20
Erika Fuery/Cardno	M.S., Environmental Science	Safety, Hazardous Materials, Hazardous Waste, Contaminated Sites	23
Travis Gahm/Cardno	B.S., Biology	Natural Resources	11
Kathleen Hall/Cardno	B.A., Earth and Environmental Science	Infrastructure, Transportation, Socioeconomics/Environmental Justice, QA/QC Review	26
Lesley Hamilton/Cardno	B.A., Chemistry	Air Quality and Noise	33
Charee Hoffman/Cardno	B.S., Biology	QA/QC Review	23
Sonja Lengel/Cardno	M.S., Historic Preservation B.F.A., Interior Design, Rochester Institute of Technology	Architectural History	7
Kathleen Riek/Cardno	B.S., Biology	EA Project Manager	33
Abigail Shoff/Cardno	B.S., Geographical Information Systems	GIS Analyst	11
Sharon Simpson/Cardno	A.S., Science	Document Production	19
Lori Thursby/Cardno	B.E.D., Environmental Design in Architecture M.A.H., Architectural History and Historic Preservation	Cultural Resources Lead	27
Kimberly Wilson		Technical Editing	41
Carol Young/Cardno	B.S., Ecology and Evolutionary Biology	QA/QC Review	28

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## 6.0 PERSONS AND AGENCIES CONSULTED/COORDINATED

The following Persons and Agencies were contacted in the preparation of this EA.

Table 6.1-1. Persons and Agencies Consulted / Coordinated	
Federal Agencies	
Mr. Benjamin Soiseth, North Central Section Chief U.S. Army Corps of Engineers Fairbanks Regulatory Field Office	Ms. Sarah Conn, Field Supervisor U.S. Fish and Wildlife Service Fairbanks Fish and Wildlife Field Office
State Agencies	
Mr. Jason Bruce, Commissioner Alaska Department of Environmental Conservation (ADEC)	Ms. Alice Edwards, Director ADEC – Division of Air Quality
Ms. Denise Koch, Director ADEC – Division of Spill Prevention and Response	Mr. Andrew Sayers-Fay, Director ADEC – Division of Water
Brigadier General Torrence Saxe, Commissioner Alaska Department of Military and Veterans Affairs	Mr. Doug Vincent-Lang, Commissioner Alaska Department of Fish and Game
Ms. Audra Brase, Regional Supervisor Alaska Department of Fish and Game, Division of Habitat	Ms. Judith Bittner, Alaska Historic Preservation Officer Alaska Department of Natural Resources, Office of History and Archaeology
Mr. Martin Parsons, Director Alaska Department of Natural Resources, Division of Mining, Land, and Water	Ms. Corri Feige, Commissioner Alaska Department of Natural Resources
Mr. Ryan Anderson, P.E., Director Alaska Department of Transportation, Northern Region	
Local Agencies	
Mayor Jim Matherly City of Fairbanks	Mayor Michael Welch City of North Pole
Mayor JW Musgrove City of Delta Junction	Mayor Bryce J. Ward Fairbanks North Star Borough
Mr. Jim Dodson, President Fairbanks Economic Development Corporation	Ms. Deb Hickok, President Fairbanks Convention and Visitors Bureau
Other Stakeholders	
Mr. Tim Sullivan, Director of External Affairs Alaska Railroad Corporation	Mr. Jack Hebert, Chief Executive Officer Cold Climate Housing Research Center
Tribes	
Mr. Michael Sam President Native Village of Tetlin PO Box 797 Tok AK 99780	Mr. William Albert President Northway Village PO Box 516 Fairbanks AK 99764
Mr. Herbert Demit President Native Village of Tanacross PO Box 76009 Tanacross AK 99776	Mr. Tim McManus President Nenana Native Association PO Box 369 Fairbanks AK 99760
Ms. Tracy Charles-Smith President Village of Dot Lake PO Box 70494 Fairbanks AK 99707	Mrs. Patricia MacDonald Council President Healy Lake Village 600 University Avenue, Suite 100 Fairbanks AK 99709

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## 7.0 REFERENCES

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**APPENDIX A**  
**INTERAGENCY / INTERGOVERNMENTAL COORDINATION AND**  
**PUBLIC PARTICIPATION**

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Please note that although Appendix A displays the IICEP letter attachments with the first IICEP letter only, the attachments were included with IICEP letters sent to all recipients.

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**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Mayor Jim Matherly  
City of Fairbanks  
800 Cushman Street  
Fairbanks AK 99701

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Mayor Matherly

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

The purpose of the Proposed Action is to meet requirements necessary to fulfill and/or support the 354th Fighter Wing mission. Installation development includes 22 projects proposed by the 354th Missions Support Group and the 354th Operations Group.

The EA will analyze the potential effects on environmental resources resulting from installation development at different locations on base (see attachment). The 22 projects include the construction of new facilities, modification and demolition of existing facilities, consolidation and relocation of facilities and functions, and the management of specific recreational and natural resources. The EA will also examine the potential for cumulative impacts from other past, present, and reasonably foreseeable future projects.

As part of the National Environmental Policy Act (NEPA) process, the USAF is seeking comments on this Proposed Action. The USAF looks forward to receiving your comments as part of the NEPA process. Please address comments to the EA Project Manager, Mr. Justin Hogrefe, 354 CES/CEIE, 2310 Central Avenue, Eielson AFB AK 99702, (907) 377-5209, [354CES.CEIEC.Environmental@us.af.mil](mailto:354CES.CEIEC.Environmental@us.af.mil).

Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

2 Attachments:

1. Project List
2. Maps

## Project List

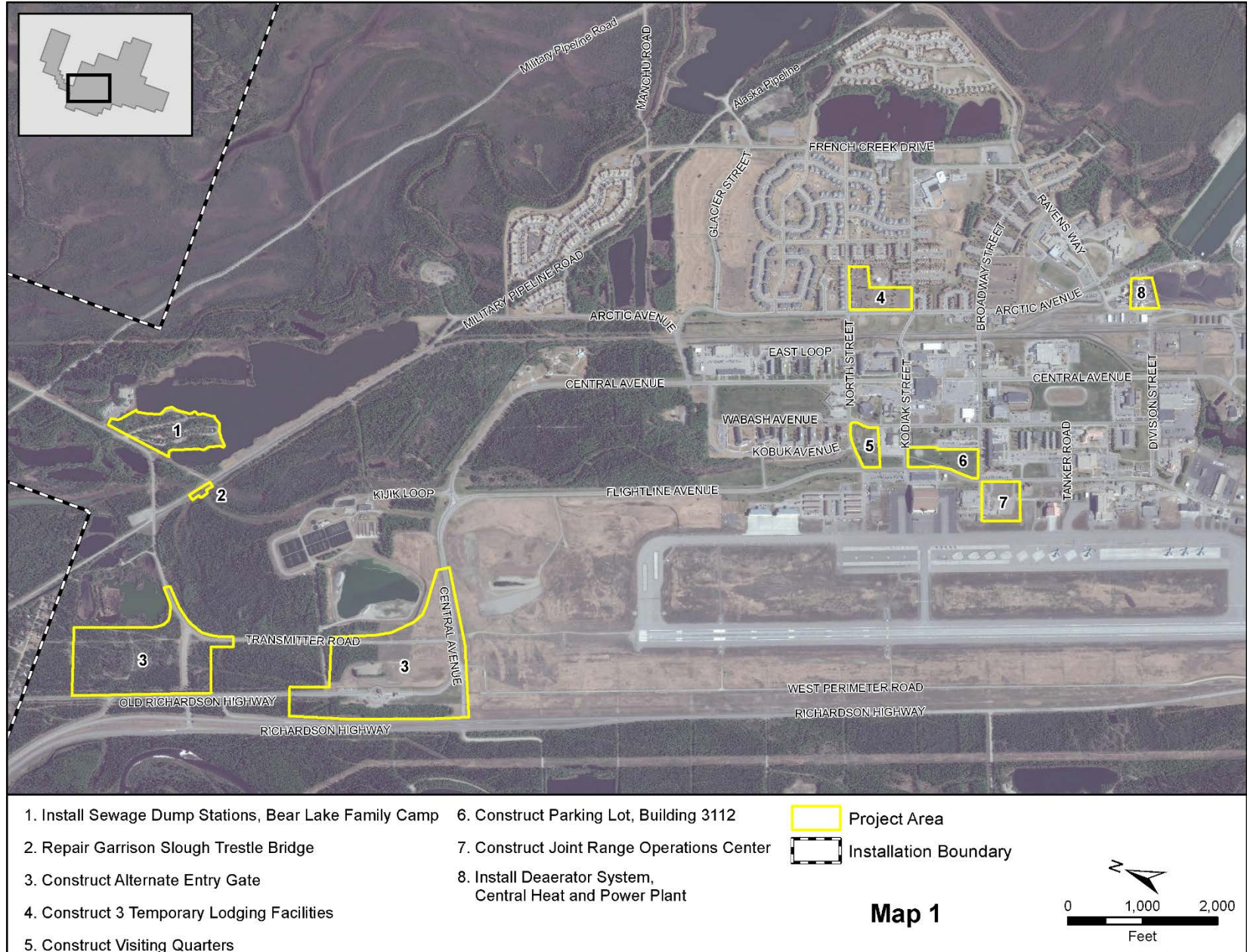
### Environmental Assessment for Installation Development at Eielson Air Force Base, Alaska

<i><b>Project Number</b></i>	<i><b>Name</b></i>	<i><b>Map Number</b></i>
1	Install Sewage Dump Stations, Bear Lake Family Camp	1
2	Repair Garrison Slough Trestle Bridge	1
3	Construct Alternate Entry Gate	1
4	Construct 3 Temporary Lodging Facilities	1
5	Construct Visiting Quarters	1
6	Construct Parking Lot, Building 3112	1
7	Construct Joint Range Operations Center	1
8	Install Deaerator System, Central Heat and Power Plant	1
9	Construct Cryogenics Facility	2
10	Construct Parking Lot, Building 3462	2
11	Construct Military Canine Isolation Kennel	2
12	Construct Parking Lot, Building 1347	2
13	Construct South Loop Fire Station	2
14	Construct Access Road, Combat Alert Cell	2
15	Construct Explosive Ordnance Disposal Support Facility	2
16	Pave Parking Lot, Building 6421	2
17	Consolidate Munitions on Quarry Hill	3
18	Clear Vegetation and Prepare Site, Ash Disposal Cells 1, 2, and 3	3
19	Maintain Existing and Establish New Recreational Trails and Primitive Campsites	4
20	Clear Vegetation Using Hydro Ax	5
21	Cut Firewood for Personal Use	5
22	Manage Invasive Species	5



## Maps

### Environmental Assessment for Installation Development at Eielson Air Force Base, Alaska





## Maps

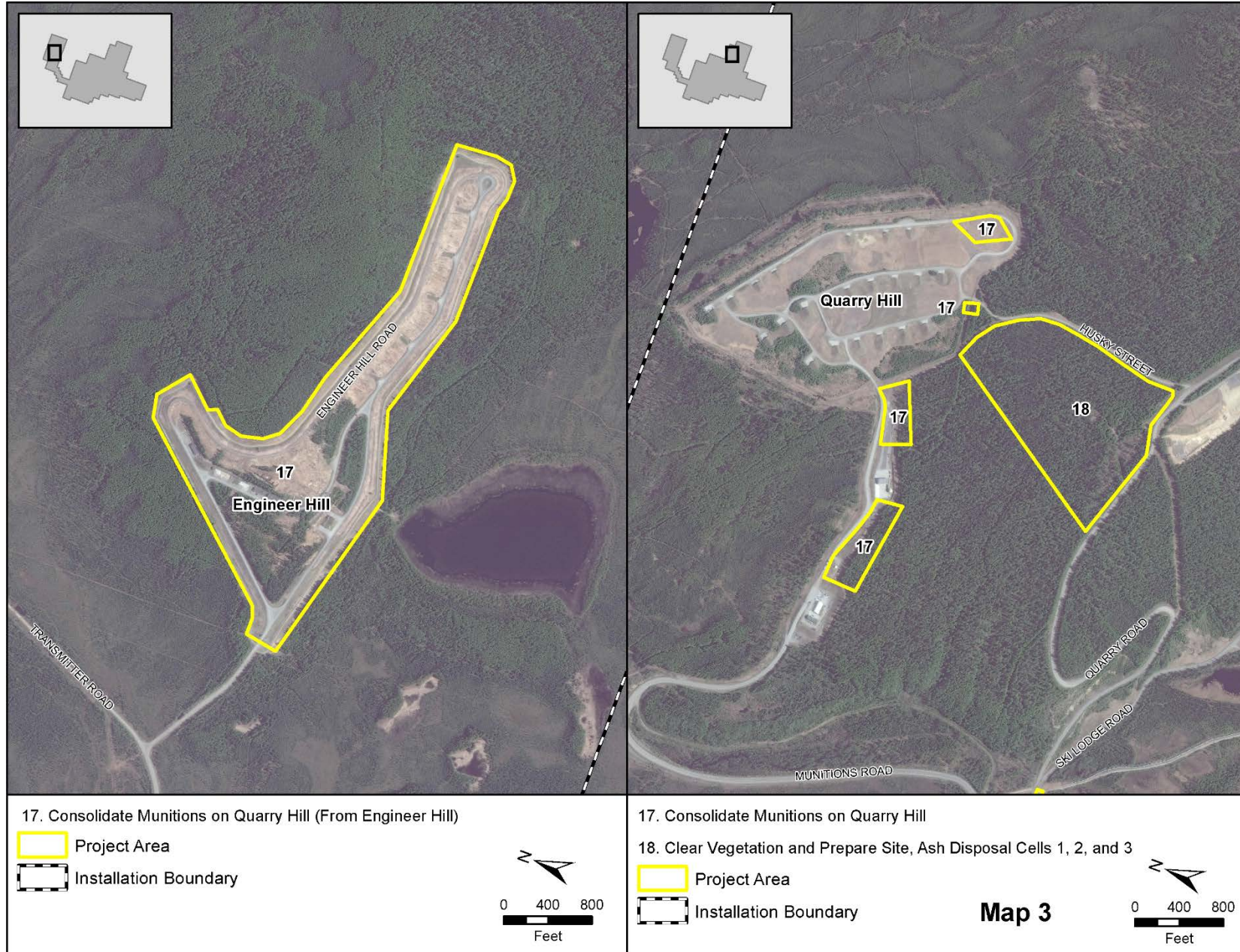
### Environmental Assessment for Installation Development at Eielson Air Force Base, Alaska





