FINAL ENVIRONMENTAL ASSESSMENT (EA)

FOR

F-22 FUEL DISPENSING SYSTEM AT JOINT BASE ELMENDORF-RICHARDSON, ALASKA

PREPARED BY:

Department of the Air Force

December 2024

Privacy Advisory

This Draft [Environmental Impact Statement (EIS)/Environmental Assessment (EA)] has been provided for public comment in accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality NEPA Implementing Regulations (Title 40 Code of Federal Regulations [CFR] §§ 1500–1508), and 32 CFR § 989, Environmental Impact Analysis Process (EIAP), which provides an opportunity for public input on United States Department of the Air Force (DAF) decision-making, allows the public to offer input on alternative ways for DAF to accomplish what it is proposing, and solicits comments on DAF's analysis of environmental effects.

Public input allows DAF to make better-informed decisions. Letters or other written or verbal comments provided may be published in this [EIS/EA]. Providing personal information is voluntary. Private addresses will be compiled to develop a stakeholders inventory. However, only the names of the individuals making comments and specific comments will be disclosed. Personal information, home addresses, telephone numbers, and email addresses will not be published in this [EIS/EA].

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Compliance

The DAF is aware of the November 12, 2024 decision in Marin Audubon Society v. Federal Aviation Administration, No. 23-1067 (D.C. Cir. Nov. 12, 2024). To the extent that a court may conclude that the Council on Environmental Quality (CEQ) regulations implementing NEPA are not judicially enforceable or binding on this agency action, the DAF has nonetheless elected to follow those regulations at 40 C.F.R. Parts 1500– 1508, in addition to the DAF's procedures/regulations implementing NEPA at 32 CFR 989, to meet the agency's obligations under NEPA, 42 U.S.C. §§ 4321 et seq.

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

F-22 Fuel Dispensing System

Joint Base Elmendorf-Richardson, Alaska

Pursuant to provisions of the National Environmental Policy Act (NEPA) Title 42 *United States Code*, Sections 4321 et seq.), implemented by the Council on Environmental Quality's (CEQ's) regulations (Title 40 *Code of Federal Regulations* [CFR], 1500-1508), as updated, the 2023 Fiscal Responsibility Act's amendments to NEPA, and 32 CFR Part 989, Environmental Impact Analysis Process, the U.S. Air Force (USAF) assessed the potential environmental consequences associated with constructing new fueling infrastructure to support F-22 fighter aircraft and demolishing the existing Tank Farm 5 at Joint Base Elmendorf-Richardson (JBER) in Anchorage, Alaska.

Purpose of and Need for Proposed Action

The purpose of the Proposed Action is to provide aircraft fuel storage and dispensing infrastructure necessary to support the fifth generation F-22 fighter aircraft in use at JBER and meet the current 3rd Wing/673d Logistics Readiness Squadron's fuel storage and fueling needs. The Proposed Action is needed to ensure readiness to support Global Strike Task Force and project overall air dominance.

Description of the Preferred Alternative

Alternative 1 would include the construction of a new Grade 8 (JP-8) fuel farm consisting of two 5,000-barrel (210,000-gallon) aboveground storage tanks (ASTs), a pumphouse, a four-position fuel truck fillstand, and a two-position truck offload stand and a connection to the existing transfer pipeline to Tank Farm 5. This project would also include the demolition of Tank Farm 5, including existing underground storage tanks (USTs), a pumphouse, canopies, and fuel truck fillstands. The fueling system would be designed and constructed in general conformance with Department of Defense (DoD) Standard Design AW 078-24-28 Pressurized Hydrant Fueling System Type III (01 March 2020).

The proposed site for Tank Farm 6 is undeveloped and has 4.3 acres of forested land that would require clearing. The proposed site for the truck fillstand is a grassed, undeveloped area that would not require any clearing. The proposed project would require the extension of utilities, including the water main (approximately 550 feet) and sanitary sewer (approximately 450 feet).

The pipeline from Tank Farm 5 to the new tie-in point would be abandoned in place. Disturbed areas would be re-seeded with native seed mix listed in the most current JBER Integrated Natural Resources Management Plan. Demolition of tanks and abandonment of piping would be completed in accordance with Alaska Department of Environmental Conservation regulations at 18 *Alaska Administrative Code* (AAC) 75 and 18 AAC 78.

The construction phase would begin in March 2025 and construction and demolition activities would last approximately 23 months.

Alternatives Eliminated from Further Consideration

This Environmental Assessment (EA) has considered all reasonable alternatives under CEQ regulation 40 CFR 1502.14(a), which states that that all reasonable alternatives that have been eliminated must be briefly discussed. Additional alternatives were considered; however, they did not meet the selection criteria established for alternatives to meet the minimum purpose and need, and therefore, after preliminary consideration, were dismissed from further analysis.

Alternatives 2, 3, 4, and 5 were eliminated from further consideration based on their failure to meet the following selection standards:

- Selection Standard 1: Meet Current Mission Storage and Fueling Needs
- Selection Standard 2: Reduce Outage Downtime
- Selection Standard 3: Reduce Environmental Risks
- Selection Standard 4: Increase Mission Capability
- Selection Standard 5: Implement Current Code Requirements

Alternative 2, UST Replacement at Current Tank Farm Location, fails to meet Selection Standards 2 and 4. Alternative 3, AST Installation at Current Tank Farm Location, fails to meet Selection Standards 2 and 5. Alternative 4, AST at Alternate Location Within the Flightline, fails to meet Selection Standards 1 and 4. Alternative 5, AST Located Outside the Flightline Near the Existing Tank Farm 5, fails to meet Selection Standards 1, 2, and 4. Additional details on the eliminated alternatives can be found in Section 2.5 of the EA.

Description of the No Action Alternative

CEQ regulation 40 CFR 1502.14(c) requires the inclusion of a No Action Alternative in the NEPA analysis. The No Action Alternative represents baseline conditions, which are used for comparison to future conditions that would exist under the Proposed Action. Implementing the No Action Alternative would result in continuing operations using existing and deficient infrastructure that is out of compliance with current standards and is continuing to degrade because it has reached the end of its service life. Out-of-service periods for periodic or sudden system failure maintenance and repairs would result in unacceptable mission failure.

Summary of Environmental Findings

USAF has concluded that the Preferred Alternative would not affect the following resources:

- Air Installation Compatible Use Zone/Land Use
- Floodplains
- Geology and topography
- Seismicity
- Socioeconomic resources
- Environmental justice
- Protection of children
- Recreation
- Visual resources
- Airspace

Based on the findings in this EA, no significant adverse impacts would result to the following resources:

- Noise
- Air quality
- Water resources
- Safety and occupational health
- Hazardous materials and waste
- Biological and natural resources
- Cultural resources
- Soils
- Utilities
- Climate change and greenhouse gases

No significant adverse cumulative effects would result from activities associated with the Preferred Alternative when considered with past, present, or reasonably foreseeable future projects.

Noise: Construction activities are not proposed near noise-sensitive uses. The closest noise-sensitive receptor (housing) is located 0.7 mile to the south. Construction workers would use hearing protection and comply with Department of the Air Force Hearing Conservation Program, DoD, and Occupational Safety and Health Administration (OSHA) requirements to protect themselves from construction noise or noise generated by surrounding aircraft and training activities.

Air Quality: The operation of various equipment during construction activities would create exhaust emissions and generate dust and other particles in the air. Mobile source emissions also would be generated from vehicular traffic. Best management practices (BMPs) would be implemented during construction to reduce potential impacts on air quality, including having no visible emissions such as dust or wind-blown soil. These control measures could include applying water or using other stabilization measures on areas of bare soil or soil piles; creating wind breaks; and covering dump trucks that transport materials that could become airborne. Additionally, contractors would be required to maintain construction equipment in accordance with manufacturers' specifications to reduce exhaust emissions. Long-term emissions would be insignificant based on ambient air quality impact analysis.

Water Resources: No wetlands or waterbodies are within, or immediately adjacent to, the proposed project sites. Storing large quantities of JP-8 presents a potential risk to the stormwater system. Preventive measures (that is, secondary containment) would be in place before conducting any fuel storage or transfer operations. Replacing outdated fuel storage and dispensing facilities would reduce the risk of fuel spills and leaks and would have beneficial impacts on stormwater.

Safety and Occupational Health: All construction contractors would be required to follow and implement OSHA standards and applicable DoD and USAF regulations to establish and maintain safety procedures. Fueling stations carry a risk of fire and explosion. New facilities would be constructed in accordance with applicable National Fire Protection Association codes and standards and Unified Facilities Criteria. The proposed project sites would be served by an underground fire loop supported by the existing base water distribution system. The new facilities would be provided with a minimum of two hydrants within 300 feet of the protected exposures, including tanks and the pumphouse. The pumphouse would also be equipped with a fire alarm system. Appropriate hazard markings would be placed on the area's security fencing, ASTs, and pumphouse.

Hazardous Materials and Waste: Construction and demolition activities would require the use, storage, and disposal of hazardous materials typically used during construction. Handling, storing, and disposing of hazardous materials and hazardous waste, including taking measures to prevent releases, would be conducted in accordance with all applicable federal, state, and local regulations, Department of the Air Force Instruction, and JBER's environmental management plans. The proposed Tank Farm 6 area is situated between two solvent plumes and is adjacent to several landfills. A vapor intrusion barrier is recommended under the pumphouse and the contractor would be prepared to handle and properly dispose of contaminated soils if they are encountered.

Biological and Natural Resources: There would be a loss of approximately 4.3 acres of mixed birch-spruce habitat and 4.6 acres of mowed/maintained grass/forb habitat. These habitat types are common on JBER and no loss of native plant or animal species or community diversity

would occur. To the extent possible, land clearing would be conducted outside the migratory bird breeding season (01 May to 15 July).

Cultural Resources: No National Register of Historic Places-eligible historic properties were identified in the Area of Potential Effects during research and surveys; therefore, the project is expected to have no effects on historic properties.

Soils: The Tank Farm 6 and truck fillstand sites would require significant grading, excavation, and removal and import of materials for site development. The construction contractor would be required to develop and implement effective sedimentation and erosion control procedures and BMPs to be used during construction and demolition to minimize erosion of surrounding soils because of soil/ground disturbance. These BMPs could include installing silt fencing, applying water to disturbed soil, and limiting soil disturbance to areas where the construction is proposed.