## Maps

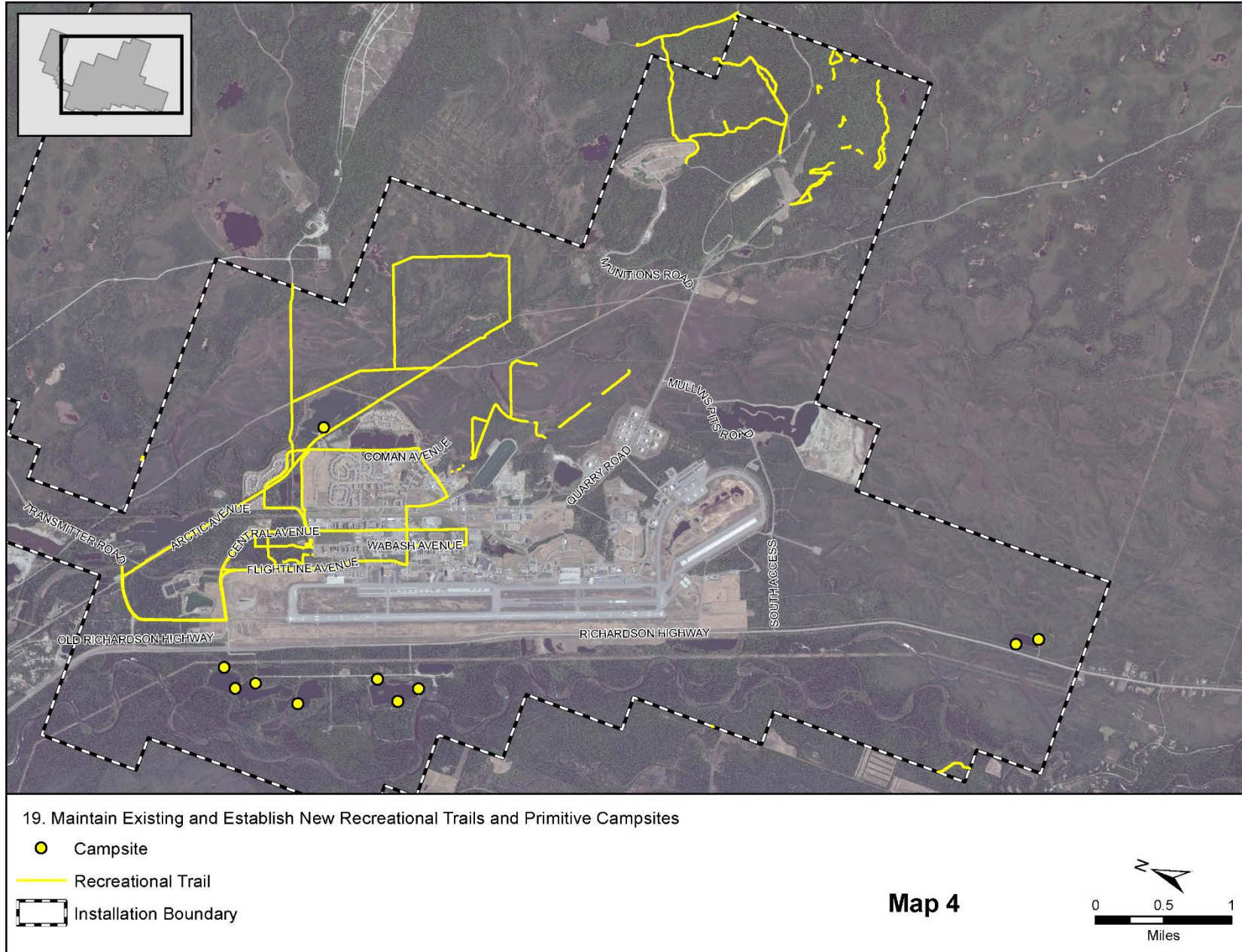
### Environmental Assessment for Installation Development at Eielson Air Force Base, Alaska





## Maps

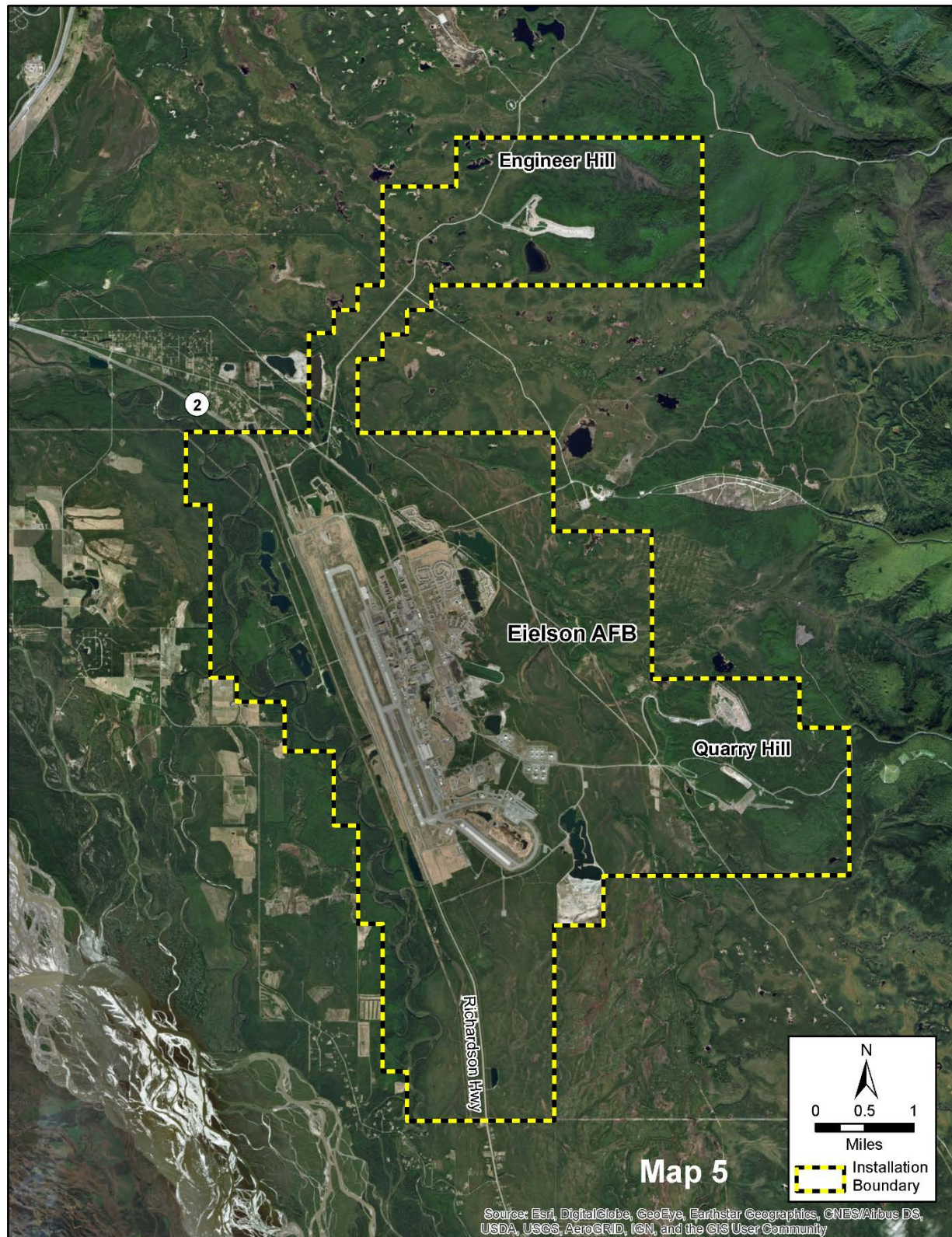
### Environmental Assessment for Installation Development at Eielson Air Force Base, Alaska





## Maps

### Environmental Assessment for Installation Development at Eielson Air Force Base, Alaska



Note: Projects 20, 21, and 22 would not be restricted to individual sites; these projects could be implemented throughout Eielson AFB within the installation boundaries shown on Map 5.





**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Mayor JW Musgrove  
City of Delta Junction  
P.O. Box 229  
Delta Junction AK 99737-0229

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Mayor Musgrove

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

The purpose of the Proposed Action is to meet requirements necessary to fulfill and/or support the 354th Fighter Wing mission. Installation development includes 22 projects proposed by the 354th Missions Support Group and the 354th Operations Group.

The EA will analyze the potential effects on environmental resources resulting from installation development at different locations on base (see attachment). The 22 projects include the construction of new facilities, modification and demolition of existing facilities, consolidation and relocation of facilities and functions, and the management of specific recreational and natural resources. The EA will also examine the potential for cumulative impacts from other past, present, and reasonably foreseeable future projects.

As part of the National Environmental Policy Act (NEPA) process, the USAF is seeking comments on this Proposed Action. The USAF looks forward to receiving your comments as part of the NEPA process. Please address comments to the EA Project Manager, Mr. Justin Hogrefe, 354 CES/CEIE, 2310 Central Avenue, Eielson AFB AK 99702, (907) 377-5209, 354CES.CEIEC.Environmental@us.af.mil.

Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

2 Attachments:

1. Project List
2. Maps



**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Mayor Michael Welch  
City of North Pole  
125 Snowman Lane  
North Pole AK 99705

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Mayor Welch

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

The purpose of the Proposed Action is to meet requirements necessary to fulfill and/or support the 354th Fighter Wing mission. Installation development includes 22 projects proposed by the 354th Missions Support Group and the 354th Operations Group.

The EA will analyze the potential effects on environmental resources resulting from installation development at different locations on base (see attachment). The 22 projects include the construction of new facilities, modification and demolition of existing facilities, consolidation and relocation of facilities and functions, and the management of specific recreational and natural resources. The EA will also examine the potential for cumulative impacts from other past, present, and reasonably foreseeable future projects.

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ALLEN G. BRANCO III, Lt Col, USAF  
Commander

2 Attachments:

1. Project List
2. Maps





**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Mayor Bryce J Ward  
Fairbanks North Star Borough  
907 Terminal Street  
Fairbanks AK 99701

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Mayor Ward

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

The purpose of the Proposed Action is to meet requirements necessary to fulfill and/or support the 354th Fighter Wing mission. Installation development includes 22 projects proposed by the 354th Missions Support Group and the 354th Operations Group.

The EA will analyze the potential effects on environmental resources resulting from installation development at different locations on base (see attachment). The 22 projects include the construction of new facilities, modification and demolition of existing facilities, consolidation and relocation of facilities and functions, and the management of specific recreational and natural resources. The EA will also examine the potential for cumulative impacts from other past, present, and reasonably foreseeable future projects.

As part of the National Environmental Policy Act (NEPA) process, the USAF is seeking comments on this Proposed Action. The USAF looks forward to receiving your comments as part of the NEPA process. Please address comments to the EA Project Manager, Mr. Justin Hogrefe, 354 CES/CEIE, 2310 Central Avenue, Eielson AFB AK 99702, (907) 377-5209, [354CES.CEIEC.Environmental@us.af.mil](mailto:354CES.CEIEC.Environmental@us.af.mil).

Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

2 Attachments:

1. Project List
2. Maps



**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Mr. Benjamin Soiseth  
Northcentral Section Chief  
U.S. Army Corps of Engineers, Fairbanks Regulatory Field Office  
2175 University Avenue Suite 201E  
Fairbanks AK 99709

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Mr. Soiseth

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address 008856 installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

The purpose of the Proposed Action is to meet requirements necessary to fulfill and/or support the 354th Fighter Wing mission. Installation development includes 22 projects proposed by the 354th Missions Support Group and the 354th Operations Group.

The EA will analyze the potential effects on environmental resources resulting from installation development at different locations on base (see attachment). The 22 projects include the construction of new facilities, modification and demolition of existing facilities, consolidation and relocation of facilities and functions, and the management of specific recreational and natural resources. The EA will also examine the potential for cumulative impacts from other past, present, and reasonably foreseeable future projects.

As part of the National Environmental Policy Act (NEPA) process, the USAF is seeking comments on this Proposed Action. The USAF looks forward to receiving your comments as part of the NEPA process. Please address comments to the EA Project Manager, Mr. Justin Hogrefe, 354 CES/CEIE, 2310 Central Avenue, Eielson AFB AK 99702, (907) 377-5209, 354CES.CEIEC.Environmental@us.af.mil.

Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

- 2 Attachments:
1. Project List
  2. Maps





**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Ms. Sarah Conn  
Field Supervisor  
U.S. Fish and Wildlife Service, Fairbanks Fish and Wildlife Field Office  
101 12th Avenue Room 210  
Fairbanks AK 99701

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Ms. Conn

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

The purpose of the Proposed Action is to meet requirements necessary to fulfill and/or support the 354th Fighter Wing mission. Installation development includes 22 projects proposed by the 354th Missions Support Group and the 354th Operations Group.

The EA will analyze the potential effects on environmental resources resulting from installation development at different locations on base (see attachment). The 22 projects include the construction of new facilities, modification and demolition of existing facilities, consolidation and relocation of facilities and functions, and the management of specific recreational and natural resources. The EA will also examine the potential for cumulative impacts from other past, present, and reasonably foreseeable future projects.

As part of the National Environmental Policy Act (NEPA) process, the USAF is seeking comments on this Proposed Action. The USAF looks forward to receiving your comments as part of the NEPA process. Please address comments to the EA Project Manager, Mr. Justin Hogrefe, 354 CES/CEIE, 2310 Central Avenue, Eielson AFB AK 99702, (907) 377-5209, 354CES.CEIEC.Environmental@us.af.mil.

Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

2 Attachments:

1. Project List
2. Maps



**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Mr. Jason Bruce  
Commissioner  
Alaska Department of Environmental Conservation  
P.O. Box 111800 Suite 303  
Juneau AK 99801

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Mr. Bruce

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

The purpose of the Proposed Action is to meet requirements necessary to fulfill and/or support the 354th Fighter Wing mission. Installation development includes 22 projects proposed by the 354th Missions Support Group and the 354th Operations Group.

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Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

2 Attachments:

1. Project List
2. Maps





**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Mr. Andrew Sayers-Fay  
Director  
ADEC - Division of Water  
P.O. Box 111800 Suite 303  
Juneau AK 99801

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Mr. Sayers-Fay

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

The purpose of the Proposed Action is to meet requirements necessary to fulfill and/or support the 354th Fighter Wing mission. Installation development includes 22 projects proposed by the 354th Missions Support Group and the 354th Operations Group.

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Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

2 Attachments:

1. Project List
2. Maps





**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Ms. Alice Edwards  
Director  
ADEC - Division of Air Quality  
P.O. Box 111800 Suite 303  
Juneau AK 99801

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Ms. Edwards

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

The purpose of the Proposed Action is to meet requirements necessary to fulfill and/or support the 354th Fighter Wing mission. Installation development includes 22 projects proposed by the 354th Missions Support Group and the 354th Operations Group.

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Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

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2. Maps



**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB, AK 99702

Ms. Denise Koch  
Director  
ADEC - Division of Spill Prevention & Response  
P.O. Box 111800 Suite 303  
Juneau, AK 99801

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Ms. Koch

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

The purpose of the Proposed Action is to meet requirements necessary to fulfill and/or support the 354th Fighter Wing mission. Installation development includes 22 projects proposed by the 354th Missions Support Group and the 354th Operations Group.

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Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

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**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Brigadier General Torrence Saxe  
Commissioner  
Alaska Department of Military and Veterans Affairs  
P.O. Box 5800  
Joint Base Elmendorf-Richardson AK 99505

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear General Saxe

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

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Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

2 Attachments:

1. Project List
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**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Mr. Doug Vincent-Lang  
Commissioner  
Alaska Department of Fish and Game  
P.O. Box 115526  
Juneau AK 99811

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Mr. Vincent-Lang

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

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Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

2 Attachments:

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**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Ms. Audra Brase  
Regional Supervisor  
Alaska Department of Fish and Game, Division of Habitat  
1300 College Road  
Fairbanks AK 99701

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Ms. Brase

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

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Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

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**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Ms. Corri Feige  
Commissioner  
Alaska Department of Natural Resources  
550 W. 7th Avenue Suite 1400  
Anchorage AK 99501

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Ms. Feige

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

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Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

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**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Ms. Judith Bittner  
Alaska Historic Preservation Officer  
Alaska Department of Natural Resources, Office of History and Archaeology  
550 W. 7th Avenue Suite 1310  
Anchorage AK 99501

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Ms. Bittner

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

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Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

2 Attachments:

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**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Mr. Martin Parsons  
Director  
Alaska Department of Natural Resources, Division of Mining, Land, and Water  
550 W. 7th Avenue Suite 1070  
Anchorage AK 99501

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Mr. Parsons

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

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Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

2 Attachments:

1. Project List
2. Maps





**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Mr. Tim Sullivan  
Director of External Affairs  
Alaska Railroad Corporation  
P.O. Box 107500  
Anchorage AK 99510-7500

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Mr. Sullivan

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

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Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

2 Attachments:

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**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Mr. Jim Dodson  
President  
Fairbanks Economic Development Corporation  
330 Wendell Avenue Suite E  
Fairbanks AK 99701

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Mr. Dodson

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

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Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

2 Attachments:

1. Project List
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**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Ms. Deb Hickok  
President  
Fairbanks Convention and Visitors Bureau  
101 Dunkel Street Suite 111  
Fairbanks AK 99701-4806

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Ms. Hickok

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

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Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

- 2 Attachments:
1. Project List
  2. Maps



**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Mr. Ryan Anderson, P.E.  
Director  
Alaska Department of Transportation, Northern Region  
2301 Peger Road  
Fairbanks AK 99709

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Mr. Anderson

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

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Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

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**DEPARTMENT OF THE AIR FORCE**  
**354TH FIGHTER WING**

26 April 2019

Lieutenant Colonel Allen G. Branco III  
Commander  
354th Civil Engineer Squadron  
2310 Central Avenue  
Eielson AFB AK 99702

Mr. Jack Hebert  
Chief Executive Officer  
Cold Climate Housing Research Center  
955 Draanjik Drive  
Fairbanks AK 99775

SUBJECT: Interagency and Intergovernmental Coordination on an Environmental  
Assessment for Installation Development at Eielson Air Force Base (AFB), Alaska

Dear Mr. Hebert

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to address installation development at Eielson Air Force Base (AFB) over the next five-year period (2019 through 2024). The USAF sends this letter in accordance with Air Force requirements for Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).

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As part of the National Environmental Policy Act (NEPA) process, the USAF is seeking comments on this Proposed Action. The USAF looks forward to receiving your comments as part of the NEPA process. Please address comments to the EA Project Manager, Mr. Justin Hogrefe, 354 CES/CEIE, 2310 Central Avenue, Eielson AFB AK 99702, (907) 377-5209, 354CES.CEIEC.Environmental@us.af.mil.

Sincerely

ALLEN G. BRANCO III, Lt Col, USAF  
Commander

- 2 Attachments:
1. Project List
  2. Maps



THE STATE  
of ALASKA

GOVERNOR MICHAEL J. DUNLEAVY

Department of Natural Resources

DIVISION OF PARKS & OUTDOOR RECREATION  
Office of History & Archaeology

550 West 7<sup>th</sup> Avenue, Suite 1310  
Anchorage, AK 99501-3561  
907.269-8700  
<http://dnr.alaska.gov/parks/oha>

May 22, 2019

Justin Hogrefe, EA Project Manager  
354 CES/CEIEA  
2310 Central Ave, Suite 100  
Eielson AFB, AK 99702

File No: 3130-1R United States Air Force  
2019- 00582

**Subject:** Request for comments regarding an Environmental Assessment for Installation Development at Eielson Air Force Base (AFB)

Dear Mr. Hogrefe:

The Alaska State Historic Preservation Office (AK SHPO) received a Request for Comments letter on the subject project from Lieutenant Colonel Allen G. Braco III on May 2, 2019, with a Projects List and four maps attached. We reviewed the letter, projects list, and maps, and offer the following comments for your consideration.

There are a number of historic buildings and structures on Eielson AFB located within the Flightline Historic District (FAI-01584) and the Engineer Hill Munitions Historic District (FAI-01766). The most recent Determinations of National Register eligibility were made in March 2019, when our office concurred with the Eielson AFB finding that five wood security guard towers—Buildings 87205a, 87205b, 87205c, 87205d, and 87205e—located within the Engineer Hill Munitions Historic District are eligible for listing in the National Register of Historic Places.

Since the letter and attachments from Commander Braco did not specifically identify which properties are slated for "modification and demolition," please be advised that the NEPA documentation does not contain adequate information to satisfy Section 106 obligations. Our office recommends that the Air Force complete Section 106 for projects/undertakings associated with installation development at Eielson AFB. As a reminder, before National Register-eligible properties on Eielson AFB can be modified or removed, our office must be notified of the proposed action.

Thank you for the opportunity to comment. Please contact Sylvia Elliott at [sylvia.elliott2@alaska.gov](mailto:sylvia.elliott2@alaska.gov) or 907-269-8724 if you have questions or if we can be of further assistance.

Sincerely,

A handwritten signature in black ink, reading "Judith E. Bittner".

Judith E. Bittner  
State Historic Preservation Officer  
JEB:she



THE STATE  
of **ALASKA**  
GOVERNOR MICHAEL I. DUNLEAVY

Department of Environmental  
Conservation

DIVISION OF AIR QUALITY  
Director's Office

PO Box 111800  
Juneau, Alaska 99811  
Main: 907.465.5100  
Toll free: 866.241.2805  
Fax: 907.465.5129  
[www.dec.alaska.gov](http://www.dec.alaska.gov)

June 3, 2019

Justin Hogrefe  
EA Project Manager  
354 CFS/CEIE  
2310 Central Avenue  
Eielson AFB, AK 99702

Subject: Interagency and Intergovernmental Coordination on an Environmental Assessment for Installation Development at Eielson Air Force (AFB), Alaska

Dear Mr. Hogrefe:

The Alaska Department of Environmental Conservation (ADEC) Division of Air Quality appreciates the opportunity to comment on the request for Interagency and Intergovernmental Coordination on an Environmental Assessment for Installation Development at Eielson Air Force (AFB), Alaska, received on May 2, 2019 via email. In this Proposed Action, the United States Air Force (USAF) is seeking for comments on installation development of 22 projects proposed by the 354<sup>th</sup> Missions Support Group and 354<sup>th</sup> Operations over the next five-year period (2019 through 2024).

The proposed action is not currently in a nonattainment or maintenance area for air quality control under the clean air act. Therefore, projects receiving federal funds or approvals do not require a conformity analysis under General and Transportation Conformity regulations. However, particular attention should be given during any construction activities to take reasonable precaution per 18 AAC 50.045(d) to prevent fugitive dust.

If the preferred method for disposal of debris in the development of any raw land is by open burning, "reasonable procedures to minimize adverse environmental effects and limit the amount of smoke generated" must be used. A general requirement of the Air Quality Control Regulations is that wastes should be burned in a manner that does not cause a public health, safety or welfare threat, an environmental problem or a nuisance. A complete description of the open burn guidance policy can be found at <http://dec.alaska.gov/air/ap/docs/obrguide2016.pdf>

Also, there are burning closures and restrictions on municipal, state, private, and federal lands in Alaska. A complete description of burning closures and restrictions can be found at <https://akfireinfo.com/2015/06/19/current-burning-closures-and-restrictions-in-alaska/>

It is essential for those who cut firewood for personal use to practice the split, stack, and store strategy to ensure that the wood they burn is dry. Since it takes about six months for wood to be adequately dry, the best time for harvest is early spring. After harvest, it is important to split the wood at least once, stack it in a way that facilitates the adequate flow of air, and store in an open airshed or cover the top. A video of the split, stack, store, and save can be found at

<https://dec.alaska.gov/air/anpms/particulate-matter/split-stack-store-video>

Please contact Cindy Heil at (907) 269-7579 or [cindy.heil@alaska.gov](mailto:cindy.heil@alaska.gov) if you require any additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Alice Edwards". The signature is fluid and cursive, with the first name "Alice" and last name "Edwards" clearly distinguishable.

Alice Edwards, Director  
Division of Air Quality

cc: Cindy Heil, ADEC/Air Non-Point Mobile Sources  
Gary Mendivil, ADEC/Commissioner's Office





## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Northern Alaska Fish & Wildlife Field Office  
101 12th Avenue  
Room 110  
Fairbanks, AK 99701-6237  
Phone: (907) 456-0203 Fax: (907) 456-0208



In Reply Refer To:  
Project Code: 2022-0079042  
Project Name: Eielson AFB Bridge

August 25, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2))

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

**Migratory Birds:** In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

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Attachment(s):

- Official Species List
  - USFWS National Wildlife Refuges and Fish Hatcheries
  - Migratory Birds
  - Wetlands
-

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Northern Alaska Fish & Wildlife Field Office**

101 12th Avenue

Room 110

Fairbanks, AK 99701-6237

(907) 456-0203

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## Project Summary

Project Code: 2022-0079042

Project Name: Eielson AFB Bridge

Project Type: Bridge - Replacement

Project Description: Bridge repair

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@64.7012196,-147.11916664137493,14z>



Counties: Fairbanks North Star County, Alaska

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## Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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# USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

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# Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

- 
1. The [Migratory Birds Treaty Act](#) of 1918.
  2. The [Bald and Golden Eagle Protection Act](#) of 1940.
  3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

**The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location.** To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<b>Bald Eagle <i>Haliaeetus leucocephalus</i></b> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a>	Breeds Feb 1 to Sep 30
<b>Golden Eagle <i>Aquila chrysaetos</i></b> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. <a href="https://ecos.fws.gov/ecp/species/1680">https://ecos.fws.gov/ecp/species/1680</a>	Breeds Jan 1 to Aug 31

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NAME	BREEDING SEASON
<b>Lesser Yellowlegs</b> <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9679">https://ecos.fws.gov/ecp/species/9679</a>	Breeds May 1 to Aug 15
<b>Olive-sided Flycatcher</b> <i>Contopus cooperi</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/3914">https://ecos.fws.gov/ecp/species/3914</a>	Breeds May 20 to Aug 31

## Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

### Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort (|)

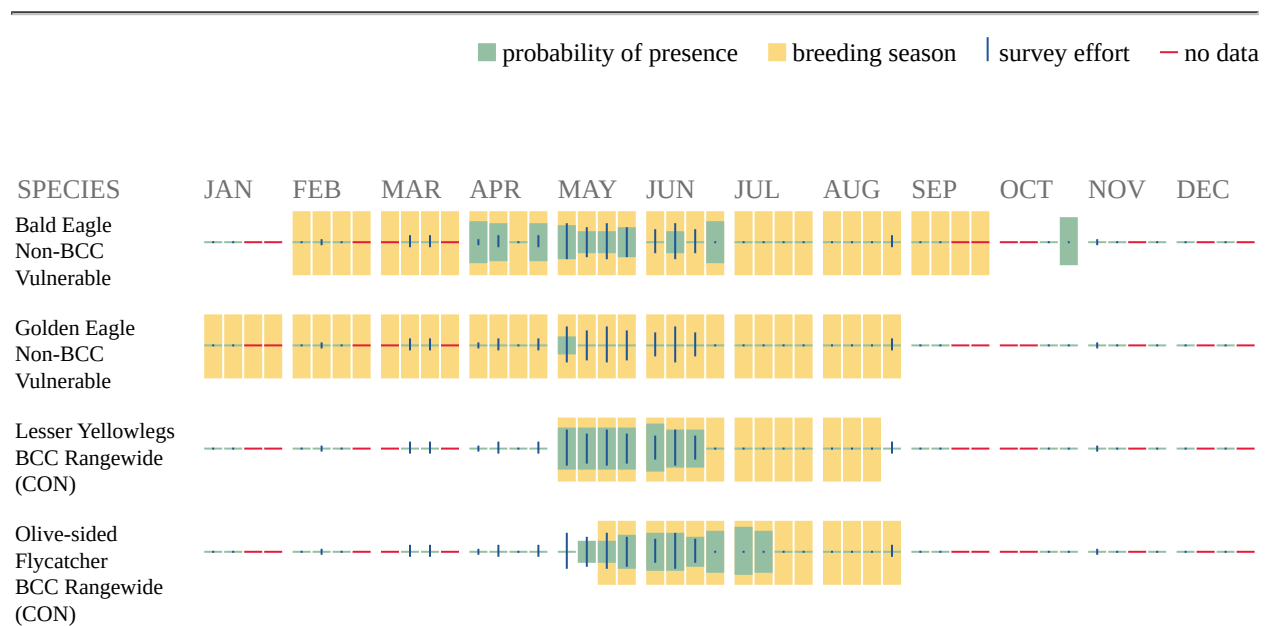
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

### No Data (—)

A week is marked as having no data if there were no survey events for that week.

### Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Alaska Bird Nesting Season <https://www.fws.gov/alaska-bird-nesting-season>



## Migratory Birds FAQ

**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

**What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

**How do I know if a bird is breeding, wintering or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point

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within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### **Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### **What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### **Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no

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data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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## Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

### RIVERINE

- [Riverine](#)
-

**NOTICE FOR EARLY PUBLIC REVIEW OF A PROPOSED  
ACTIVITY WITHIN WETLANDS AND FLOODPLAINS  
EIELSON AIR FORCE BASE, ALASKA**

The U. S. Air Force (USAF) is preparing an Environmental Assessment (EA), in accordance with the National Environmental Policy Act, to evaluate potential environmental impacts of the proposed repair of the 50-year-old Garrison Slough railroad trestle bridge at Eielson Air Force Base (AFB), Alaska. The purpose of the proposed project is to maintain a reliable method to convey coal supply to the base's Central Heat and Power Plant (CHPP) by addressing deficiencies of the aging railroad bridge. The freeze/thaw cycle and associated rail expansion and contraction has led to erosion in the abutments, which has created a differential in rail height that, with the repeated force of trains traversing the railway, resulted in a rotation of the pile bents. Left unchecked, these deficiencies would degrade the ability of Eielson AFB to meet USAF, Department of Defense, state and/or federal requirements, and to support current and future mission requirements.

After consideration of several alternatives, one action alternative and the no action alternative are being evaluated in the EA. The proposed action alternative would replace the existing railroad trestle bridge with a culvert system consisting of concrete headwalls and two 60-inch culverts conveying Garrison Slough under the railroad. In addition, two existing adjacent 48-inch culverts beneath Arctic Avenue would be replaced with two 60-inch culverts and the road repaved. The existing alignments of the railroad and Arctic Avenue would be maintained. Stone riprap would be added to the slough bottom and sides between the rail bridge and Arctic Avenue to reduce scouring of the slough bottom and sides. Existing channel bed elevations would be retained upstream and downstream of the new culvert systems.

Construction of the culvert systems would directly impact wetlands and the 100-year floodplain and is therefore subject to the requirements and objectives of Executive Order (EO) 11990, Protection of Wetlands, and Executive Order 11988, Floodplain Management. Efforts are being made during the design phase to avoid and minimize wetland and floodplain impacts to the extent practicable. This notice is required by Section 2(b) of EO 11990, and Section 2(a)(4) of Executive Order 11988, and has been prepared and made available to the public by the USAF in accordance with Title 32, Code of Federal Regulations, Part 989.24(c) and Air Force Manual 32 7003 for actions that could potentially affect wetlands and floodplains. The Air Force has also been in contact with local, state, and federal regulatory agencies regarding the proposed action, including the United States Army Corps of Engineers, United States Fish and Wildlife Service, Alaska Department of Environmental Conservation, Alaska Department of Fish and Game, and Alaska Department of Natural Resources. Subsequent public notice required by NEPA will be made once the document is available for review and comment. Please provide written comments to 354th Fighter Wing Public Affairs 354 Broadway Avenue, Suite 15A Eielson AFB, AK 99702; or by email at 354fw.pa.publicaffairs@us.af.mil within 30 days of this notice.

Sept. 2, 2022, Sept 4, 2022





## DEPARTMENT OF THE AIR FORCE

**354TH FIGHTER WING (PACAF)  
EIELSON AIR FORCE BASE, AK**

5 December 2022

Jamie Burke  
NEPA Planner, 354 CES/CEIE  
2310 Central Avenue Suite 100  
Eielson AFB, Alaska 99702

Ms. Judith Bittner  
State Historic Preservation Officer  
Alaska Office of History and Archaeology  
550 W. 7th Avenue, Suite 1310  
Anchorage AK 99501-3565

Dear Ms. Bittner,

The United States Air Force (Air Force) is proposing to replace the railroad trestle bridge at Eielson Air Force Base (AFB), Alaska. To take into account various environmental concerns, the Air Force is engaging with the appropriate resource and regulatory agencies as it formulates the undertaking. The Air Force is also preparing an Environmental Assessment (EA) under the National Environmental Policy Act to evaluate potential environmental impacts associated with the replacement of the trestle bridge.

In accordance with Section 306108 of the National Historic Preservation Act (NHPA) and its implementing regulations at 36 CFR Part 800, the Air Force, Eielson AFB, is advising you of a proposed undertaking that has the potential to affect historic properties. The undertaking would require ground disturbance for new infrastructure to support the mission.

### ***The Undertaking***

The proposed undertaking is for the replacement of the railroad trestle bridge that crosses Garrison Slough (Figure 1). The Proposed Action would replace the existing 50-year-old Garrison Slough railroad trestle bridge with a culvert system consisting of concrete headwalls and two 60-inch culverts conveying Garrison Slough under the railroad. The need for the Proposed Action is that the Garrison Slough railroad trestle bridge has become unreliable and is degrading. An alternative was considered to repair the trestle bridge as-is by rebuilding retaining walls and abutments and adding wing walls to the retaining walls to prevent the railroad ballast from eroding into the slough. However, this alternative was eliminated from further consideration as repairing the existing bridge would require increased, continual maintenance of a bridge that is approaching the end of its design life, and would not resolve the differential elevation of the bridge and railroad track due to the freeze/thaw cycle.

### ***Area of Potential Effect***

The Area of Potential Effect (APE) for this undertaking is the specific area of disturbance associated with the proposed construction as shown in Figure 2. The total APE is less than one acre and is composed of previously disturbed land as well as riverine, and wetlands. The APE is found on U.S. Geological Survey (USGS) Quadrangle Fairbanks C-1 NE (Fairbanks Meridian), Township 2S, Range 3E, Section 34. The project will occur at about latitude 64.701025, longitude -147.119270.

### ***Identification of Historic Properties***

Eielson AFB has conducted both archaeological and architectural surveys within the APE (Eielson AFB 2019) and determined that no historic properties are present. Thus, the undertaking would result in no direct impacts to architectural resources that qualify as historic properties. Additionally, no historic properties are within 1,000 feet of the site and thus the undertaking would result in no indirect impacts to architectural resources.

The military railroad on Eielson was evaluated as part of a historical building inventory in 2018 (Maggioni and Bowman) which included all facilities on Eielson approaching the 50-year-old mark. The railroad was found to not be eligible for listing on the National Register of Historic Places. It was understood by the survey team to include the trestle bridge as part of the railroad since the bridge does not have its own facility number. The railroad bridge is made of the same materials as the railroad including the wooden railroad ties which further suggests the applicability of including the trestle bridge as part of the railroad in the determination. Your office concurred with the findings and recommendations of the survey in a letter dated 28 March 2019 (Attachment 2).

No archaeological or traditional Tribal properties have been identified within the APE. Ground-disturbing activities would occur in previously disturbed areas, and it is highly unlikely that any previously undocumented archaeological resources would be encountered during facility construction. In the event of an unanticipated or inadvertent discovery, USAF would comply with Section 106 of the NHPA, as specified in standard operating procedures described in the Eielson AFB Integrated Cultural Resources Management Plan (2019).

### ***No Adverse Effect***

Eielson AFB has reviewed the Criteria of Adverse Effect and have determined that none apply to the activities that would be carried out in this undertaking. Pursuant to 36 CFR § 800.5(b), the Air Force has determined that there would be no adverse effect to historic properties by the replacement of the trestle bridge.

We request your comment and/or concurrence on the finding of *No Adverse Effect*. If we do not receive your comments and/or concurrence within the required 30 days, we will assume concurrence and proceed with the undertaking as described.

Please contact Mr. Ronald Gunderson, 354 CES/CEIEA, at 907-377-5182 or ronald.gunderson@us.af.mil if you have any further questions.

Sincerely

JAMIE L. BURKE, GS-11, DAF

**Attachments:**

1. Figure 1: Current Photo of Trestle Bridge
2. Figure 2: Bridge Location and APE
3. SHPO Concurrence with 2018 Historical Inventory Report

***References***

Eielson Air Force Base (Eielson AFB). 2019. Integrated Cultural Resources Management Plan, Eielson Air Force Base.

Maggioni, Joseph Paul and Robert Bowman. 2018. Cultural Resources Services Cold War Survey: Historic Building Inventory at Eielson Air Force Base, Alaska. Prepared for General Services Administration, Greater Southwest Region, Fort Worth, TX, and Air Force Civil Engineering Center, Joint Base San Antonio-Lackland, TX. Prepared by LG2 Environmental Solutions. April 30, 2018.



**Figure 1. Railroad trestle bridge over Garrison Slough on Eielson AFB, Alaska**



**Figure 2. Bridge location and area of potential effects**





THE STATE  
of **ALASKA**

GOVERNOR MICHAEL J. DUNLEAVY

**Department of Natural Resources**

DIVISION OF PARKS & OUTDOOR RECREATION  
Office of History & Archaeology

550 West 7<sup>th</sup> Avenue, Suite 1310  
Anchorage, AK 99501-3561  
907.269-8700

<http://dnr.alaska.gov/parks/oha>

March 28, 2019

Ronald Gunderson, Civ USAF  
Chief, Natural / Cultural Resources  
354 CES/CEIEA  
2310 Central Ave, Suite 100  
Eielson AFB, AK 99702

File No: 3130-1R United States Air Force  
2018- 000252

**Subject:** Request for concurrence with Eielson Air Force Base findings of eligibility for the National Register of Historic Places (National Register) for 67 Cold War-Era properties

Dear Mr. Gunderson:

The Alaska State Historic Preservation Office (AK SHPO) received your letter regarding the subject properties on March 4, 2019, which provided determinations of National Register eligibility for the 67 Cold War-Era properties identified in a survey conducted last year (*Final Cold War-Era Survey: Historic Building Inventory, Eielson Air Force Base, Alaska*, April 30, 2018).

Based on the information provided, *we concur* with your finding of National Register eligibility for the five wood guard towers—FAI-02493, FAI-02556, FAI-02557, FAI-02558, and FAI-002559 (Buildings 87205a, 8720b, 8720c, 87205d, and 87205e)—located in the Engineer Hill Munitions Historic District (FAI-01766). *We also concur* with your finding that the remaining 62 surveyed properties are not eligible for the National Register.

Thank you for the opportunity to comment. Please contact Sylvia Elliott at [sylvia.elliott2@alaska.gov](mailto:sylvia.elliott2@alaska.gov) or 907-269-8724 if you have questions or if we can be of further assistance.

Sincerely,

A handwritten signature in cursive script that reads "Judith E. Bittner".

Judith E. Bittner  
State Historic Preservation Officer  
JEB:she

**From:** [Hellmich, Amy S \(DNR\)](#)  
**To:** [BURKE, JAMIE L GS-11 USAF PACAF 354 CES/CEIE](#)  
**Subject:** [Non-DoD Source] RE: Request for SHPO Sec 106 Review  
**Date:** Thursday, December 22, 2022 3:25:47 PM

---

3130-1R AF / 2022-01307

Good afternoon,

The Alaska State Historic Preservation Office (AK SHPO) received your correspondence (dated December 5, 2022) concerning the subject project on December 5, 2022. Following our review of the documentation provided, we believe the finding of No Historic Properties Affected is appropriate for this project. Please note that our office may need to re-evaluate our concurrence if changes are made to the project's scope or design.

As stipulated in 36 CFR 800.3, other consulting parties such as the local government and Tribes are required to be notified of the undertaking. Additional information provided by the local government, Tribes, or other consulting parties may cause our office to re-evaluate our comments and recommendations. Please note that our response does not end the 30-day review period provided to other consulting parties.

Should unidentified historical or archaeological resources be discovered in the course of the project, work must be interrupted until the resources have been evaluated in terms of the National Register of Historic Places eligibility criteria (36 CFR 60.4), in consultation with our office. Please note that some resources can be deeply buried or underwater, and that fossils are considered cultural resources subject to the Alaska Historic Preservation Act.