Public Review

A public notice was placed on the JBER website on 15 October 2024; in the *Anchorage Daily News* on 23 October 2024 and 27 October 2024; and in the *Frontiersman* on 23 October 2024 and 25 October 2024 announcing the availability of the Draft EA and Draft FONSI for public review and comment. The documents were made available for review on the internet at https://www.jber.jb.mil/Services-Resources/Environmental/Environmental-Planning/ and at three local libraries from 15 October 2024 to 15 November 2024. No comments were received from the public. However, in the process of the Section 106 review, the State Historic Preservation Officer did not concur with the initial assessment of effect, so an alternate location for the stockpiles was identified. This change is discussed in Section 4.6.1.2 of the EA. Section 106 correspondence is included in Appendix A.

Tribal consultation letters were mailed to Federally Recognized Tribes on 01 October 2024. JBER's Tribal Liaison made additional attempts to contact Tribal representatives during EA development. Appendix A includes records of all correspondence with the Tribes.

Finding of No Significant Impact (FONSI)

Based on my review of the facts and analyses contained in the attached EA, conducted under the provisions of NEPA, CEQ regulations, and 32 CFR Part 989, I conclude that the Preferred Alternative (Alternative 1) would not have a significant environmental impact, either by itself or cumulatively with other known projects. Accordingly, an Environmental Impact Statement is not required. The signing of this FONSI completes the environmental impact analysis process.

MABBUTT.LISA.M.1162029645 Digitally signed by MABBUTT.LISA.M.1162029645 Date: 2025.01.22 09:45:33 -09'00'

22 Jan 2025

LISA M. MABBUTT, Colonel/Commander

Date

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GLOSSARY OF ABBREVIATIONS AND ACRONYMS

Acronym	Definition
°F	Degree(s) Fahrenheit
AAC	Alaska Administrative Code
ACAM	Air Conformity Applicability Model
ADEC	Alaska Department of Environmental Conservation
AFOSH	Air Force Occupational and Environmental Safety, Fire Protection, and Health
AICUZ	Air Installation Compatible Use Zone
APE	Area of Potential Effects
ARRC	Alaska Railroad Corporation
AST	Aboveground Storage Tank
BASH	Bird/Wildlife Aircraft Strike Hazard
BGEPA	Bald and Golden Eagle Protection Act
bgs	Below Ground Surface
BMP	Best Management Practice
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
CO	Carbon Monoxide
CO_2e	Carbon Dioxide Equivalent
DAF	Department of the Air Force
DAFI	Department of the Air Force Instruction
DAFMAN	Department of the Air Force Manual
dBA	A-weighted Decibel(s)
DNL	Day-Night Average Sound Level
DoD	Department of Defense
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EPA	U.S. Environmental Protection Agency
EO	Executive Order
ESA	Endangered Species Act
FLS	Flight Landing Strip
FONSI	Finding of No Significant Impact
GHG	Greenhouse Gas
gpm	Gallon(s) per Minute
JBER	Joint Base Elmendorf-Richardson
JP-8	Jet Propulsion Fuel, Grade 8
Leq	Equivalent Sound Pressure Level
L_{max}	Highest Sound Level Measured During Single Noise Event
MBTA	Migratory Bird Treaty Act
mg/m^3	Microgram(s) per Cubic Meter
MS4	Municipal Separate Storm Sewer System
mtpy	Metric Tons per Year
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_x	Nitrogen Oxides

NRHP	National Register of Historic Places
NSR	New Source Review
OSHA	Occupational Safety and Health Administration
PACAF	Pacific Air Forces
PCB	Polychlorinated Biphenyl
PFAS	Per- and Polyfluoroalkyl Substances
PM_{10}	Particulate Matter with a 10-micron Diameter or Less
$PM_{2.5}$	Particulate Matter with a 2.5-micron Diameter or Less
POA	Port of Alaska
POL	Petroleum, Oil, and Lubricants
ppm	Part(s) per Million, by Volume
PSD	Prevention of Significant Deterioration
SHPO	State Historic Preservation Officer
SO_2	Sulfur Dioxide
SPCC/CPlan	Spill Prevention, Control, and Countermeasure Plan/Oil Discharge Prevention and Contingency Plan
SWPPP	Stormwater Pollution Prevention Plan
TCE	Trichloroethene
tpy	Tons per Year
UFC	Unified Facilities Criteria
USAF	U.S. Air Force
U.S.C.	*United States Code*
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
VOC	Volatile Organic Compound

1.0 PURPOSE OF AND NEED FOR ACTION

1.1 INTRODUCTION

This Environmental Assessment (EA) was developed to evaluate the impacts of constructing and operating new fueling infrastructure necessary to support the fifth generation F-22 fighter aircraft and demolition of the existing Tank Farm 5 at Joint Base Elmendorf-Richardson (JBER) in Anchorage, Alaska. This project proposes to replace the current fueling system, which has exceeded its expected service life, requires out-of-service periods for maintenance, and fails to meet operational requirements under Unified Facilities Criteria (UFC) 3-460-01, all of which could result in mission failure. This EA evaluates the potential environmental consequences of the Proposed Action and alternatives in accordance with the provisions of the Title 32 *Code of Federal Regulations* (CFR) Part 989, and 40 CFR 1500–1508, which are the Council on Environmental Quality's (CEQ's) National Environmental Policy Act (NEPA) implementing regulations, and Air Force Instruction 32-1015, Integrated Installation Planning, which also incorporates the Environmental Impact Analysis Process (EIAP).

JBER is in southcentral Alaska, adjacent to the Municipality of Anchorage and occupies 73,013 acres of land (Figure 1-1). JBER became a joint base in 2010 and has hosted a variety of missions and aircraft types throughout its history. JBER is under U.S. Air Force (USAF) command as part of the Pacific Air Forces (PACAF) and is the home of the Alaskan Command, 11th Air Force, Alaskan North American Aerospace Defense Command Region, Alaska Air National Guard, and the 3rd Wing. The base includes the 11th Airborne Division, U.S. Army Alaska, and Alaska Army National Guard.

1.2 PURPOSE OF THE ACTION

The purpose of the Proposed Action is to provide the petroleum, oil, and lubricants (POL) infrastructure necessary to support the fifth generation F-22 fighter aircraft in use at JBER and meet the current 3rd Wing/673d Logistics Readiness Squadron's fuel storage and fueling needs.

1.3 NEED FOR THE ACTION

The need for the Proposed Action is to ensure readiness to support Global Strike Task Force and project overall air dominance.

Tank Farm 5, Facility 15699, was originally constructed in 1942, and the main structure, along with two of its four tanks, are original construction. The system requires replacement because it has exceeded the expected service life for aircraft refueling systems. Additionally, Tank Farm 5 does not provide inbound/outbound filtration as required by UFC 3-460-01. The number of refueling positions at the existing truck fillstands does not provide adequate support for current mission requirements. Facility failure due to its aging infrastructure would add time to existing refueling procedures. The project is needed by Fiscal Year 2025 to meet mission requirements.

1.4 DECISION TO BE MADE

The decision to be made is the selection of an alternative for PACAF to provide adequate F-22 fueling infrastructure. The decision options are as follows:

1) Continue with current operations (No Action Alternative)
2) Select an alternative and prepare a Finding of No Significant Impact (FONSI)
3) Prepare an Environmental Impact Statement if the alternatives would result in significant environmental impacts

1.5 AGENCY AND INTERGOVERNMENTAL COORDINATION/ CONSULTATIONS

1.5.1 Interagency and Intergovernmental Coordination and Consultations

Federal, state, and local agencies with jurisdiction that could be affected by the alternative actions were notified and consulted during the development of this EA.

Appendix A contains the list of agencies consulted during this analysis and copies of correspondence.

1.5.2 Government to Government Consultations

Executive Order (EO) 13175, "Consultation and Coordination with Indian Tribal Governments" (06 November 2000), directs federal agencies to coordinate and consult with Native American Tribal governments whose interests might be directly and substantially affected by activities on federally administered lands. To comply with legal mandates, Federally Recognized Tribes that are affiliated historically with the JBER geographic region were invited to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the Tribes. The Tribal coordination process is distinct from NEPA consultation and the other Interagency/Intergovernmental Coordination for Environmental Planning processes and requires separate notification of all relevant Tribes. The timelines for Tribal consultation are also distinct from those of intergovernmental consultations. The JBER point-of-contact for Native American Tribes is the Installation Tribal Liaison Officer under the 673d Air Base Wing Commander.

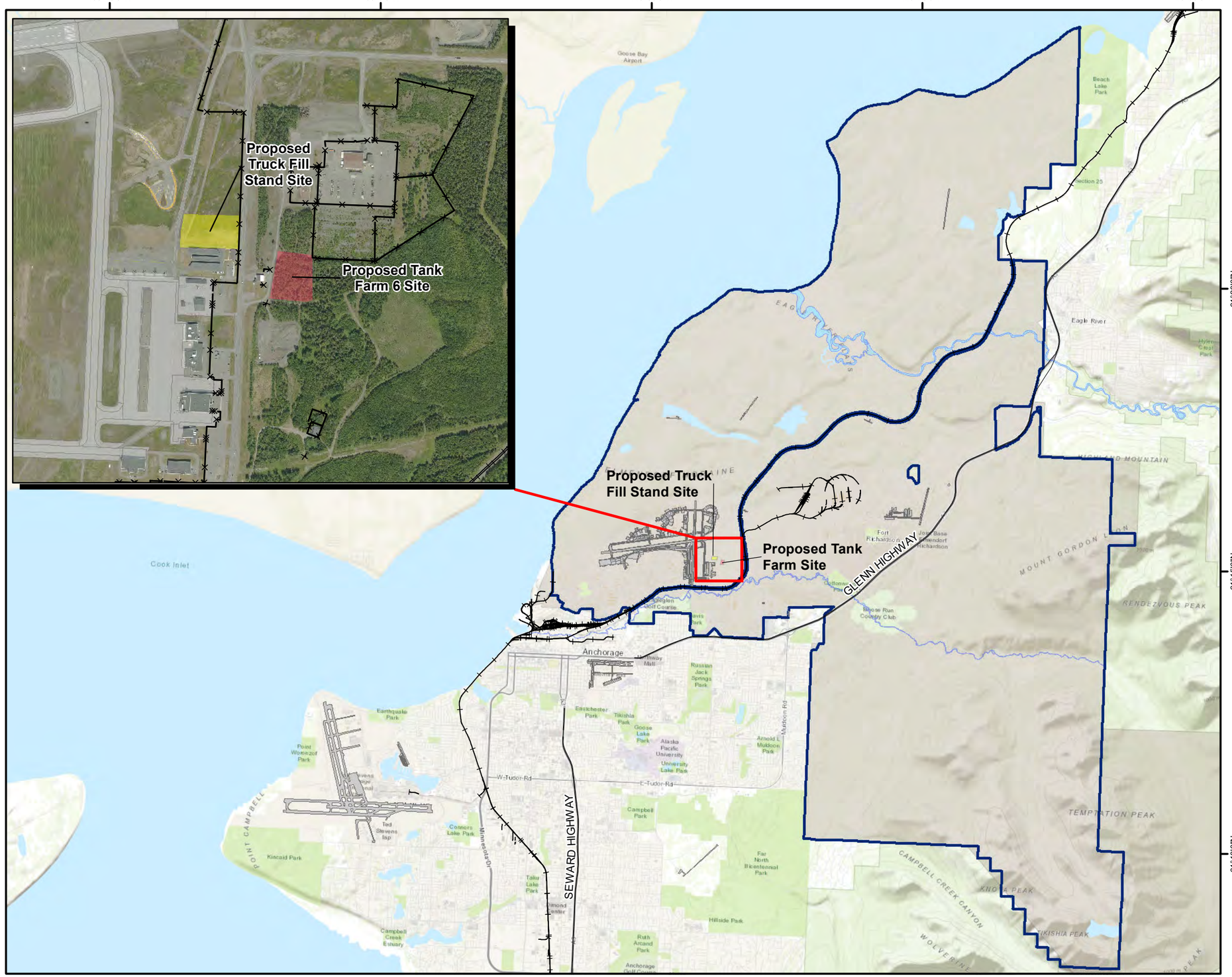
The Native American Tribal governments that were coordinated with regarding the Proposed Action are listed in Section 6 of this EA.