This email serves as our office's official correspondence for the purposes of Section 106. Thank you for the opportunity to review and comment. Please contact me at (907) 269-8724 or [amy.hellmich@alaska.gov](mailto:amy.hellmich@alaska.gov) if you have any questions or we can be of further assistance.

Best regards,  
Amy Hellmich

Amy Hellmich  
Alaska State Historic Preservation Office  
Office of History and Archaeology  
Direct: (907) 269-8724  
[amy.hellmich@alaska.gov](mailto:amy.hellmich@alaska.gov)  
*Teleworking - Email is the best method of communication.*

---

**From:** DNR, Parks OHA Review Compliance (DNR sponsored) <oha.revcomp@alaska.gov>  
**Sent:** Tuesday, December 6, 2022 11:23  
**To:** BURKE, JAMIE L GS-11 USAF PACAF 354 CES/CEIE <jamie.burke.3@us.af.mil>  
**Cc:** Hellmich, Amy S (DNR) <amy.hellmich@alaska.gov>

**Subject:** Re: Request for SHPO Sec 106 Review

Good morning,

The Office of History and Archaeology/Alaska State Historic Preservation Office received your documentation, and its review has been logged in with Amy Hellmich under 2022-01307. Our office has 30 calendar days after receipt to complete our review and may contact you if we require additional information. Please contact the project reviewer or me by email if you have any questions or concerns.

Best,  
Sarah

***Sarah Meitl***

Review and Compliance Coordinator  
Alaska State Historic Preservation Office  
Office of History and Archaeology  
907-269-8720

---

**From:** BURKE, JAMIE L GS-11 USAF PACAF 354 CES/CEIE <[jamie.burke.3@us.af.mil](mailto:jamie.burke.3@us.af.mil)>  
**Sent:** Monday, December 5, 2022 4:50 PM  
**To:** DNR, Parks OHA Review Compliance (DNR sponsored) <[oha.revcomp@alaska.gov](mailto:oha.revcomp@alaska.gov)>  
**Subject:** Request for SHPO Sec 106 Review

[You don't often get email from [jamie.burke.3@us.af.mil](mailto:jamie.burke.3@us.af.mil). Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification> ]

CAUTION: This email originated from outside the State of Alaska mail system. Do not click links or open attachments unless you recognize the sender and know the content is safe.



**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING (PACAF)**  
**EIELSON AIR FORCE BASE, AK**

18 January 2023

Colonel David J. Berkland  
Commander  
354th Fighter Wing  
354 Broadway Street Unit 19A  
Eielson AFB AK 99702

Mr. Michael Sam  
President  
Native Village of Tetlin  
PO Box 797  
Tok AK 99780

Dear President Sam

The United States Air Force (USAF) proposes to repair the Garrison Slough railroad trestle bridge at Eielson Air Force Base (AFB), Alaska. The purpose of the Proposed Action is to maintain a reliable method to convey the coal supply to the Central Heat and Power Plant (CHPP). The Proposed Action would address deficiencies of the aging railroad bridge to maintain a reliable method of providing coal to the CHPP and jet propellant 8 (JP-8) fuel to the bulk storage facility. Currently, all coal is delivered to the CHPP by rail. Rail is the secondary method of JP-8 fuel deliveries to Eielson AFB. The Garrison Slough trestle bridge has become unreliable and is degrading. The freeze and thaw cycle along with the associate rail expansion and contraction has led to erosion of the rails. This has created a differential in rail height that, with the repeated force of trains traversing the railway, resulted in a rotation of the pile. If these issues are not resolved, it will prevent Eielson AFB from meeting the Department of Defense (DoD), and the state and/or federal requirements to support the 354 Fighter Wing's (354 FW) current mission and future mission requirements.

Under the Proposed Action, the Air Force would replace the existing 50-year-old Garrison Slough railroad trestle bridge with a culvert system consisting of concrete headwalls and two 60-inch culverts conveying Garrison Slough under the railroad. In addition, two existing adjacent 48-inch culverts beneath Artic Avenue would also be replaced with two 60-inch culverts.

To ensure that the Air Force studies the potential environmental impacts of this proposal there will be an Environmental Assessment (EA). This assessment will adhere to the National Environmental Policy Act (NEPA) of 1969 and its implementing regulations.

The Air Force has determined that the Area of Potential Effects (APE) for this undertaking encompasses the areas where ground-disturbing activities would occur (Figure 1). The Air Force is currently conducting research and investigations to identify historic properties within the APE and to determine the potential effects, if any, of the proposed Undertaking.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended and its implementing regulations (36 Code of Federal Regulations Part 800), the Air Force would like to initiate government-to-government consultation to request your assistance in identifying any properties of religious or cultural importance within the area of potential effects. Additionally, we welcome comments, concerns, and suggestions relevant to the environmental impact assessment for the Proposed Action. As we move forward through this process, we look forward to your participation and input.

If you wish to meet with me to discuss the proposed repair of the Garrison Slough railroad trestle bridge as well as your concerns about the effects on your interests if this proposal is implemented, I invite you to call me at (907) 377-6101 to arrange a meeting.

Sincerely

A handwritten signature in dark ink, appearing to read 'DJB' followed by a stylized flourish.

DAVID J. BERKLAND, Colonel, USAF  
Commander

Attachment:

Figure 1: Area of Potential Effect





**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING (PACAF)**  
**EIELSON AIR FORCE BASE, AK**

18 January 2023

Colonel David J. Berkland  
Commander  
354th Fighter Wing  
354 Broadway Street Unit 19A  
Eielson AFB AK 99702

Mr. William Albert  
President  
Northway Village  
PO Box 516  
Fairbanks AK 99764

Dear President Albert

The United States Air Force proposes to repair the Garrison Slough railroad trestle bridge at Eielson Air Force Base (AFB), Alaska. The purpose of the Proposed Action is to maintain a reliable method to convey the coal supply to the Central Heat and Power Plant (CHPP). The Proposed Action would address deficiencies of the aging railroad bridge to maintain a reliable method of providing coal to the CHPP and jet propellant 8 (JP-8) fuel to the bulk storage facility. Currently, all coal is delivered to the CHPP by rail. Rail is the secondary method of JP-8 fuel deliveries to Eielson AFB. The Garrison Slough trestle bridge has become unreliable and is degrading. The freeze and thaw cycle along with the associate rail expansion and contraction has led to erosion of the rails. This has created a differential in rail height that, with the repeated force of trains traversing the railway, resulted in a rotation of the pile. If these issues are not resolved, it will prevent Eielson AFB from meeting the Department of Defense (DoD), and the state and/or federal requirements to support the 354 Fighter Wing's current mission and future mission requirements.

Under the Proposed Action, the Air Force would replace the existing 50-year-old Garrison Slough railroad trestle bridge with a culvert system consisting of concrete headwalls and two 60-inch culverts conveying Garrison Slough under the railroad. In addition, two existing adjacent 48-inch culverts beneath Artic Avenue would also be replaced with two 60-inch culverts.

To ensure that the Air Force studies the potential environmental impacts of this proposal there will be an Environmental Assessment (EA). This assessment will adhere to the National Environmental Policy Act (NEPA) of 1969 and its implementing regulations.

The Air Force has determined that the Area of Potential Effects (APE) for this undertaking encompasses the areas where ground-disturbing activities would occur (Figure 1). The Air Force is currently conducting research and investigations to identify historic properties within the APE and to determine the potential effects, if any, of the proposed Undertaking.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended and its implementing regulations (36 Code of Federal Regulations Part 800), the Air Force would like to initiate government-to-government consultation to request your assistance in identifying any properties of religious or cultural importance within the area of potential effects. Additionally, we welcome comments, concerns, and suggestions relevant to the environmental impact assessment for the Proposed Action. As we move forward through this process, we look forward to your participation and input.

If you wish to meet with me to discuss the proposed repair of the Garrison Slough railroad trestle bridge as well as your concerns about the effects on your interests if this proposal is implemented, I invite you to call me at (907) 377-6101 to arrange a meeting.

Sincerely

A handwritten signature in dark ink, appearing to read 'D J B' followed by a stylized flourish.

DAVID J. BERKLAND, Colonel, USAF  
Commander

Attachment:

Figure 1: Area of Potential Effect



**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING (PACAF)**  
**EIELSON AIR FORCE BASE, AK**

18 January 2023

Colonel David J. Berkland  
Commander  
354th Fighter Wing  
354 Broadway Street Unit 19A  
Eielson AFB AK 99702

Mr. Herbert Demit  
President  
Native Village of Tanacross  
PO Box 76009  
Tanacross AK 99776

Dear President Demit

The United States Air Force proposes to repair the Garrison Slough railroad trestle bridge at Eielson Air Force Base (AFB), Alaska. The purpose of the Proposed Action is to maintain a reliable method to convey coal supply to the Central Heat and Power Plant (CHPP). The Proposed Action would address deficiencies of the aging railroad bridge to maintain a reliable method of providing coal to the CHPP and jet propellant 8 (JP-8) fuel to the bulk storage facility. Currently, all coal is delivered to the CHPP by rail. Rail is the secondary method of JP-8 fuel deliveries to Eielson AFB. The Garrison Slough trestle bridge has become unreliable and is degrading. The freeze/thaw cycle and associate rail expansion and contraction has led to erosion in the abutments, which has created a differential in rail height that, with the repeated force of trains traversing the railway, resulted in a rotation of the pile bents. Left unchecked, these deficiencies would degrade the ability of Eielson AFB to meet Air Force, Department of Defense (DoD), state and/or federal requirements and to support 354 Fighter Wing current mission and future mission requirements.

Under the Proposed Action, the Air Force would replace the existing 50-year-old Garrison Slough railroad trestle bridge with a culvert system consisting of concrete headwalls and two 60-inch culverts conveying Garrison Slough under the railroad. In addition, two existing adjacent 48-inch culverts beneath Artic Avenue would also be replaced with two 60-inch culverts.

To ensure that the Air Force studies the potential environmental impacts of this proposal before taking action, an Environmental Assessment (EA) is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and its implementing regulations.

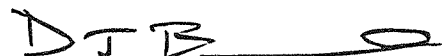
The Air Force has determined that the Area of Potential Effects (APE) for this Undertaking encompasses the areas where ground-disturbing activities would occur (Figure 1). The Air Force

is currently conducting research and investigations to identify historic properties within the APE and to determine the potential effects, if any, of the proposed Undertaking.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended and its implementing regulations (36 Code of Federal Regulations Part 800), the Air Force would like to initiate government-to-government consultation to request your assistance in identifying any properties of religious or cultural importance within the area of potential effects. Additionally, we welcome comments, concerns, and suggestions relevant to the environmental impact assessment for the Proposed Action. As we move forward through this process, we look forward to your participation and input.

If you wish to meet with me to discuss the proposed repair of the Garrison Slough railroad trestle bridge as well as your concerns about the effects on your interests if this proposal is implemented, I invite you to call me at (907) 377-6101 to arrange a meeting.

Sincerely

A handwritten signature in black ink, appearing to read "D J B" followed by a stylized flourish.

DAVID J. BERKLAND, Colonel, USAF  
Commander

1 Attachment:

Figure 1: Area of Potential Effect



**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING (PACAF)**  
**EIELSON AIR FORCE BASE, AK**

18 January 2023

Colonel David J. Berkland  
Commander  
354th Fighter Wing  
354 Broadway Street Unit 19A  
Eielson AFB AK 99702

Mr. Tim McManus  
President  
Nenana Native Association  
PO Box 369  
Fairbanks AK 99760

Dear President McManus

The United States Air Force proposes to repair the Garrison Slough railroad trestle bridge at Eielson Air Force Base (AFB), Alaska. The purpose of the Proposed Action is to maintain a reliable method to convey the coal supply to the Central Heat and Power Plant (CHPP). The Proposed Action would address deficiencies of the aging railroad bridge to maintain a reliable method of providing coal to the CHPP and jet propellant 8 (JP-8) fuel to the bulk storage facility. Currently, all coal is delivered to the CHPP by rail. Rail is the secondary method of JP-8 fuel deliveries to Eielson AFB. The Garrison Slough trestle bridge has become unreliable and is degrading. The freeze and thaw cycle along with the associate rail expansion and contraction has led to erosion of the rails. This has created a differential in rail height that, with the repeated force of trains traversing the railway, resulted in a rotation of the pile. If these issues are not resolved, it will prevent Eielson AFB from meeting the Department of Defense (DoD), and the state and/or federal requirements to support the 354 Fighter Wing's current mission and future mission requirements.

Under the Proposed Action, the Air Force would replace the existing 50-year-old Garrison Slough railroad trestle bridge with a culvert system consisting of concrete headwalls and two 60-inch culverts conveying Garrison Slough under the railroad. In addition, two existing adjacent 48-inch culverts beneath Artic Avenue would also be replaced with two 60-inch culverts.

To ensure that the Air Force studies the potential environmental impacts of this proposal there will be an Environmental Assessment (EA). This assessment will adhere to the National Environmental Policy Act (NEPA) of 1969 and its implementing regulations.



The Air Force has determined that the Area of Potential Effects (APE) for this undertaking encompasses the areas where ground-disturbing activities would occur (Figure 1). The Air Force is currently conducting research and investigations to identify historic properties within the APE and to determine the potential effects, if any, of the proposed Undertaking.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended and its implementing regulations (36 Code of Federal Regulations Part 800), the Air Force would like to initiate government-to-government consultation to request your assistance in identifying any properties of religious or cultural importance within the area of potential effects. Additionally, we welcome comments, concerns, and suggestions relevant to the environmental impact assessment for the Proposed Action. As we move forward through this process, we look forward to your participation and input.

If you wish to meet with me to discuss the proposed repair of the Garrison Slough railroad trestle bridge as well as your concerns about the effects on your interests if this proposal is implemented, I invite you to call me at (907) 377-6101 to arrange a meeting.

Sincerely

A handwritten signature in black ink, appearing to read "D J B E", with a horizontal line extending from the end.

DAVID J. BERKLAND, Colonel, USAF  
Commander

Attachment:

Figure 1: Area of Potential Effect



**DEPARTMENT OF THE AIR FORCE  
354<sup>TH</sup> FIGHTER WING (PACAF)  
EIELSON AIR FORCE BASE, AK**

18 January 2023

Colonel David J. Berkland  
Commander  
354th Fighter Wing  
354 Broadway Street Unit 19A  
Eielson AFB AK 99702

Ms. Tracy Charles-Smith  
President  
Village of Dot Lake  
PO Box 70494  
Fairbanks AK 99707

Dear President Charles-Smith

The United States Air Force proposes to repair the Garrison Slough railroad trestle bridge at Eielson Air Force Base (AFB), Alaska. The purpose of the Proposed Action is to maintain a reliable method to convey the coal supply to the Central Heat and Power Plant (CHPP). The Proposed Action would address deficiencies of the aging railroad bridge to maintain a reliable method of providing coal to the CHPP and jet propellant 8 (JP-8) fuel to the bulk storage facility. Currently, all coal is delivered to the CHPP by rail. Rail is the secondary method of JP-8 fuel deliveries to Eielson AFB. The Garrison Slough trestle bridge has become unreliable and is degrading. The freeze and thaw cycle along with the associate rail expansion and contraction has led to erosion of the rails. This has created a differential in rail height that, with the repeated force of trains traversing the railway, resulted in a rotation of the pile. If these issues are not resolved, it will prevent Eielson AFB from meeting the Department of Defense (DoD), and the state and/or federal requirements to support the 354th Fighter Wing's current mission and future mission requirements.

Under the Proposed Action, the Air Force would replace the existing 50-year-old Garrison Slough railroad trestle bridge with a culvert system consisting of concrete headwalls and two 60-inch culverts conveying Garrison Slough under the railroad. In addition, two existing adjacent 48-inch culverts beneath Artic Avenue would also be replaced with two 60-inch culverts.

To ensure that the Air Force studies the potential environmental impacts of this proposal there will be an Environmental Assessment (EA). This assessment will adhere to the National Environmental Policy Act (NEPA) of 1969 and its implementing regulations.

The Air Force has determined that the Area of Potential Effects (APE) for this undertaking encompasses the areas where ground-disturbing activities would occur (Figure 1). The Air Force is currently conducting research and investigations to identify historic properties within the APE and to determine the potential effects, if any, of the proposed Undertaking.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended and its implementing regulations (36 Code of Federal Regulations Part 800), the Air Force would like to initiate government-to-government consultation to request your assistance in identifying any properties of religious or cultural importance within the area of potential effects. Additionally, we welcome comments, concerns, and suggestions relevant to the environmental impact assessment for the Proposed Action. As we move forward through this process, we look forward to your participation and input.

If you wish to meet with me to discuss the proposed repair of the Garrison Slough railroad trestle bridge as well as your concerns about the effects on your interests if this proposal is implemented, I invite you to call me at (907) 377-6101 to arrange a meeting.

Sincerely

A handwritten signature in black ink, appearing to read "DTB" followed by a long horizontal stroke.

DAVID J. BERKLAND, Colonel, USAF  
Commander

Attachment:

Figure 1: Area of Potential Effect



**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING (PACAF)**  
**EIELSON AIR FORCE BASE, AK**

18 January 2023

Colonel David J. Berkland  
Commander  
354th Fighter Wing  
354 Broadway Street Unit 19A  
Eielson AFB AK 99702

Mrs. Patricia MacDonald  
Council President  
Healy Lake Village  
600 University Avenue, Suite 100  
Fairbanks AK 99709

Dear President MacDonald

The United States Air Force proposes to repair the Garrison Slough railroad trestle bridge at Eielson Air Force Base (AFB), Alaska. The purpose of the Proposed Action is to maintain a reliable method to convey the coal supply to the Central Heat and Power Plant (CHPP). The Proposed Action would address deficiencies of the aging railroad bridge to maintain a reliable method of providing coal to the CHPP and jet propellant 8 (JP-8) fuel to the bulk storage facility. Currently, all coal is delivered to the CHPP by rail. Rail is the secondary method of JP-8 fuel deliveries to Eielson AFB. The Garrison Slough trestle bridge has become unreliable and is degrading. The freeze and thaw cycle along with the associate rail expansion and contraction has led to erosion of the rails. This has created a differential in rail height that, with the repeated force of trains traversing the railway, resulted in a rotation of the pile. If these issues are not resolved, it will prevent Eielson AFB from meeting the Department of Defense (DoD), and the state and/or federal requirements to support the 354 Fighter Wing's current mission and future mission requirements.

Under the Proposed Action, the Air Force would replace the existing 50-year-old Garrison Slough railroad trestle bridge with a culvert system consisting of concrete headwalls and two 60-inch culverts conveying Garrison Slough under the railroad. In addition, two existing adjacent 48-inch culverts beneath Artic Avenue would also be replaced with two 60-inch culverts.

To ensure that the Air Force studies the potential environmental impacts of this proposal there will be an Environmental Assessment (EA). This assessment will adhere to the National Environmental Policy Act (NEPA) of 1969 and its implementing regulations.

The Air Force has determined that the Area of Potential Effects (APE) for this undertaking encompasses the areas where ground-disturbing activities would occur (Figure 1). The Air Force is currently conducting research and investigations to identify historic properties within the APE and to determine the potential effects, if any, of the proposed Undertaking.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended and its implementing regulations (36 Code of Federal Regulations Part 800), the Air Force would like to initiate government-to-government consultation to request your assistance in identifying any properties of religious or cultural importance within the area of potential effects. Additionally, we welcome comments, concerns, and suggestions relevant to the environmental impact assessment for the Proposed Action. As we move forward through this process, we look forward to your participation and input.

If you wish to meet with me to discuss the proposed repair of the Garrison Slough railroad trestle bridge as well as your concerns about the effects on your interests if this proposal is implemented, I invite you to call me at (907) 377-6101 to arrange a meeting.

Sincerely

A handwritten signature in dark ink, appearing to read 'D J B' followed by a stylized flourish.

DAVID J. BERKLAND, Colonel, USAF  
Commander

Attachment:

Figure 1: Area of Potential Effect





**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING**  
**EIELSON AIR FORCE BASE, ALASKA**

2 March 2023

Jamie Burke  
NEPA Planner, 354 CES/CEIE  
2310 Central Ave, Suite 100  
Eielson AFB AK 99702

City of Fairbanks  
Mayor  
800 Cushman Street,  
Fairbanks AK 99701

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

The U.S. Air Force announces the availability of the Draft Environmental Assessment (EA) for the proposed repair of the 50-year-old Garrison Slough railroad trestle bridge at Eielson Air Force Base.

The EA evaluates the potential environmental impacts of replacing the Garrison Slough railroad trestle bridge with a culvert system consisting of concrete headwalls and two 60-inch culverts conveying Garrison Slough under the railroad. In addition, two existing adjacent 48-inch culverts beneath Arctic Avenue would be replaced with two 60-inch culverts and the road repaved. The proposed project would address deficiencies of the aging railroad trestle bridge to maintain a reliable method of providing coal to the Central Heat and Power Plant and jet propellant fuel to the bulk fuel storage facility.

The Draft EA is available for review from March 5, 2023 to April 4, 2023 on the project website at: <https://www.eielson.af.mil/> and at the Noel Wien Public Library at 1215 Cowles St. Fairbanks, AK 99701.

Comments on the Draft EA are requested by **April 4, 2023** and may be sent to 354th Fighter Wing Public Affairs, 354 Broadway Avenue, Suite 15A, Eielson AFB, AK 99702, or emailed to: [354fw.pa.publicaffairs@us.af.mil](mailto:354fw.pa.publicaffairs@us.af.mil).

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**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING**  
**EIELSON AIR FORCE BASE, ALASKA**

2 March 2023

Jamie Burke  
NEPA Planner, 354 CES/CEIE  
2310 Central Ave, Suite 100  
Eielson AFB AK 99702

City of Delta Junction  
Mayor  
P.O. Box 229,  
Delta Junction AK 99737

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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**DEPARTMENT OF THE AIR FORCE**  
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2 March 2023

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2310 Central Ave, Suite 100  
Eielson AFB AK 99702

City of North Pole  
Mayor  
125 Snowman Lake,  
North Pole AK 99705

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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Fairbanks North Star Borough  
Mayor  
907 Terminal Street,  
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**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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**DEPARTMENT OF THE AIR FORCE**  
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2 March 2023

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USACE, Fairbanks Regulatory Field Office  
Northcentral Section Chief  
2175 University Avenue, Suite 201E  
Fairbanks AK 99709

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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USFWS, Fairbanks Fish and Wildlife Field Office  
Field Supervisor  
101 12th Avenue, Room 210  
Fairbanks AK 99701

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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2 March 2023

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Alaska Department of Environmental Conservation  
Commissioner  
P.O. Box 111800, Suite 303  
Juneau AK 99801

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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Alaska Department of Environmental Conservation - Division of Air Quality  
Director  
P.O. Box 111800, Suite 303  
Juneau AK 99801

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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Alaska Department of Environmental Conservation - Division of Spill Prevention & Response  
Director  
P.O. Box 111800, Suite 303  
Juneau AK 99801

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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Alaska Department of Environmental Conservation - Division of Water  
Director  
P.O. Box 111800, Suite 303  
Juneau AK 99801

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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2 March 2023

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Alaska Department of Fish and Game  
Commissioner  
P.O. Box 115526,  
Juneau AK 99811

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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Alaska Department of Fish and Game - Division of Habitat  
Regional Supervisor  
1300 College Road,  
Fairbanks AK 99701

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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Alaska Department of Natural Resources  
Commissioner  
550 W. 7th Avenue, Suite 1400  
Anchorage AK 99501

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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Alaska Department of Natural Resources - Division of Mining, Land & Water  
Director  
550 W. 7th Avenue, Suite 1070  
Anchorage AK 99501

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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2 March 2023

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Alaska Department of Natural Resources, Office of History & Archaeology  
Ms. Judith Bittner  
Alaska Historic Preservation Officer  
550 W. 7th Avenue, Suite 1310  
Anchorage AK 99501

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING**  
**EIELSON AIR FORCE BASE, ALASKA**

2 March 2023

Jamie Burke  
NEPA Planner, 354 CES/CEIE  
2310 Central Ave, Suite 100  
Eielson AFB AK 99702

Alaska Department of Military & Veterans Affairs  
Commissioner  
P.O. Box 5800,  
Joint Base Elmendorf-Richardson AK 99505

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

The U.S. Air Force announces the availability of the Draft Environmental Assessment (EA) for the proposed repair of the 50-year-old Garrison Slough railroad trestle bridge at Eielson Air Force Base.

The EA evaluates the potential environmental impacts of replacing the Garrison Slough railroad trestle bridge with a culvert system consisting of concrete headwalls and two 60-inch culverts conveying Garrison Slough under the railroad. In addition, two existing adjacent 48-inch culverts beneath Arctic Avenue would be replaced with two 60-inch culverts and the road repaved. The proposed project would address deficiencies of the aging railroad trestle bridge to maintain a reliable method of providing coal to the Central Heat and Power Plant and jet propellant fuel to the bulk fuel storage facility.

The Draft EA is available for review from March 5, 2023 to April 4, 2023 on the project website at: <https://www.eielson.af.mil/> and at the Noel Wien Public Library at 1215 Cowles St. Fairbanks, AK 99701.

Comments on the Draft EA are requested by **April 4, 2023** and may be sent to 354th Fighter Wing Public Affairs, 354 Broadway Avenue, Suite 15A, Eielson AFB, AK 99702, or emailed to: [354fw.pa.publicaffairs@us.af.mil](mailto:354fw.pa.publicaffairs@us.af.mil).