1.6 PUBLIC AND AGENCY REVIEW OF EA

A Notice of Availability of the Draft EA and Draft FONSI was published on the JBER website on 15 October 2024. The Notice of Availability of the Draft EA and Draft FONSI was published in the *Anchorage Daily News* on 23 October 2024 and 27 October 2024 and in the *Frontiersman* on 23 October 2024 and 25 October 2024 to announce the availability of the EA for review, as included in Appendix A. The Notice of Availability invited the public to review the Draft EA. The public and agency review period ended on 15 November 2024. No comments were received from the public. However, in the process of the Section 106 review, the State Historic Preservation Officer (SHPO) did not concur with the initial assessment of effect, so an alternative location for the stockpiles was identified. This change is discussed in Section 4.6.1.2. Section 106 correspondence is included in Appendix A.

Copies of the Draft EA and FONSI were made available for review on the JBER Environmental website https://www.jber.jb.mil/Services-Resources/Environmental/Environmental-Planning/ and at the following libraries:

- Joint Base Elmendorf-Richardson Library, Bldg. 7 Fourth Street, JBER, AK 99505
- Z.J. Loussac Library, 3600 Denali Street, Anchorage, AK 99503
- Chugiak-Eagle River Library, 12001 Business Boulevard 176, Eagle River Town Center, Eagle River, AK 99577



- Road Centerline
- Railroad
- Building
- Proposed Tank Farm 6 Site
- Proposed Truck Fill Stand Site
- Airfield Surface
- Base Boundary

Sources:
GIS Data: USAF GeoBase
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

1 inch = 2 miles

0 1 2 3 4
Miles

N

WGS 1984 UTM Zone 6N

Figure 1-1. Regional Vicinity Map
F-22 Fuel Dispensing System EA

JOINT BASE ELMENDORF-RICHARDSON, ALASKA

DATE:	PROJECT MANAGER:	FIGURE NO:
25 JUN 2024	J. HESSE	1-1

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2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

The proposed project includes construction of a new jet propulsion fuel, Grade 8 (JP-8) fuel storage and dispensing system to support the fifth generation F-22 fighter aircraft at JBER and meet the current 3rd Wing/673d Logistics Readiness Squadron's fuel storage and fueling needs.

2.2 SELECTION STANDARDS

The NEPA and CEQ regulations mandate the consideration of reasonable alternatives for the proposed action. "Reasonable alternatives" are those that also could be used to meet the purpose and need for the proposed action. In accordance with the requirements of 32 CFR Part 989, the USAF EIAP regulations, selection standards are used to identify alternatives for meeting the purpose and need for the USAF action.

The Proposed Action alternatives must meet the following selection standards to be carried forward for further consideration.

1) **Selection Standard 1: Meet Current Mission Storage and Fueling Needs** – Alternatives must meet flightline average and peak fuel storage and delivery demands. Based on current UFC 3-460-01 requirements and newly required fuel dispersal rates, the storage capacity must be expanded to at least 420,000 gallons.
2) **Selection Standard 2: Reduce Outage Downtime** – Alternatives must improve on the availability of fuel system infrastructure and reduce downtime risk associated with the existing Tank Farm 5. Downtime must also be limited to the extent feasible during construction of the new infrastructure.
3) **Selection Standard 3: Reduce Environmental Risks** – Alternatives must reduce environmental risk by improving on prevention, detection, containment of, and response to leaks and spills. Underground storage tanks (USTs) increase the time to detect and repair leaks compared to aboveground storage tanks (ASTs).
4) **Selection Standard 4: Increase Mission Capability** – Alternatives must reduce total time required to complete aircraft fueling operations. This standard could be accomplished by locating fueling points close to aircraft and the fuel operations facility; providing parallel, concurrent fueling operations; reducing installed flightline components to only those necessary; and providing sufficient pump and piping capability to fully support the installed fueling points. These measures reduce transit time, eliminate wait time at fueling points, and reduce total fill time per trip.
5) **Selection Standard 5: Implement Current Code Requirements** – Alternatives must meet current code requirements, including siting requirements, fuel handling safety measures, and design principles. Standard design specifications are published and adherence to these standards is required unless a waiver from the Air Force Petroleum Center is obtained.

The setback distance requirements for tanks are described in Table 2-1.

Table 2-1. Tank Farm Separation Distances

Item	Code Reference	Required Distance (feet)	Provided Distance (feet)	Notes
Pumphouse to Airfield Centerline	UFC 3-260-01, Figure 3-15	1,000+ Height (7/1) 2,050 max	3,100+	Runways are Air Force Class B
Runway Clear Zone	UFC 3-260-01, Figure 3-5	1,000 from centerline each side; 3,000 by 3,000 (end)	1,000+ beyond end clearance	Centered on end of runway (Air Force)
AST to Regularly Traveled Roads	UFC 3-460-01, 8-3.7.2.a	100	167	
AST to Railroad Tracks	UFC 3-460-01, 8-3.7.2.b UFC 3-460-01, 8-3.7.2.c	Spur - 50 Main - 200	425 2,000+	Abandoned Spur ARRC mainline
AST to Overhead Equipment	UFC 3-460-01, 8-3.7.2.d	50	50+	
5,000-barrel Tank to Airfield	UFC 3-260-01, Figure 3-17	1,000+ Height (7/1) 2,050 max	3,100+	36 feet tall
5,000-barrel Tank to 5,000-barrel Tank	UFC 3-460-01, 8-3.5.1	Largest Tank Diameter = 39	51	Additional fire protection requirements if tanks are less than 50 feet apart
5,000-barrel AST to Important Building	UFC 3-460-01, 8-3.6.2.b	100	101	To pumphouse
4,000-gallon Product Recovery Tank to Building	UFC 3-460-01, 8-3.6.2.b	15	18.25	Based on capacity
Tank to Truck Offload Facility	UFC 3-460-01, 8-3.8	50	101	From Operating Tank 2 to face of nearest fuel island
Truck Offload Facility to Buildings	UFC 3-460-01, 4- 3.2.1.d	50	100	Pumphouse
Truck Offload Facility to Roads	UFC 3-460-01, 4-3.2.1.d	50	187	To nearest piping at offload
Truck Offload Facility to Overhead Equipment	UFC 3-460-01, 4-3.2.1.d	50	50+	To nearest piping at offload
Truck Offload Facility to Transformers	UFC 3-460-01, 4-3.2.1.d	50	200+	To nearest piping at offload
Truck Offload Facility to Fuel Farm Fence	UFC 3-460-01, 4-3.2.1.d	25	28	To nearest piping at offload

The setback distance requirements for fillstands are described in Table 2-2.

Table 2-2. Truck Fillstand Separation Distance Requirements

Item	Code Reference	Required Distance (feet)	Provided Distance (feet)	Notes
Truck Fillstand to Airfield Centerline	UFC 3-260-01, Figure 3-15	1,000 + 23 (7/1) 1,161	2,240	Canopy is approximately 23 feet tall
Truck Fillstand to Buildings	UFC 3-460-01, 4-4.1.1.1a	50	275	To POL Operations building
Truck Fillstand to Roads	UFC 3-460-01, 4-4.1.1.1a	50	248	To airfield access road
Truck Fillstand to Overhead Equipment	UFC 3-460-01, 4-4.1.1.1a	50	312	
Truck Fillstand to Transformers	UFC 3-460-01, 4-4.1.1.1a	50	340	POL Operations building transformer
Truck Fillstand to Refueler Parking	UFC 3-460-01, 11-5.1.c.4	100	145	South of truck fillstand; measured to the edge of the concrete parking area

2.3 SCREENING OF ALTERNATIVES

The following potential alternatives that might meet the purpose and need for aircraft fuel storage and dispensing at JBER were considered:

1) **Alternative 1 (Preferred Alternative), AST Located Outside the Flightline Adjacent to Fuel Operations Facility** – The alternative would demolish Tank Farm 5 and install an AST farm outside the flightline, near the existing fuel operations facility that will provide the required increase in capacity and fueling.
2) **Alternative 2, UST Replacement at Current Tank Farm 5 Location** – The alternative would replace the USTs and aging components at the current Tank Farm 5 location and add capacity for both storage and fueling.
3) **Alternative 3, AST Installation at Current Tank Farm Location** – The alternative would replace the aging components at the current Tank Farm 5 location with ASTs while increasing capacity for both storage and fueling.
4) **Alternative 4, AST at Alternate Location Within the Flightline** – The alternative would demolish Tank Farm 5 and install ASTs based on clearances with increased capacity for both storage and fueling at some other location within the flightline.
5) **Alternative 5, AST Located Outside the Flightline Near the Existing Tank Farm** – The alternative would demolish Tank Farm 5 and install an AST farm outside the flightline near the existing fuel farm and with the required increase in capacity and fueling.
6) **Alternative 6, No Action** – The alternative would involve no upgrades, improvements, or remediation to the current Tank Farm 5.

The selection standards described in Section 2.2, Selection Standards, were applied to these alternatives to determine which alternatives could provide the necessary fueling capacity to JBER and would fulfill the purpose and need for the action (Table 2-3). The alternatives and how they meet the selection criteria are described in further detail in Sections 2.4, Detailed Description of the Alternatives, and Section 2.5, Alternatives Eliminated From Further Consideration.

Table 2-3. Selection Standards Matrix for Alternatives

Alternative Descriptions	(1) Meet Current Mission Storage and Fueling Needs	(2) Reduce Outage Downtime	(3) Reduce Environmental Risks	(4) Increase Mission Capability	(5) Implement Current Code Requirements
Alternative 1, AST Located Outside the Flightline Adjacent to Fuel Operations Facility	Yes	Yes	Yes	Yes	Yes
Alternative 2, UST Replacement at Current Tank Farm Location	Yes	No	Yes	No	Yes
Alternative 3, AST Installation at Current Tank Farm Location	Yes	No	Yes	Yes	No
Alternative 4, AST at Alternate Location Within the Flightline	No	Yes	Yes	No	Yes
Alternative 5, AST Located Outside the Flightline Near the Existing Tank Farm	No	No	Yes	No	Yes
Alternative 6, No Action	No	No	No	No	No

2.4 DETAILED DESCRIPTION OF THE ALTERNATIVES

Two alternatives, Alternative 1 and the No Action Alternative, have been carried forward for further analysis in this EA and are described in detail in this section. Alternative 1 meets all five of the Selection Standards and has been identified as the Preferred Alternative. Alternatives 2, 3, 4, and 5 were eliminated from further consideration and are described in Section 2.5, Alternatives Eliminated From Further Consideration.

2.4.1 Alternative 1 (Preferred Alternative)

Alternative 1 would include construction of a new AST fuel farm (Tank Farm 6) outside the flightline and near the existing fuel operations facility and demolition of Tank Farm 5, as shown on Figure 2-1. The construction phase would begin in March 2025. Construction and demolition activities would last approximately 23 months.

The proposed project would consist of the following major components:

- Constructing a jet-fuel pumphouse generally conforming to AW 078-24-28 Department of Defense (DoD) Standard Pressurized Hydrant Fueling System Type III, including two 5,000-barrel (210,000-gallon) ASTs and diesel standby generator.
- Constructing underground receipt pipeline from the existing transfer line to the new pumphouse.
- Constructing a two-position truck offload stand with canopy.
- Constructing a four-position fuel truck fillstand and hydrant hose truck checkout station with canopy.
- Constructing an underground stainless steel hydrant loop to supply the fueling points at the truck fillstand.
- Demolishing the existing Tank Farm 5 facility, including existing USTs, canopies, and fuel truck fillstands.

The project areas for the new Tank Farm 6 and truck fillstand are shown on Figure 2-2. Proposed locations for the project-generated contaminated material stockpiles, clean soil disposal, concrete and asphalt disposal, borrow areas, haul routes, and the Richardson Wood Lot are shown on Figure 2-1.

The proposed site for Tank Farm 6 is undeveloped and would require clearing 4.3 acres of forested land. The proposed location for the truck fillstand is a grassed, undeveloped area that would not require any clearing. Temporary disturbance areas would be re-seeded with native seed mix listed in the most current JBER Integrated Natural Resources Management Plan. The proposed project would require the extension of utilities, including the water main (approximately 550 feet) and sanitary sewer (approximately 450 feet).

Tank Farm 5 would remain operational for almost all of the construction period, except for a 2-week period to tie-in the new tank farm to the storage pipeline. Tank Farm 5 would be demolished once new Tank Farm 6 is operational. Demolition of Tank Farm 5 (Figure 2-3) would include the removal of the following:

- Pumphouse
- Two 50,000-gallon USTs (Tanks 49 and 50) and two 43,500-gallon USTs (Tanks 51 and 52) that are buried approximately 4 feet below grade
- Concrete truck fillstands
- Canopies
- Aboveground and belowground piping from Building 15669 to the truck fillstands and from the tanks
- Concrete containment areas at the truck fillstands

The pipeline from Tank Farm 5 to the new tie-in point would be abandoned in place. Demolition of tanks and abandonment of piping would be completed in accordance with Alaska Department of Environmental Conservation (ADEC) regulations at 18 *Alaska Administrative Code* (AAC) 75 and 18 AAC 78.

The addition of Tank Farm 6 and demolition of Tank Farm 5 would increase system capabilities to meet the F-22 mission.

2.4.2 No Action Alternative

The No Action Alternative represents baseline conditions, which are used for comparison to future conditions that would exist under the Proposed Action. Implementing the No Action Alternative would result in continuing operations that use existing and deficient infrastructure, are out of compliance with current standards, and are continuing to degrade because they have reached the end of their service life. Out-of-service periods for periodic or sudden system failure maintenance and/or repairs would result in unacceptable mission failure.

2.5 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

Alternatives 2, 3, 4, and 5 have been eliminated from further consideration and are not carried forward for analysis in this EA.

2.5.1 Alternative 2, UST Replacement at Current Tank Farm Location

Alternative 2 would replace the USTs and aging components at the current Tank Farm 5 location and add capacity for both storage and fueling. Because of the age of the Tank Farm 5 facility, a complete removal and replacement would be required. This alternative was eliminated from further consideration because of the following factors:

- Fails to meet Selection Standard 2 because fueling operations would be down during the entire construction period (up to 2 years), causing substantial degradation of mission capability. Additionally, increased downtime would be required for UST maintenance and/or repairs and there would be increased environmental risk in the event of a leak compared to ASTs.
- Fails to meet Selection Standard 4 because the footprint of the replacement facility would require significant expansion in an area with greater mission value for flightline access.

2.5.2 Alternative 3, AST Installation at Current Tank Farm Location

Alternative 3 would replace the aging components at the current Tank Farm 5 location with ASTs while increasing capacity for both storage and fueling. Because of the age of the Tank Farm 5 facility, a complete removal and replacement would be required. This alternative was eliminated from further consideration because of the following factors:

- Fails to meet Selection Standard 2 because fueling operations would be down during the entire construction period (up to 2 years), causing substantial degradation of mission capability.
- Fails to meet Selection Standard 5 because of inability to meet code requirements for height limitations and separations distances.

2.5.3 Alternative 4, AST at Alternate Location Within the Flightline

Alternative 4 would include installation of ASTs based on clearances at some other location within the flightline and demolition of Tank Farm 5. This alternative was eliminated from further consideration because of the following factors:

- Increases travel time for fueling trucks because the only areas within the flightline that meet code requirements for height limitations and separation distances require an additional 50 minutes per trip; therefore, it fails to meet Selection Standards 1 and 4.

2.5.4 Alternative 5, AST Located Outside the Flightline Near the Existing Tank Farm 5

Alternative 5 would demolish the existing tank farm and install an AST farm outside the flightline near Tank Farm 5 with the required increase in capacity and fueling. This alternative would allow for the potential to leave fueling operations at the existing location while moving the tanks to a more beneficial area. Alternative 5 was eliminated from further consideration because of the following factors:

- Fails to meet Selection Standard 1 because it requires locating tanks farther from the fueling point, given that areas immediately adjacent to the existing fuel farm would be unsuitable.
- Fails to meet Selection Standard 2 because fueling operations would be down during a significant portion of the construction period (estimated 24 months), causing substantial degradation of mission capability.
- Fails to meet Selection Standard 4 because leaving the fueling point at approximately the same location would not increase mission capability.

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345422 346422 347422 348422 349422 350422 351422 352422

6795834 6794834 6793834 6792834 6791834 6790834

Clean Soil Disposal Site

Tank Farm 5

Haul Route

Concrete Disposal Site

AC Disposal Site

Borrow Site

Richardson Wood Lot

Contaminated Material Stockpiles

Approximate Pipeline Tie-In

Proposed Truck Fill Stand Site

Proposed Tank Farm 6 Site

Proposed DRMO Road Improvements

Haul Route

GATE 6 - GOV'T HILL

GATE 5 - POST ROAD

GATE 4 - BONIFACE

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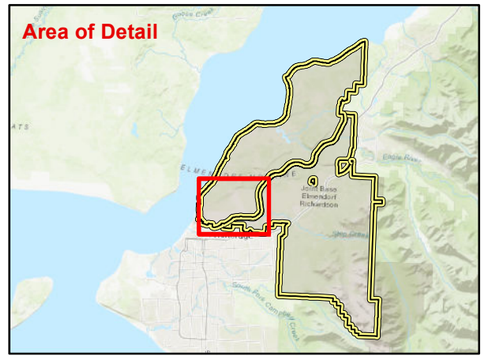
Area of Detail



- JBER Entrance Gate
- Approximate Pipeline Tie-In
- Project Generated Contaminated Material Stockpiles
- Haul Route
- Project Area
- Proposed Improvement Site
- Building
- Base Boundary

Sources
GIS Data:USAF GeoBase 2023
Imagery: JBER_19jun2023_wgs84_utm6_7.5cm_1of2.sid

1 inch = 2,000 feet

0 1,000 2,000 3,000 4,000

Feet

N

WGS 1984 UTM Zone 6N

Figure 2-1. Alternative 1 Overview
F-22 Fuel Dispensing System EA
Joint Base Elmendorf-Richardson, Alaska