Jamie Burke  
NEPA Program Manager  
Eielson AFB, Alaska  
907-377-3313 (DSN: 317)  
[jamie.burke.3@us.af.mil](mailto:jamie.burke.3@us.af.mil)





**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING**  
**EIELSON AIR FORCE BASE, ALASKA**

2 March 2023

Jamie Burke  
NEPA Planner, 354 CES/CEIE  
2310 Central Ave, Suite 100  
Eielson AFB AK 99702

Alaska Railroad Corporation  
Director of External Affairs  
P.O. Box 107500,  
Anchorage AK 99510

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING**  
**EIELSON AIR FORCE BASE, ALASKA**

2 March 2023

Jamie Burke  
NEPA Planner, 354 CES/CEIE  
2310 Central Ave, Suite 100  
Eielson AFB AK 99702

Fairbanks Economic Development Corporation  
President  
330 Wendell Avenue, Suite E  
Fairbanks AK 99701

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING**  
**EIELSON AIR FORCE BASE, ALASKA**

2 March 2023

Jamie Burke  
NEPA Planner, 354 CES/CEIE  
2310 Central Ave, Suite 100  
Eielson AFB AK 99702

Fairbanks Convention and Visitors Bureau  
President  
101 Dunkel Street, Suite 111  
Fairbanks AK 99701

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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Jamie Burke  
NEPA Program Manager  
Eielson AFB, Alaska  
907-377-3313 (DSN: 317)  
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**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING**  
**EIELSON AIR FORCE BASE, ALASKA**

2 March 2023

Jamie Burke  
NEPA Planner, 354 CES/CEIE  
2310 Central Ave, Suite 100  
Eielson AFB AK 99702

Alaska Department of Transportation, Northern Region  
Director  
2301 Peger Road,  
Fairbanks AK 99709

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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Jamie Burke  
NEPA Program Manager  
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**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING**  
**EIELSON AIR FORCE BASE, ALASKA**

2 March 2023

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NEPA Planner, 354 CES/CEIE  
2310 Central Ave, Suite 100  
Eielson AFB AK 99702

Cold Climate Housing Research Center  
Chief Executive Officer  
955 Draanjik Drive,  
Fairbanks AK 99775

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING**  
**EIELSON AIR FORCE BASE, ALASKA**

2 March 2023

Jamie Burke  
NEPA Planner, 354 CES/CEIE  
2310 Central Ave, Suite 100  
Eielson AFB AK 99702

Native Village of Tetlin  
Mr. Michael Sam  
President  
P.O. Box 797,  
Tok AK 99780

SUBJECT: Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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Jamie Burke  
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Eielson AFB, Alaska  
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[jamie.burke.3@us.af.mil](mailto:jamie.burke.3@us.af.mil)





**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING**  
**EIELSON AIR FORCE BASE, ALASKA**

2 March 2023

Jamie Burke  
NEPA Planner, 354 CES/CEIE  
2310 Central Ave, Suite 100  
Eielson AFB AK 99702

Northway Village  
Mr. William Albert  
President  
P.O. Box 516,  
Fairbanks AK 99764

SUBJECT: Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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907-377-3313 (DSN: 317)  
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**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING**  
**EIELSON AIR FORCE BASE, ALASKA**

2 March 2023

Jamie Burke  
NEPA Planner, 354 CES/CEIE  
2310 Central Ave, Suite 100  
Eielson AFB AK 99702

Native Village of Tanacross  
Mr. Herbert Demit  
President  
P.O. Box 76009,  
Tanacross AK 99776

**SUBJECT:** Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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Jamie Burke  
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Eielson AFB, Alaska  
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**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING**  
**EIELSON AIR FORCE BASE, ALASKA**

2 March 2023

Jamie Burke  
NEPA Planner, 354 CES/CEIE  
2310 Central Ave, Suite 100  
Eielson AFB AK 99702

Nenana Native Association  
Mr. Tim McManus  
President  
P.O. Box 369,  
Fairbanks AK 99760

SUBJECT: Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING**  
**EIELSON AIR FORCE BASE, ALASKA**

2 March 2023

Jamie Burke  
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2310 Central Ave, Suite 100  
Eielson AFB AK 99702

Village of Dot Lake  
Ms. Tracy Charles-Smith  
President  
P.O. Box 70494,  
Fairbanks AK 99707

SUBJECT: Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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907-377-3313 (DSN: 317)  
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**DEPARTMENT OF THE AIR FORCE**  
**354<sup>TH</sup> FIGHTER WING**  
**EIELSON AIR FORCE BASE, ALASKA**

2 March 2023

Jamie Burke  
NEPA Planner, 354 CES/CEIE  
2310 Central Ave, Suite 100  
Eielson AFB AK 99702

Healy Lake Village  
Mrs. Patricia MacDonald  
Council President  
600 University Avenue, Suite 100  
Fairbanks AK 99709

SUBJECT: Notice of Availability - Draft Environmental Assessment for Repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base, Alaska.

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Jamie Burke  
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Eielson AFB, Alaska  
907-377-3313 (DSN: 317)  
[jamie.burke.3@us.af.mil](mailto:jamie.burke.3@us.af.mil)

**NOTICE OF AVAILABILITY - DRAFT ENVIRONMENTAL ASSESSMENT  
FOR REPAIR OF THE GARRISON SLOUGH RAILROAD TRESTLE  
BRIDGE AT EIELSON AIR FORCE BASE, ALASKA**

The U.S. Air Force announces the availability of the Draft Environmental Assessment (EA) for the proposed repair of the 50-year-old Garrison Slough railroad trestle bridge at Eielson Air Force Base. The EA evaluates the potential environmental impacts of replacing the Garrison Slough railroad trestle bridge with a culvert system consisting of concrete headwalls and two 60-inch culverts conveying Garrison Slough under the railroad. In addition, two existing adjacent 48-inch culverts beneath Arctic Avenue would be replaced with two 60-inch culverts and the road repaved. The proposed project would address deficiencies of the aging railroad trestle bridge to maintain a reliable method of providing coal to the Central Heat and Power Plant and jet propellant fuel to the bulk fuel storage facility. The proposed action is subject to the Clean Water Act Sections 401, 404, and 404(b)(1) guidelines, and the requirements and objectives of EO 11990, Protection of Wetlands. Federal and state agencies with jurisdiction have been contacted regarding this EA: U.S. Fish and Wildlife Service; U.S. Army Corps of Engineers, Fairbanks Regulatory Field Office; Alaska Department of Environmental Conservation (ADEC); ADEC, Division of Water; ADEC, Division of Air Quality; and ADEC, Division of Spill Prevention & Response; Alaska Department of Military and Veteran Affairs; Alaska Department of Fish and Game (ADFG); ADFG, Division of Habitat; Alaska State Historic Preservation Office; Alaska Department of Natural Resources (AKNR); AKNR, Division of Mining, Land, and Water; Alaska Railroad Corporation; Fairbanks Economics Development Corporation; Fairbanks Convention and Visitors Bureau; Alaska Department of Transportation Northern Region; Cold Climate Housing Research Center. The Draft EA is available for review from March 5, 2023 to April 4, 2023 on the project website at: <https://www.eielson.af.mil/> and at the Noel Wien Public Library at 1215 Cowles St. Fairbanks, AK 99701.

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March 5, 2023





THE STATE  
of **ALASKA**  
GOVERNOR MIKE DUNLEAVY

## Department of Environmental Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE  
Contaminated Sites Program

610 University Ave  
Fairbanks, Alaska, 99709-3643  
Main: 907.451.2180  
Fax: 907.451.5105  
[www.dec.alaska.gov](http://www.dec.alaska.gov)

March 13, 2023

File No: 107.38.006, 107.38.150, 107.38.054

Jamie Burke  
354th Fighter Wing Public Affairs  
354 Broadway Avenue, Suite 15A  
Eielson AFB, AK 99702

**Re: DEC Comments for Air Force Action – Repair of the Garrison Slough Railroad  
Trestle Bridge at Eielson Air Force Base, Alaska**

Dear Mr. Burke:

The Alaska Department of Environmental Conservation (DEC) is responding to an invite to comment on the Air Force Action for repair of the Garrison Slough Railroad Trestle Bridge at Eielson Air Force Base (AFB), Alaska.

The proposed project footprint will impact a known contaminated site including the Eielson AFB perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) plume area. Contaminated soil and groundwater generated by the construction will need to be characterized and disposed of, as appropriate. The draft Environmental Assessment acknowledges site conditions and regulatory compliance issues previously scoped with DEC, including the permitting of dewatering activities where applicable. All work in known contaminated sites requires a work plan and DEC approval prior to the activities taking place.

If you have any questions, please do not hesitate to contact the DEC project manager at (907) 451-2180, or by email at [dennis.shepard@alaska.gov](mailto:dennis.shepard@alaska.gov).

Sincerely,

Dennis Shepard  
Remedial Project Manager

Cc via email: Stephanie Buss, DEC  
Bill O'Connell, DEC  
Melinda Brunner, DEC  
Axl Levan, DEC

**APPENDIX B**  
**AIR CONFORMITY APPLICABILITY MODEL REPORT**

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# AIR CONFORMITY APPLICABILITY MODEL REPORT

## RECORD OF AIR ANALYSIS (ROAA)

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

**a. Action Location:**

**Base:** EIELSON AFB  
**State:** Alaska  
**County(s):** Fairbanks North Star Borough  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Installation Development at Eielson Air Force Base, Alaska

**c. Project Number/s (if applicable):**

**d. Projected Action Start Date:** 5 / 2023

**e. Action Description:**

A project to replace a trestle bridge with a culvert system is proposed for Garrison Slough. The bridge is part of a rail system used to transport fuels to the facility.

**f. Point of Contact:**

**Name:** Lesley Hamilton  
**Title:** Sr Assoc  
**Organization:** Cardno  
**Email:** Lesley.Hamilton@cardno-gs.com  
**Phone Number:**

**2. Air Impact Analysis:** Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

☐ applicable  
☒ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance

# AIR CONFORMITY APPLICABILITY MODEL REPORT

## RECORD OF AIR ANALYSIS (ROAA)

indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

### Analysis Summary:

**2023**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.185	250	No
NOx	1.108	250	No
CO	1.198	250	No
SOx	0.003	250	No
PM 10	0.102	250	No
PM 2.5	0.047	250	No
Pb	0.000	25	No
NH3	0.001	100	No
CO2e	284.1		

**2024 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	100	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.

*Lesley Hamilton*

Lesley Hamilton, Sr Assoc

**2/23/2023**

DATE

# DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

## 1. General Information

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### - Action Location

**Base:** EIELSON AFB  
**State:** Alaska  
**County(s):** Fairbanks North Star Borough  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**- Action Title:** Installation Development at Eielson Air Force Base, Alaska

**- Project Number/s (if applicable):**

**- Projected Action Start Date:** 5 / 2023

### - Action Purpose and Need:

The purpose of installation development is to address deficiencies of function and capability in the facilities and infrastructure at Eielson AFB that arise through obsolescence, deterioration, and evolving needs. These deficiencies are remedied through an ongoing process of construction of new facilities and new infrastructure, the repair of existing facilities, and the demolition of redundant facilities.

### - Action Description:

A project to replace a trestle bridge with a culvert system is proposed for Garrison Slough. The bridge is part of a rail system used to transport fuels to the facility.

### - Point of Contact

**Name:** Lesley Hamilton  
**Title:** Sr Assoc  
**Organization:** Cardno  
**Email:** Lesley.Hamilton@cardno-gs.com  
**Phone Number:**

### - Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Garrison Slough Bridge Replacement

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

## 2. Construction / Demolition

---

### 2.1 General Information & Timeline Assumptions

#### - Activity Location

**County:** Fairbanks North Star Borough  
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**- Activity Title:** Garrison Slough Bridge Replacement

#### - Activity Description:

Replace old trestle bridge and install culverts.

**- Activity Start Date**



# DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Start Month: 5  
Start Month: 2023

## - Activity End Date

Indefinite: False  
End Month: 9  
End Month: 2023

## - Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.184866
SO <sub>x</sub>	0.002872
NO <sub>x</sub>	1.108397
CO	1.198079
PM 10	0.101711

Pollutant	Total Emissions (TONs)
PM 2.5	0.047476
Pb	0.000000
NH <sub>3</sub>	0.000656
CO <sub>2</sub> e	284.1

## 2.1 Demolition Phase

### 2.1.1 Demolition Phase Timeline Assumptions

#### - Phase Start Date

Start Month: 5  
Start Quarter: 1  
Start Year: 2023

#### - Phase Duration

Number of Month: 2  
Number of Days: 20

### 2.1.2 Demolition Phase Assumptions

#### - General Demolition Information

Area of Building to be demolished (ft<sup>2</sup>): 850  
Height of Building to be demolished (ft): 4.42

- Default Settings Used: No

- Average Day(s) worked per week: 5

#### - Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	6

#### - Vehicle Exhaust

Average Hauling Truck Capacity (yd<sup>3</sup>): 12  
Average Hauling Truck Round Trip Commute (mile): 20

#### - Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

#### - Worker Trips

# DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Average Worker Round Trip Commute (mile): 20

## - Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

## 2.1.3 Demolition Phase Emission Factor(s)

### - Construction Exhaust Emission Factors (lb/hour)

Concrete/Industrial Saws Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.0382	0.0006	0.2766	0.3728	0.0127	0.0127	0.0034	58.549
Rubber Tired Dozers Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.1830	0.0024	1.2623	0.7077	0.0494	0.0494	0.0165	239.49
Tractors/Loaders/Backhoes Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.0364	0.0007	0.2127	0.3593	0.0080	0.0080	0.0032	66.879

### - Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	Pb	NH <sub>3</sub>	CO <sub>2e</sub>
LDGV	000.367	000.002	000.247	003.890	000.013	000.011		000.023	00322.866
LDGT	000.420	000.003	000.415	004.941	000.016	000.014		000.024	00415.017
HDGV	000.691	000.005	001.089	015.554	000.035	000.031		000.044	00754.980
LDDV	000.160	000.003	000.135	002.293	000.004	000.004		000.008	00307.975
LDDT	000.299	000.004	000.385	003.918	000.007	000.006		000.008	00436.957
HDDV	000.593	000.013	005.739	001.925	000.172	000.158		000.030	01484.506
MC	001.986	000.003	000.868	014.015	000.030	000.026		000.054	00402.436

## 2.1.4 Demolition Phase Formula(s)

### - Fugitive Dust Emissions per Phase

$$PM10_{FD} = (0.00042 * BA * BH) / 2000$$

PM10<sub>FD</sub>: Fugitive Dust PM 10 Emissions (TONs)

0.00042: Emission Factor (lb/ft<sup>3</sup>)

BA: Area of Building to be demolished (ft<sup>2</sup>)

BH: Height of Building to be demolished (ft)

2000: Conversion Factor pounds to tons

### - Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE<sub>POL</sub>: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)

EF<sub>POL</sub>: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

### - Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$$

VMT<sub>VE</sub>: Vehicle Exhaust Vehicle Miles Travel (miles)

BA: Area of Building being demolish (ft<sup>2</sup>)

# DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

BH: Height of Building being demolish (ft)  
(1 / 27): Conversion Factor cubic feet to cubic yards ( 1 yd<sup>3</sup> / 27 ft<sup>3</sup>)  
0.25: Volume reduction factor (material reduced by 75% to account for air space)  
HC: Average Hauling Truck Capacity (yd<sup>3</sup>)  
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd<sup>3</sup>)  
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

$V_{POL}$ : Vehicle Emissions (TONs)  
 $VMT_{VE}$ : Vehicle Exhaust Vehicle Miles Travel (miles)  
0.002205: Conversion Factor grams to pounds  
 $EF_{POL}$ : Emission Factor for Pollutant (grams/mile)  
VM: Vehicle Exhaust On Road Vehicle Mixture (%)  
2000: Conversion Factor pounds to tons

## - Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

$VMT_{WT}$ : Worker Trips Vehicle Miles Travel (miles)  
WD: Number of Total Work Days (days)  
WT: Average Worker Round Trip Commute (mile)  
1.25: Conversion Factor Number of Construction Equipment to Number of Works  
NE: Number of Construction Equipment

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

$V_{POL}$ : Vehicle Emissions (TONs)  
 $VMT_{WT}$ : Worker Trips Vehicle Miles Travel (miles)  
0.002205: Conversion Factor grams to pounds  
 $EF_{POL}$ : Emission Factor for Pollutant (grams/mile)  
VM: Worker Trips On Road Vehicle Mixture (%)  
2000: Conversion Factor pounds to tons

## 2.2 Site Grading Phase

### 2.2.1 Site Grading Phase Timeline Assumptions

#### - Phase Start Date

Start Month: 7  
Start Quarter: 1  
Start Year: 2023

#### - Phase Duration

Number of Month: 1  
Number of Days: 6

### 2.2.2 Site Grading Phase Assumptions

#### - General Site Grading Information

Area of Site to be Graded (ft <sup>2</sup> ):	4400
Amount of Material to be Hauled On-Site (yd <sup>3</sup> ):	1307
Amount of Material to be Hauled Off-Site (yd <sup>3</sup> ):	1664

#### - Site Grading Default Settings

# DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Default Settings Used: No

Average Day(s) worked per week: 5

## - Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	2	8
Other Construction Equipment Composite	2	4
Rollers Composite	1	8
Rubber Tired Dozers Composite	3	6
Scrapers Composite	2	6
Tractors/Loaders/Backhoes Composite	2	6

## - Vehicle Exhaust

Average Hauling Truck Capacity (yd<sup>3</sup>): 12

Average Hauling Truck Round Trip Commute (mile): 20

## - Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

## - Worker Trips

Average Worker Round Trip Commute (mile): 20

## - Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

## 2.2.3 Site Grading Phase Emission Factor(s)

### - Construction Exhaust Emission Factors (lb/hour)

Graders Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.0757	0.0014	0.4155	0.5717	0.0191	0.0191	0.0068	132.91
Other Construction Equipment Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.0483	0.0012	0.2497	0.3481	0.0091	0.0091	0.0043	122.61
Rollers Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.0464	0.0007	0.2939	0.3784	0.0158	0.0158	0.0041	67.139
Rubber Tired Dozers Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.1830	0.0024	1.2623	0.7077	0.0494	0.0494	0.0165	239.49
Scrapers Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.1640	0.0026	1.0170	0.7431	0.0406	0.0406	0.0148	262.85
Tractors/Loaders/Backhoes Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.0364	0.0007	0.2127	0.3593	0.0080	0.0080	0.0032	66.879

### - Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	Pb	NH <sub>3</sub>	CO <sub>2e</sub>
LDGV	000.367	000.002	000.247	003.890	000.013	000.011		000.023	00322.866
LDGT	000.420	000.003	000.415	004.941	000.016	000.014		000.024	00415.017

# DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

HDGV	000.691	000.005	001.089	015.554	000.035	000.031		000.044	00754.980
LDDV	000.160	000.003	000.135	002.293	000.004	000.004		000.008	00307.975
LDDT	000.299	000.004	000.385	003.918	000.007	000.006		000.008	00436.957
HDDV	000.593	000.013	005.739	001.925	000.172	000.158		000.030	01484.506
MC	001.986	000.003	000.868	014.015	000.030	000.026		000.054	00402.436

## 2.2.4 Site Grading Phase Formula(s)

### - Fugitive Dust Emissions per Phase

$$PM10_{FD} = (20 * ACRE * WD) / 2000$$

PM10<sub>FD</sub>: Fugitive Dust PM 10 Emissions (TONs)

20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)

ACRE: Total acres (acres)

WD: Number of Total Work Days (days)

2000: Conversion Factor pounds to tons

### - Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE<sub>POL</sub>: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)

EF<sub>POL</sub>: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

### - Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$$

VMT<sub>VE</sub>: Vehicle Exhaust Vehicle Miles Travel (miles)

HA<sub>OnSite</sub>: Amount of Material to be Hauled On-Site (yd<sup>3</sup>)

HA<sub>OffSite</sub>: Amount of Material to be Hauled Off-Site (yd<sup>3</sup>)

HC: Average Hauling Truck Capacity (yd<sup>3</sup>)

(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd<sup>3</sup>)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V<sub>POL</sub>: Vehicle Emissions (TONs)

VMT<sub>VE</sub>: Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF<sub>POL</sub>: Emission Factor for Pollutant (grams/mile)

VM: Vehicle Exhaust On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

### - Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VMT<sub>WT</sub>: Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Work Days (days)

WT: Average Worker Round Trip Commute (mile)

1.25: Conversion Factor Number of Construction Equipment to Number of Works

NE: Number of Construction Equipment

# DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

$V_{POL}$ : Vehicle Emissions (TONs)  
 $VMT_{WT}$ : Worker Trips Vehicle Miles Travel (miles)  
0.002205: Conversion Factor grams to pounds  
 $EF_{POL}$ : Emission Factor for Pollutant (grams/mile)  
VM: Worker Trips On Road Vehicle Mixture (%)  
2000: Conversion Factor pounds to tons

## 2.3 Trenching/Excavating Phase

### 2.3.1 Trenching / Excavating Phase Timeline Assumptions

#### - Phase Start Date

Start Month: 7  
Start Quarter: 1  
Start Year: 2023

#### - Phase Duration

Number of Month: 1  
Number of Days: 0

### 2.3.2 Trenching / Excavating Phase Assumptions

#### - General Trenching/Excavating Information

Area of Site to be Trenched/Excavated (ft<sup>2</sup>): 90  
Amount of Material to be Hauled On-Site (yd<sup>3</sup>): 0  
Amount of Material to be Hauled Off-Site (yd<sup>3</sup>): 100

#### - Trenching Default Settings

Default Settings Used: No  
Average Day(s) worked per week: 5

#### - Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	2	8
Other General Industrial Equipmen Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

#### - Vehicle Exhaust

Average Hauling Truck Capacity (yd<sup>3</sup>): 12  
Average Hauling Truck Round Trip Commute (mile): 20

#### - Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

#### - Worker Trips

Average Worker Round Trip Commute (mile): 20

#### - Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0



# DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

## 2.3.3 Trenching / Excavating Phase Emission Factor(s)

### - Construction Exhaust Emission Factors (lb/hour)

Graders Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.0757	0.0014	0.4155	0.5717	0.0191	0.0191	0.0068	132.91
Other Construction Equipment Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.0483	0.0012	0.2497	0.3481	0.0091	0.0091	0.0043	122.61
Rollers Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.0464	0.0007	0.2939	0.3784	0.0158	0.0158	0.0041	67.139
Rubber Tired Dozers Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.1830	0.0024	1.2623	0.7077	0.0494	0.0494	0.0165	239.49
Scrapers Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.1640	0.0026	1.0170	0.7431	0.0406	0.0406	0.0148	262.85
Tractors/Loaders/Backhoes Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.0364	0.0007	0.2127	0.3593	0.0080	0.0080	0.0032	66.879

### - Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	Pb	NH <sub>3</sub>	CO <sub>2e</sub>
LDGV	000.367	000.002	000.247	003.890	000.013	000.011		000.023	00322.866
LDGT	000.420	000.003	000.415	004.941	000.016	000.014		000.024	00415.017
HDGV	000.691	000.005	001.089	015.554	000.035	000.031		000.044	00754.980
LDDV	000.160	000.003	000.135	002.293	000.004	000.004		000.008	00307.975
LDDT	000.299	000.004	000.385	003.918	000.007	000.006		000.008	00436.957
HDDV	000.593	000.013	005.739	001.925	000.172	000.158		000.030	01484.506
MC	001.986	000.003	000.868	014.015	000.030	000.026		000.054	00402.436

## 2.3.4 Trenching / Excavating Phase Formula(s)

### - Fugitive Dust Emissions per Phase

$$PM10_{FD} = (20 * ACRE * WD) / 2000$$

PM10<sub>FD</sub>: Fugitive Dust PM 10 Emissions (TONs)

20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)

ACRE: Total acres (acres)

WD: Number of Total Work Days (days)

2000: Conversion Factor pounds to tons

### - Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE<sub>POL</sub>: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)

EF<sub>POL</sub>: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

### - Vehicle Exhaust Emissions per Phase

# DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

$$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$$

VM<sub>TVE</sub>: Vehicle Exhaust Vehicle Miles Travel (miles)  
HA<sub>OnSite</sub>: Amount of Material to be Hauled On-Site (yd<sup>3</sup>)  
HA<sub>OffSite</sub>: Amount of Material to be Hauled Off-Site (yd<sup>3</sup>)  
HC: Average Hauling Truck Capacity (yd<sup>3</sup>)  
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd<sup>3</sup>)  
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V<sub>POL</sub>: Vehicle Emissions (TONs)  
VM<sub>TVE</sub>: Vehicle Exhaust Vehicle Miles Travel (miles)  
0.002205: Conversion Factor grams to pounds  
EF<sub>POL</sub>: Emission Factor for Pollutant (grams/mile)  
VM: Vehicle Exhaust On Road Vehicle Mixture (%)  
2000: Conversion Factor pounds to tons

## - Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VM<sub>TWT</sub>: Worker Trips Vehicle Miles Travel (miles)  
WD: Number of Total Work Days (days)  
WT: Average Worker Round Trip Commute (mile)  
1.25: Conversion Factor Number of Construction Equipment to Number of Works  
NE: Number of Construction Equipment

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V<sub>POL</sub>: Vehicle Emissions (TONs)  
VM<sub>TVE</sub>: Worker Trips Vehicle Miles Travel (miles)  
0.002205: Conversion Factor grams to pounds  
EF<sub>POL</sub>: Emission Factor for Pollutant (grams/mile)  
VM: Worker Trips On Road Vehicle Mixture (%)  
2000: Conversion Factor pounds to tons

## 2.4 Paving Phase

### 2.4.1 Paving Phase Timeline Assumptions

#### - Phase Start Date

Start Month: 8  
Start Quarter: 1  
Start Year: 2023

#### - Phase Duration

Number of Month: 1  
Number of Days: 3

### 2.4.2 Paving Phase Assumptions

#### - General Paving Information

Paving Area (ft<sup>2</sup>): 270

#### - Paving Default Settings

# DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Default Settings Used: No  
Average Day(s) worked per week: 5

## - Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Pavers Composite	1	8
Paving Equipment Composite	2	8
Rollers Composite	2	6

## - Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20

## - Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

## - Worker Trips

Average Worker Round Trip Commute (mile): 20

## - Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

## 2.4.3 Paving Phase Emission Factor(s)

### - Construction Exhaust Emission Factors (lb/hour)

Graders Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.0757	0.0014	0.4155	0.5717	0.0191	0.0191	0.0068	132.91
Other Construction Equipment Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.0483	0.0012	0.2497	0.3481	0.0091	0.0091	0.0043	122.61
Rollers Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.0464	0.0007	0.2939	0.3784	0.0158	0.0158	0.0041	67.139
Rubber Tired Dozers Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.1830	0.0024	1.2623	0.7077	0.0494	0.0494	0.0165	239.49
Scrapers Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.1640	0.0026	1.0170	0.7431	0.0406	0.0406	0.0148	262.85
Tractors/Loaders/Backhoes Composite								
	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CH <sub>4</sub>	CO <sub>2e</sub>
Emission Factors	0.0364	0.0007	0.2127	0.3593	0.0080	0.0080	0.0032	66.879

### - Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	Pb	NH <sub>3</sub>	CO <sub>2e</sub>
LDGV	000.367	000.002	000.247	003.890	000.013	000.011		000.023	00322.866
LDGT	000.420	000.003	000.415	004.941	000.016	000.014		000.024	00415.017
HDGV	000.691	000.005	001.089	015.554	000.035	000.031		000.044	00754.980
LDDV	000.160	000.003	000.135	002.293	000.004	000.004		000.008	00307.975
LDDT	000.299	000.004	000.385	003.918	000.007	000.006		000.008	00436.957
HDDV	000.593	000.013	005.739	001.925	000.172	000.158		000.030	01484.506

# DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

MC	001.986	000.003	000.868	014.015	000.030	000.026		000.054	00402.436
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## 2.4.4 Paving Phase Formula(s)

### - Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

CEE<sub>POL</sub>: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)

EF<sub>POL</sub>: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

### - Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$$

VMT<sub>VE</sub>: Vehicle Exhaust Vehicle Miles Travel (miles)

PA: Paving Area (ft<sup>2</sup>)

0.25: Thickness of Paving Area (ft)

(1 / 27): Conversion Factor cubic feet to cubic yards ( 1 yd<sup>3</sup> / 27 ft<sup>3</sup>)

HC: Average Hauling Truck Capacity (yd<sup>3</sup>)

(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd<sup>3</sup>)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V<sub>POL</sub>: Vehicle Emissions (TONs)

VMT<sub>VE</sub>: Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF<sub>POL</sub>: Emission Factor for Pollutant (grams/mile)

VM: Vehicle Exhaust On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

### - Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VMT<sub>WT</sub>: Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Work Days (days)

WT: Average Worker Round Trip Commute (mile)

1.25: Conversion Factor Number of Construction Equipment to Number of Works

NE: Number of Construction Equipment

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

V<sub>POL</sub>: Vehicle Emissions (TONs)

VMT<sub>VE</sub>: Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF<sub>POL</sub>: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

### - Off-Gassing Emissions per Phase

$$VOC_P = (2.62 * PA) / 43560$$

# DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

VOC<sub>p</sub>: Paving VOC Emissions (TONs)

2.62: Emission Factor (lb/acre)

PA: Paving Area (ft<sup>2</sup>)

43560: Conversion Factor square feet to acre (43560 ft<sup>2</sup> / acre)<sup>2</sup> / acre)