DATE:	PROJECT MANAGER:	FIGURE NO:
26 NOV 2024	J. HESSE	2-1

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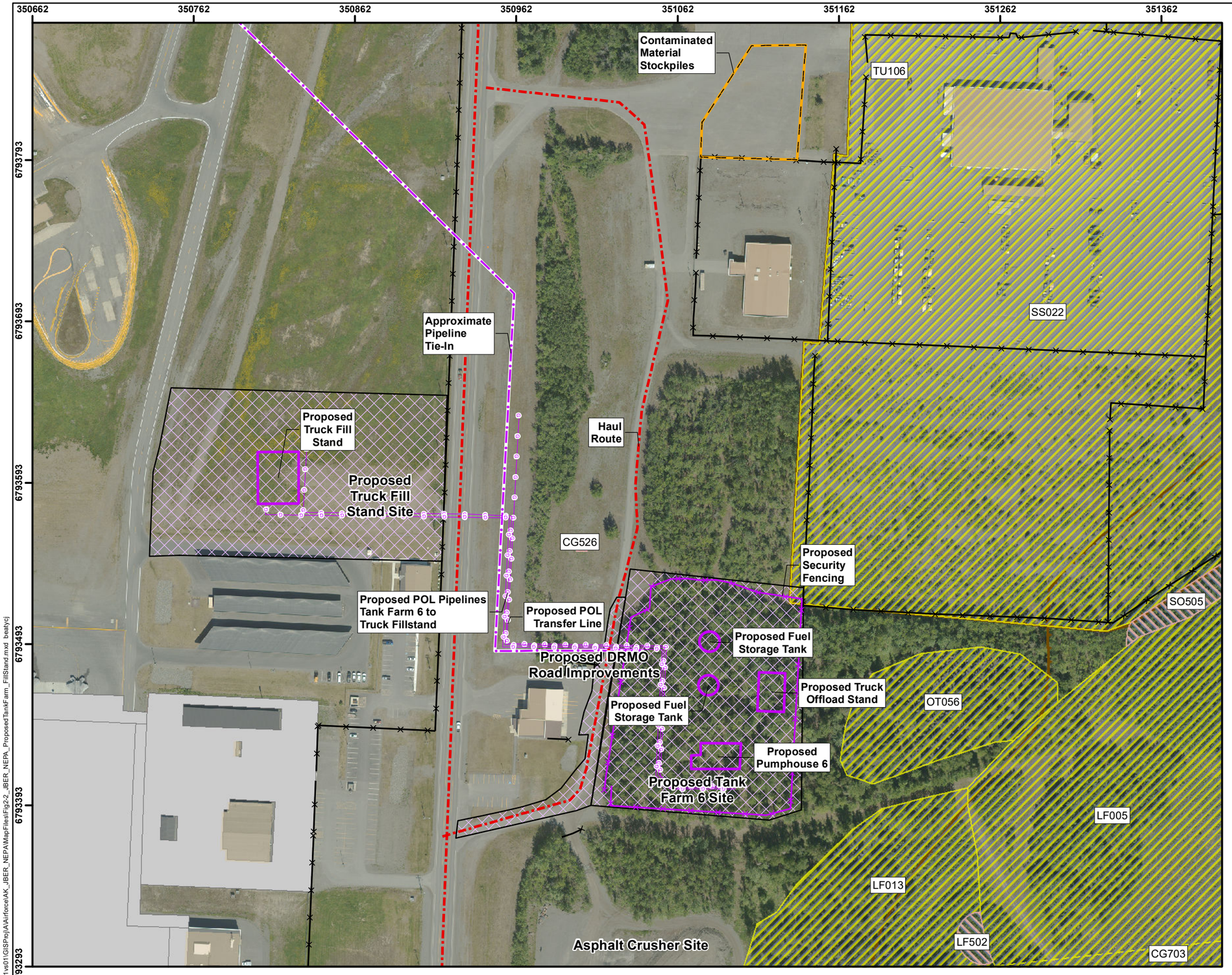

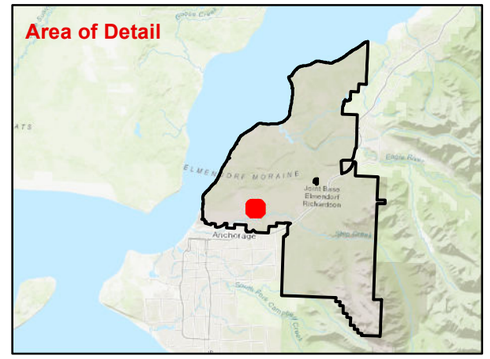

- Proposed Security Fencing
- Proposed POL Pipeline
- Approximate Pipeline Tie-in
- Project Generated Contaminated Material Stockpiles
- Haul Route
- Proposed Fuel Farm Component
- Fence
- Proposed Improvement Area
- Building
- ADEC Regulated Site
- CERCLA Site
- Land Use Control
- Airfield Surface
- Base Boundary

Sources
GIS Data:USAF GeoBase 2023
Imagery: JBER_19jun2023_wgs84_utm6_7.5cm_1of2.sid

1 inch = 200 feet
0 100 200 300 400
Feet

N

WGS 1984 UTM Zone 6N

Figure 2-2. Proposed Tank Farm 6 Site and Truck Fill Stand Site
F-22 Fuel Dispansing System EA
Joint Base Elmendorf-Richardson, Alaska

DATE:	PROJECT MANAGER:	FIGURE NO:
26 NOV 2024	J. HESSE	2-2

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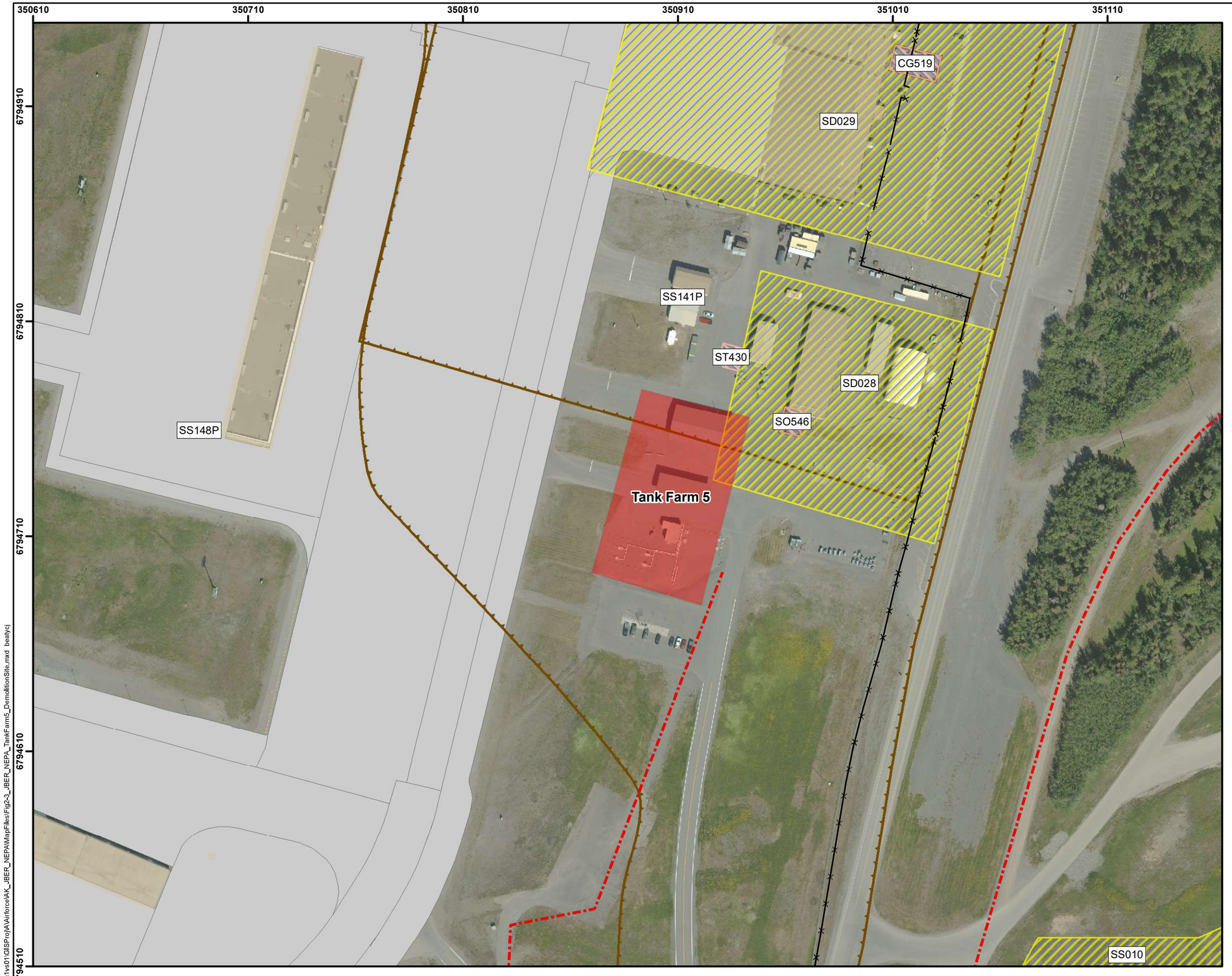
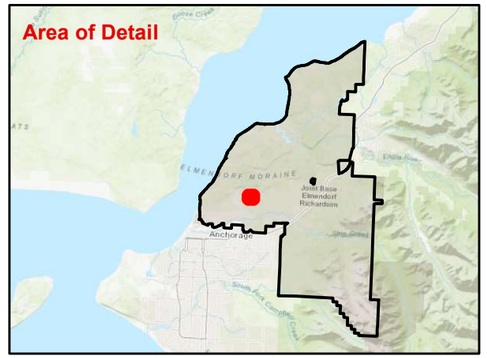


Area of Detail



- Haul Route
- Fence
- Tank Farm 5 Demolition Site
- Building
- ADEC Regulated Site
- CERCLA Site
- Land Use Control
- Airfield Surface
- Base Boundary

Sources
GIS Data:USAF GeoBase 2023
JBER_19jun2023_wgs84_utm6_7.5cm_1of2.sid

1 inch = 150 feet

0 75 150 225 300

Feet

WGS 1984 UTM Zone 6N

N

Figure 2-3. Tank Farm 5 Demolition Site
F-22 Fuel Dispensing System EA
Joint Base Elmendorf-Richardson, Alaska

DATE:	PROJECT MANAGER:	FIGURE NO:
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3.0 AFFECTED ENVIRONMENT

The region of influence for the Proposed Action is the area that may be physically disturbed with the development of the Proposed Action, unless otherwise specified in this section for a particular resource area, where the resource would have a different region of influence.

3.1 SCOPE OF THE ANALYSIS

This section describes the current conditions of the environmental resources, either human-made or natural, that would be affected by implementing the Preferred Alternative or the No Action Alternative.

Based on the scope of the Preferred Alternative, issues with minimal or no anticipated impacts were identified through a preliminary screening process. The following list contains descriptions of those resource areas not carried forward for a detailed analysis, along with the rationale for their elimination. Regardless of the alternative selected, the following resources would not be affected by the Preferred Alternative and are not discussed in detail in this EA:

- **Air Installation Compatible Use Zone (AICUZ)/Land Use:** JBER comprises 73,041 acres, which includes human-modified land (approximately 14,000 acres) and unimproved grounds (approximately 59,000 acres). The main facilities at the Elmendorf Airfield include two runways with associated taxiways and parking aprons (673 ABW 2021). The Preferred Alternative areas east of the Elmendorf Airfield are compatible with the area land use, including clear zones, accident potential zones, and AICUZ noise zones (AFCEC 2019); therefore, no impacts to the AICUZ or land use would occur.
- **Floodplains:** Floodplain data are typically derived from Federal Emergency Management Agency Flood Insurance Rate Maps. Military installations lie within a zone that the National Flood Insurance Program excludes from its mapping effort because the federal government cannot make insurance claims against the National Flood Insurance Program for federal land (673 ABW 2021). Based on floodplain boundaries depicted in JBER's geospatial data, the Preferred Alternative areas are not located within a floodplain. The Preferred Alternative would have no impacts on floodplains.
- **Geology/Topography:** The geology of the JBER area was shaped by the formation of the Chugach Mountains in the late Paleozoic and Mesozoic eras and the subsequent flow of sediments into lowlands during the Tertiary period. Major landforms identified on JBER include the Chugach Mountains to the south, bordered by ground moraine, alluvial fan, and the Elmendorf Moraine (673 ABW 2021). The proposed project site has been cleared and graded prior to this project and all gravel and soil necessary to construct the site would be sourced from existing pits on JBER. The topography of the Preferred Alternative areas have elevations ranging between approximately 206 and 216 feet above mean sea level. The Preferred Alternative would have no impact on geologic resources or topography.
- **Seismicity:** JBER is within a tectonically active region and experiences numerous earthquakes every year. JBER is bordered by two fault systems: the Bruin Bay-Castle Mountain fault system to the north and west and the Border Ranges fault system to the south, running parallel to the base of the Chugach Mountains. Another fault in the Chugach Mountains skirts the Arctic Valley ski area (673 ABW 2021). The Preferred Alternative would have no effects related to the exposure of people or structures to the risk of loss, injury, or death from seismic activity as the design of any overhead

structures would be based on current building codes, standards, and regulations that take into account seismic engineering provisions. Therefore, no significant impacts to seismicity are expected.

- **Socioeconomic Resources:** The Preferred Alternative would result in temporary beneficial impacts to socioeconomics from the use of local labor and purchase of construction materials. Compared to the regional economy, these impacts would be minor. The Preferred Alternative is not anticipated to result in any significant impacts to population, income, or economic activity in the region or at JBER. No significant impacts to socioeconomic resources would occur.
- **Environmental Justice:** EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires federal agencies to consider disproportionately high adverse effects on the human or environmental health to minority and low-income populations resulting from implementation of a proposed action. Within Anchorage Municipality (County), 44 percent of the population belong to a minority group and 22 percent of persons are low income (EPA n.d.). Low-income and minority populations would not be impacted because the Preferred Alternative would not result in housing relocations, changes in employment opportunities, or disproportionate environmental health or safety risks to minority or low-income populations in the vicinity of JBER. There would be no anticipated significant impacts to environmental justice.
- **Protection of Children:** EO 13045, "Protection of Children from Environmental Health Risks and Safety Risks," was introduced in 1997 to prioritize identifying and assessing environmental health and safety risks that may affect children and ensure that federal agency policy, programs, activities, and standards address environmental and safety risks to children. The Preferred Alternative would not result in environmental health or safety risks that would affect children. The Preferred Alternative is located within and adjacent to the flightline and there are no residences or schools in the vicinity. Access to construction areas would be controlled, thereby limiting unauthorized access by any persons, including children.
- **Recreation:** JBER provides opportunities for a variety of non-military recreational activities, including hunting, hiking, fishing, berry picking, and other river and lake uses (JBER 2019). The proposed project is located in a secure area where no recreation is allowed; therefore, the Preferred Alternative would have no effects on recreational activities/facilities at JBER.
- **Visual Resources:** The Preferred Alternative would have negligible impacts on visual resources. The Preferred Alternative would not result in any obvious modifications to the existing aesthetic and visual landscape at JBER and the visual appearance of new facilities would be consistent with the developed areas and flightline in the vicinity of the site.
- **Airspace:** The Preferred Alternative would not result in additional aircraft, aircraft operations, or requirements for changes in airspace use. As a result, there would be no effects on airspace.

3.2 NOISE

Noise generally is defined as loud, unpleasant, unexpected, or undesired sound that typically is associated with human activity and that interferes with or disrupts normal activities. Although prolonged exposure to high noise levels has been demonstrated to cause hearing loss, the

principal human response to environmental noise is annoyance. The response of individuals to similar noise events is diverse and influenced by the type of noise, the perceived importance of the noise and its appropriateness in the setting, the time of day and the type of activity during which the noise occurs, and the sensitivity of the individual. Airborne sound is the fluctuation of air pressure above and below atmospheric pressure. Several ways exist to measure sound, depending on the source, receiver, and reason for the measurement.

Community sound levels generally are presented in terms of A-weighted decibels (dBA). The A-weighting network measures sound in a similar fashion to how a person perceives or hears sound, thus achieving a strong correlation with how people perceive acceptable and unacceptable sound levels.

A-weighted sound levels for construction activities typically are measured or presented as the equivalent sound pressure level (Leq), which is defined as the average noise level on an equal-energy basis for a stated period of time and commonly is used to measure steady-state sound that is usually dominant.

Another metric used to assess the potential effects of environmental noise accounts for differences in response that people have to nighttime noise levels. During the nighttime, exterior background noises are generally lower than the daytime levels and most household noise also decreases at night thus exterior noise is more noticeable. Furthermore, most people sleep at night and are sensitive to intrusive noises. To account for human sensitivity to evening and nighttime noise levels, the Day-Night Average Sound Level (DNL) is used. The DNL is a noise index that accounts for the greater potential annoyance of noise during the nighttime hours (10:00 p.m. to 7:00 a.m.).

DNL values are calculated by averaging hourly Leq sound levels for a 24-hour period and applying weighting factors (that is, penalty) to nighttime Leq values. The weighting factors are added to each hourly Leq sound level before the 24-hour DNL is calculated. For the purposes of assessing the DNL, the 24-hour day is divided into two time periods, with the following weightings or penalties:

- Daytime hours: 7:00 a.m. to 10:00 p.m. (15 hours) – Weighting factor of 0 dBA
- Nighttime hours: 10:00 p.m. to 7:00 a.m. (9 hours) – Weighting factor of 10 dBA

The adjusted time period noise levels are then averaged (on an energy basis) to compute the overall DNL value. For a continuous noise source that operates 24 hours a day at the same sound level, the DNL value is easily computed by adding 6.4 dBA to the continuous noise level (Leq). For example, if the expected continuous noise level from a noise source is 60.0 dBA, the resulting DNL from the source would be 66.4 dBA. For a source that only operates during the day, the DNL may be considered the same as the hourly Leq. For example, if the noise source results in 70 dBA during the daytime hours and does not operate during the nighttime hours, the DNL would be considered 70 dBA.

Sound attenuates with distance. The farther one is from the source, the lower the sound level will be. For sources of noise that may be represented by a point source, such as a piece of construction equipment, the sound generally will decrease at a rate of 6 decibels per doubling of distance. At larger distances, atmospheric absorption and other factors may provide additional reductions beyond those provided by distance alone.

Table 3-1 presents A-weighted sound levels of common sources of noise.

Table 3-1. Typical Sound Levels Measured in the Environment

Common Outdoor Noises	Noise Level (dBA)	Common Indoor Noises
Jet flyover at 1,000 feet	110	Rock band at 5 meters
Gas lawn mower at 3 feet	100	Inside subway train (New York)
Diesel truck at 50 feet	90	Food blender at 3 feet
Noisy urban daytime	80	Garbage disposal at 3 feet
Gas lawn mower at 100 feet	70	Vacuum cleaner at 10 feet or normal speech at 3 feet
Commercial area	60	Large business office
Quiet urban daytime	50	Dishwasher in the next room
Quiet urban nighttime	40	Small theater or large conference room (background) or library
Quiet suburban nighttime	30 to 25	Bedroom at night or concert hall
Quiet rural nighttime	20 to 15	Bedroom at night or concert hall
None	0	Threshold of hearing

Source: FHWA 2021

3.2.1 Local Noise Environment

The proposed project areas are exposed to aircraft noise from the nearby Elmendorf Airfield and vehicle noise from nearby roadways. Noise-sensitive receptors in relation to the proposed project areas are shown on Figure 3-1a. The nearest sensitive noise receptor to the Preferred Alternative is on-base residences located approximately 0.7 mile (3,700 feet) south of proposed Tank Farm 6. Other sensitive noise receptors, including schools, places of worship, and hospitals, are more than a mile from proposed project areas.

The proposed Tank Farm 6 site is within the 65 DNL aircraft sound contour; the proposed truck fillstand site is within the 65 to 70 DNL aircraft sound contour; and the Tank Farm 5 demolition site is within the 65 to 70 and 70 to 75 DNL aircraft sound contours, as shown on Figure 3-1a. The proposed project areas are also within the 70-115 dB large arms sound contour, as shown on Figure 3-1b.

3.3 AIR QUALITY

Under the authority of the Clean Air Act (CAA), the U.S. Environmental Protection Agency (EPA) has established nationwide air quality standards, known as National Ambient Air Quality Standards (NAAQS), to protect public health and welfare. These standards, shown in Table 3-2, represent the maximum allowable atmospheric concentrations for six criteria pollutants: ozone, nitrogen dioxide, carbon monoxide (CO), sulfur dioxide (SO_2), lead, and particulate matter, which includes respirable particulate matter less than or equal to 10 micrometers in diameter (PM_{10}) and respirable particulate matter less than or equal to 2.5 micrometers in diameter ($PM_{2.5}$).

Table 3-2. National Ambient Air Quality Standards

Criteria Pollutant	Primary or Secondary	Averaging Period	Federal Standard	Form
CO	Primary	1 hour	35 ppm	Not to be exceeded more than once per year
CO	Primary	8 hours	9 ppm	Not to be exceeded more than once per year
Nitrogen dioxide	Primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
Nitrogen dioxide	Primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
Nitrogen dioxide	Primary	1 year	0.053 ppm	Annual mean
Ozone	Primary	8 hours	0.070 ppm	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
$PM_{2.5}$	Primary	1 year	12.0 mg/m^3	Annual mean, averaged over 3 years
$PM_{2.5}$	Secondary	1 year	15.0 mg/m^3	Annual mean, averaged over 3 years
$PM_{2.5}$	Primary and Secondary	24 hours	35 mg/m^3	98th percentile, averaged over 3 years
PM_{10}	Primary	24 hours	150 mg/m^3	Not to be exceeded more than once per year on average over 3 years
SO_2	Primary	1 hour	0.075 ppm	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
SO_2	Secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year
Lead	Primary and Secondary	Rolling 3-month average	0.15 mg/m^3	Not to be exceeded

Source: EPA 2023
mg/m^3 = microgram(s) per cubic meter
ppm = part(s) per million, by volume

Under the CAA, the country is classified into attainment, nonattainment, and maintenance areas. Any area not meeting the NAAQS is designated as nonattainment for the specific pollutant or pollutants, whereas areas that meet the NAAQS are designated as attainment areas. Maintenance areas are those areas that were previously designated as nonattainment and subsequently re-designated to attainment subject to development of a maintenance plan.

Under the EPA New Source Review (NSR) program, stationary sources of air pollution are required to have permits before construction of the source begins. NSR Prevention of Significant Deterioration (PSD) permit approval would be required if the proposed project were either a new source, with the potential to emit 250 tons per year or more of an attainment pollutant, or an existing major source of emissions, making a major modification in an attainment area and resulting in a net emissions increase above specified levels. Nonattainment NSR approval would be required if the proposed project were a new stationary source or major

source of emissions, making a major modification in a nonattainment area with potential to emit nonattainment pollutants in excess of the NSR thresholds.

The CAA General Conformity Rule (40 CFR Parts 6, 51, and 93) requires federal agencies to make written conformity determinations for federal actions in or affecting nonattainment or maintenance areas. If the emissions of a criteria pollutant (or its precursors) do not exceed the *de minimis* level, then the federal action has minimal air quality impact and the action is determined to conform for the pollutant under study; no further analysis is necessary.

3.3.1 Criteria Pollutants

JBER is located in southcentral Alaska at the head of Cook Inlet adjacent to the Municipality of Anchorage and west of the community of Eagle River. While both Anchorage and Eagle River are considered maintenance areas (Anchorage is maintenance area for carbon monoxide and Eagle River is a maintenance area for PM_{10}), JBER is not within those maintenance areas (ADEC 2023) and, therefore, is considered in attainment with all NAAQS. A General Conformity analysis is not required. An air quality impact analysis is required to assess potential short- and long-term effects of the proposed action.

3.4 WATER RESOURCES

Water resources include surface water and groundwater and can be important to economic, ecological, recreational, and human health resources. Surface water resources include lakes, rivers, streams, and wetlands. Stormwater is included in the surface water analysis because it has the potential to flow into connected surface water and impact surface water quality. Stormwater flow, defined as runoff from precipitation that is increased by impervious surfaces, may introduce sediment and other contaminants into the water resource environment. Groundwater includes subsurface hydrologic resources. Groundwater properties are often described in terms of depth to aquifer or water table, water quality, and surrounding geologic composition.

3.4.1 Surface Waters

The Preferred Alternative area is within the Ship Creek Outlet Watershed (HUC 12: 190204010401) (673 ABW 2021). Based on a review of JBER wetland geospatial data, no wetlands or waterbodies are within the proposed project areas. The nearest wetlands/ waterbodies are a freshwater forested/shrub wetland approximately 0.4 mile southeast of Tank Farm 5 and a freshwater pond approximately 0.2 mile east of the Proposed Tank Farm 6, as shown on Figures 3-2a and 3-2b.

3.4.2 Stormwater

Five stormwater drainage areas have been identified on JBER. The majority of the project area is located in Drainage Area 5, which drains to Outfall 5 directly into Ship Creek. There are open drainage lines along the road, adjacent to the proposed location of Tank Farm 6, truck fillstand, and pipeline tie-in. These drainage lines are part of JBER's Municipal Separate Storm Sewer Systems (MS4) and drain to Ship Creek. It is also possible for some of the stormwater from this project to drain into the Cherry Hill Ditch, known as Outfall 1. This ditch discharges to a weir designed to trap sediment on Port of Anchorage property prior to discharging to Cook Inlet.

There is no storm drainage system in the vicinity of the proposed project. Existing facilities adjacent to the proposed project area use infiltration areas (USACE 2022). Stormwater from the proposed project area would infiltrate to the ground and/or evaporate; however, in significant

quantities, it may discharge into Outfall 1 or run as sheet flow into Ship Creek (RSE 2022). Infiltration rates in the project area are very high.

JBER maintains a Stormwater Management Plan to satisfy the requirements of its MS4 Permit. JBER designs, implements, and enforces stormwater management to reduce the discharge of pollutants (RSE 2022).

3.4.3 Groundwater

Two freshwater aquifers underlie most of the JBER installation. These aquifers flow west from the Chugach Mountains to Cook Inlet and are recharged by groundwater originating from precipitation in the mountains. The upper, unconfined aquifer lies in a 30- to 100-foot-deep layer of well-bedded, well-sorted gravel near the surface and usually can be accessed at depths of less than 50 feet. The lower, confined aquifer lies in a 100- to 200-foot layer of sand and gravel and usually can be accessed at 200 to 400 feet below ground surface (bgs). Impermeable clay above produces artesian conditions and protects the lower aquifer against seepage and pollutants from the surface (673 ABW 2021).

During geotechnical investigations at project sites adjacent to the proposed project, groundwater was encountered at 33.5 feet bgs (USACE 2022).

Groundwater use is restricted at JBER. Groundwater from the proposed project area is not used for drinking water (RSE 2022).

3.5 SAFETY AND OCCUPATIONAL HEALTH

Air Force Instruction 91-301, *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program*, which implements Air Force Policy Directive 91-3, *Occupational Safety and Health*, governs the recognition, evaluation, control, and protection of Air Force personnel from occupational health and safety hazards. The purpose of the AFOSH Program is to minimize the loss of Air Force personnel from occupational illness, injury, or death by managing risks.

JBER implements a Bird/Wildlife Aircraft Strike Hazard (BASH) Program to prevent and reduce hazards caused by the interaction of birds or wildlife with aircraft. The proposed Tank Farm 6 and truck fillstand are within the BASH area.

The JBER Fire Department provides emergency medical services, hazardous materials incident response, and fire protection service to the installation. Military police provide 24-hour law enforcement and security operations on JBER.

All contractors performing construction activities at JBER are responsible for complying with applicable safety requirements, including U.S. Occupational Safety and Health Administration (OSHA) regulations. Public access is allowed on JBER and is subject to safety requirements and military security. Public access to JBER is closely controlled, and in some areas, highly restricted (673 ABW 2021).

3.6 HAZARDOUS MATERIALS / WASTE

Hazardous materials have been declared hazardous through federal listings, including Extremely Hazardous Substances listed in Appendix A of 40 CFR Part 355, *Emergency Planning and Notification*; those listed as hazardous if released, under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 40 CFR 302.4, *Designation of Hazardous Substances*; and by definition of hazardous chemicals under OSHA

in 29 CFR 1910.1200, *Hazard Communication*. A toxic substance is a substance that, when ingested or absorbed, is harmful or fatal to living organisms.

For purposes of this EA, "hazardous material" refers to any item or agent (biological, chemical, or physical) that has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors. Toxicity is an attribute of some hazardous waste. Through the Toxic Substances Control Act, EPA regulates toxic substances such as asbestos, lead-based paint, polychlorinated biphenyls (PCBs), and radon.

Hazardous waste is any solid, liquid, or contained gas waste that is dangerous or potentially harmful to human health or the environment. Federal regulations on hazardous waste are contained in 40 CFR Parts 260 to 279 and are a result of Subtitle C of the Resource Conservation and Recovery Act, which requires a program to track hazardous waste from generation to storage to transportation to disposal.

Solid waste is generally defined by Resource Conservation and Recovery Act-implementing regulations as any discarded material that meets specific regulatory requirements. These materials can include items such as refuse and scrap metal, spent materials, chemical byproducts, and sludge from industrial and municipal wastewater and water treatment plants (40 CFR 261.2).

3.6.1 Hazardous Materials/Wastes

JBER is regulated as a large quantity generator of hazardous waste. All hazardous wastes generated on JBER are processed at the Hazardous Waste Center.

JBER maintains a Hazardous Waste Management Plan that outlines roles, responsibilities, and the management of hazardous waste, universal waste, and other regulated waste on JBER. This environmental management plan applicable to all military, civilian, and contractor personnel who generate these wastes on JBER.

JBER maintains an Integrated Hazardous Material Plan that identifies responsibilities and procedures for managing hazardous materials at JBER. The overall objective of the plan is to ensure hazardous materials are purchased, stored, and handled in a manner that minimizes the impact on the environment and complies with all applicable environmental, safety, and occupational health standards. The plan applies to all JBER organizations, tenants, and contractors that store or use hazardous materials on JBER (JBER 2019).

JBER also maintains a Spill Prevention, Control, and Countermeasure Plan/Oil Discharge Prevention and Contingency Plan (SPCC/CPlan), which establishes procedures and best management practices (BMPs) for the safe and proper storage and management of POL on JBER, as well as the coordinated deployment and response of emergency resources when a spill occurs (JBER 2019).

A hazardous materials assessment conducted at the Tank Farm 5 demolition site in June 2023 identified asbestos in the Pump Room, Control Room, and on the exterior of Building 15699. The assessment identified lead in paints in the Control and Pump Rooms, plastic components, and batteries. It was also determined that settled and concealed dusts are likely to have measurable concentrations of lead. PCBs may be present in the light ballasts and the rust and waterproof coatings on the buried underground tanks and piping systems. Mercury is present in the fluorescent lamp fixtures and high intensity discharge lamps (EHS 2024).

The proposed project would include storage and dispensing of JP-8, which is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200) and has a

number of potential health and environmental effects. JP is flammable, can cause skin, eye, or respiratory irritation and damage, and is toxic to aquatic life with long lasting effects (Hess 2012).

3.6.2 Environmental Restoration Program

The Defense Environmental Restoration Program is a DoD program designed to identify and remediate past environmental contamination on its installations.

In 1990, Elmendorf Air Force Base was placed on the EPA's National Priorities List. JBER-Elmendorf has six Superfund operational unit sites resulting from past waste management practices or accidental releases. These operable units consist of smaller parcels grouped based on geographical proximity and similar contamination types, contaminated media (soil and/or groundwater), and/or remedial approaches. Each operable unit has a Record of Decision signed by EPA, ADEC, and USAF requiring remedial actions until specific goals are met (673 ABW 2021).

Contaminated sites are present within 1 mile of the proposed project areas in all cardinal directions (RSE 2022). CERCLA, ADEC-regulated (petroleum only), and land use control sites are shown on Figure 2-2.

- **Proposed Tank Farm 6 site:** This site is located between trichloroethene (TCE) and tetrachloroethene groundwater plumes SS022 and CG703, and near historical landfill/debris burial areas LF013 and OT056. The proposed tank farm location is approximately 400 feet south of SS022 and 600 feet north of CG703. Groundwater contamination is documented at approximately 30 to 40 feet bgs. This site is situated immediately to the west of OT056, a former surface debris burial area. OT056 is uncapped and not associated with a groundwater plume (USACE 2022). Based on the analytical results of soil samples collected for the project, the following contamination was detected adjacent to or within the Tank Farm 6 site: TCE was detected in soil at a concentration of 0.169 milligram per kilogram, which is greater than ADEC's migration to groundwater cleanup level of 0.011 milligram per kilogram; 1,2-dibromoethane was detected at a concentration of 0.00284 milligram per kilogram (ADEC migration to groundwater cleanup level is 0.00024 milligram per kilogram); and several fuel-related compounds, including benzene, ethylbenzene, bromodichloromethane, and naphthalene, were detected above ADEC cleanup levels (USACE 2023).
- **Proposed truck fillstand site:** This site and a portion of the pipeline alignment are within the TCE groundwater plume SS022. No manned facilities are proposed for this area. Groundwater contamination is documented at approximately 30 to 40 feet bgs (USACE 2022).
- **Tank Farm 5 demolition site:** There are no documented releases from the USTs at the Tank Farm 5 facility and recent UST investigations did not yield evidence of potential leaks. However, this location has multiple historical and active contaminated sites associated with fueling infrastructure to the north and drum burials to the south (USACE 2022). There are also known areas of per- and polyfluoroalkyl substances (PFAS) north of Tank Farm 5, but the extents are unknown.

3.6.3 Solid Waste

Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention*, outlines procedures for municipal solid waste management planning, training, collecting, and disposing.

At JBER, the primary methods of managing non-hazardous solid waste include diversion through recycling and reuse, disposal at the local solid waste landfill, and burning for energy recovery. Diversion of non-hazardous solid waste is the preferred method of managing solid waste; disposal is the option of last resort (JBER 2019). DoD requires a 60% diversion rate for construction and demolition projects in accordance with EO and DoD Instruction requirements. Diversion includes reuse, donation, recycling, and composting. Scrap metal must be recycled through a reputable scrap metal recycler off base, with weight tickets provided (USACE 2022).

3.7 BIOLOGICAL / NATURAL RESOURCES

The biological resource information was developed from data collected during a site visit, the U.S. Fish and Wildlife Species (USFWS) Information for Planning and Conservation official species list (Appendix A; USFWS 2024), and the JBER Integrated Natural Resources Management Plan (673 ABW 2021).

No marine resources are in, or in proximity to, the project area and there is no potential to affect marine resources. Therefore, marine resources, including essential fish habitat, are not further discussed.

Regulations concerning biological resources are discussed as follows:

- **Endangered Species Act (ESA) of 1973:** The ESA (16 *United States Code* [U.S.C.] Sections 1531 et seq.) was established to protect and allow for recovery of species in danger of extinction (threatened and endangered species) and their habitats. Section 7 of the ESA specifies that any agency that proposes a federal action that could jeopardize a listed species or result in destruction or adverse modification of its habitat must participate in an interagency cooperation and consultation process with the USFWS or the National Oceanic and Atmospheric Administration National Marine Fisheries Service.
- **Migratory Bird Treaty Act (MBTA):** The MBTA (16 U.S.C. Sections 703 et seq.) protects bird species that migrate between the U.S. and other countries. Under this Act, it is unlawful to pursue, hunt, take, capture, wound, or kill a migratory bird by any means, including any part, egg, or nest unless otherwise authorized, such as within legal hunting seasons. The list of bird species protected by the MBTA is included in 50 CFR 10.13.
- **Bald and Golden Eagle Protection Act (BGEPA):** This Act (16 U.S.C. Sections 668 through 668d) protects Bald and Golden Eagles. Under this Act, it is unlawful to pursue, hunt, take, capture, wound, or kill a Bald or Golden Eagle by any means, including any part, egg, or nest unless otherwise authorized.

3.7.1 Vegetation

There are no aquatic habitats within the proposed project area.

Tank Farm 5 is within the airfield boundary and consists of hardscape with limited areas of mowed grasses.

The proposed truck fillstand area is within the airfield boundary. It consists of disturbed graveled ground used historically as a staging/laydown area and additional areas that are maintained as low-growing grasses and forbs by mowing.

The proposed Tank Farm 6 site is primarily mixed quaking aspen (*Populus tremuloides*)-paper birch (*Betula papyrifera*) forest with interspersed white spruce (*Picea glauca*). Understory vegetation likely includes wintergreens (*Pyrola* spp.), rues (*Thalictrum* spp.), and buttercups (*Ranunculus* spp.). The JBER forester would perform an assessment of the timber volume prior

to land clearing activities. The proposed Tank Farm 6 site is surrounded by land classified as human modified (673 ABW 2021).

The proposed pipeline route is within disturbed/maintained land adjacent to a roadway that provides no appreciable wildlife habitat.

3.7.2 Wildlife

Common wildlife on JBER may occur in the proposed project area but generally would be confined to the woodland where the proposed tank farm would be constructed. Species that may occur include the wood frog (*Rana sylvatica*), red fox (*Vulpes vulpes*), coyote (*Canis latrans*), moose (*Alces alces*), black bear (*Ursus americanus*), little brown bat (*Myotis lucifugus*), migratory and resident avifauna, and numerous rodent species (673 ABW 2021).

3.7.3 Protected Species and Habitat

This section describes the wildlife species and habitats in the study areas with legal protection status, including species and habitat protected by the ESA, MBTA, and BGEPA.

There are no species listed under, or proposed for listing under, the ESA that occur in or in proximity to the project area and there is no designated critical habitat within or in proximity to the project area (USFWS 2024). There is no potential to affect listed species or critical habitat. Therefore, ESA-listed species and designated critical habitat are not discussed further.

The Bald Eagle (*Haliaeetus leucocephalus*) and the Golden Eagle (*Aquila chrysaetos*) are known to occur at JBER, but neither species has been observed in areas where disturbance would occur (673 ABW 2021). Bald Eagle nesting activity is typically associated with open water resources on JBER and the nearest nests (one active and one inactive) are more than 2 miles from the proposed project area (673 ABW 2021). The nearest Golden Eagle nest is more than 10 miles from the proposed project area (673 ABW 2021), and habitat in the proposed project area is unsuitable for foraging by this species. Neither Bald nor Golden Eagles are anticipated to nest or forage in the project area.

Migratory birds are a large, diverse group of birds that include songbirds, waterfowl, birds of prey, waterbirds, and shorebirds. Migratory birds on JBER can occur as year-round residents who live on the installation throughout the year; breeding residents, which breed in the region in the summer and migrate south to wintering grounds in warmer regions; or transient, using JBER as a stopover habitat during migration (673 ABW 2021).

3.8 CULTURAL RESOURCES

Cultural resources are prehistoric or historic districts, sites, buildings, structures, or objects considered important to a culture, subculture, or community for scientific, traditional, religious, or other purposes. They include archaeological resources, both prehistoric and historic; historic architectural resources; Native American sacred sites; Traditional Cultural Properties; and historic properties defined in 36 CFR 800.16(l)(1) as properties that are listed in, or are eligible for listing in, the National Register of Historic Places (NRHP).

Regulations concerning cultural resources include the following:

- **National Historic Preservation Act (NHPA) (54 U.S.C. Sections 300101 et seq.):** NHPA includes two important sections: Section 106 and Section 110. Section 110 mandates that federal agencies assume responsibility for the preservation of historic properties that fall under the agency's jurisdiction and must carry out their undertakings

in accordance with the purpose of the NHPA. Section 106 requires federal agencies to identify and assess effects from their undertakings on historic properties.

- **Archaeological and Historic Preservation Act of 1974 (16 U.S.C. Section 469):** The Archaeological and Historic Preservation Act requires the preservation of historical and archaeological data (including relics and specimens) that might otherwise be irreparably lost or destroyed as the result of an alteration of the terrain caused by any federal construction project or federally licensed activity or program. It requires consultation with the SHPO, any potentially impacted Native American groups, and the responsible Department of Interior bureaus and offices.
- **American Indian Religious Freedom Act of 1978 (42 U.S.C. Section 1996).** The American Indian Religious Freedom Act protects the rights of Native Americans to exercise their traditional religions by ensuring access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites. Any effects that may occur by providing access to such sites may trigger Section 106 review under the NHPA. It requires consultation with the SHPO and any potentially impacted Native American groups.
- **Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. Sections 3001 et seq.).** The Native American Graves Protection and Repatriation Act provides a process for museums and federal agencies to return certain Native American cultural items (human remains, funerary objects, sacred objects, or objects of cultural patrimony) to lineal descendants, Indian Tribes, and Native Hawaiian organizations. Under the Native American Graves Protection and Repatriation Act, permits for the excavation and/or removal of “cultural items” protected by the Act require Tribal consultation, as do discoveries of “cultural items” made during activities on federal or Tribal lands.
- **Department of the Air Force Manual (DAFMAN) 32-7003, Environmental Conservation.** DAFMAN 32-7003 provides for the protection of cultural resources on USAF-managed lands.
- **Department of the Air Force Instruction (DAFI) 90-2002, Interactions with Federally Recognized Tribes.** DAFI 90-2002 provides procedures for the interaction with Tribes who have a documented interest in Department of the Air Force (DAF) lands and activities. It assigns responsibilities and outlines procedures to guide DAF interactions with Federally Recognized Tribes**.**

The Area of Potential Effects (APE) is “the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties if such properties exist. 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” (36 CFR 800.16(d)). For this EA, the APE consists of the proposed site for Tank Farm 6, the proposed site for the truck fillstand, the proposed utility extensions, and the area where the existing Tank Farm 5 will be demolished.

Former Elmendorf Air Force Base and Fort Richardson were constructed on Dena’ina homeland and played major roles in both World War II and the Cold War. As such there are significant archaeological sites and historical buildings and structures on JBER (673 ABW 2023).

There are 163 known archaeological sites recorded on the installation and under JBER management. Of the 163 sites, 101 have been determined to be not eligible for listing in the

NRHP; 43 require further investigation; 1 is a National Historic Landmark; and 18 have been assessed as eligible for listing on the NRHP (673 ABW 2023).

In addition to archaeological sites, there have been 809 buildings and structures evaluated within JBER. It has been determined that 685 of the properties are not eligible for listing on the NRHP; 85 are individually eligible or contribute to a National Register eligible district; and 39 need further evaluation (673 ABW 2023).

No recorded Traditional Cultural Properties or sacred sites have been identified on JBER. However, an ethnohistorical study suggests that there may be unmarked Alaska Native burial grounds on the installation, and there are cultural resources considered Traditional Cultural Properties but not recorded by DAF or the SHPO (673 ABW 2023).

Jacobs conducted a review of previous studies and surveys, ethnographic and historic records, and historic maps and photographs within a study area of a half-mile from the APE. The literature review identified 20 cultural resource sites within the study area, one of which is within the APE (ANC-03267, a historic-age shelter and pump station associated with Tank Farm 5). The structures were determined not eligible for listing in the NRHP in 2018. The 19 other sites in the study area are all historic-era structures or features related to military facilities (buildings, bunkers, foxholes, and structural remains) (Jacobs 2024).

A review of historical aerial photos revealed that the APE was extensively disturbed in the 1940s and 1950s for development of the airfield, a coal storage and transport area, an asphalt batch plant, and what appears to be materials sourcing.

Archaeological sites that could occur on JBER include precontact and proto-historic Dena'ina sites, as well as historic sites related to the early settlement of Anchorage, railroad and highway construction, and military build-up associated with World War II (Jacobs 2024).

Jacobs conducted an archaeological survey of the proposed Tank Farm 6 area in July 2024. The survey included pedestrian reconnaissance and subsurface testing. The survey confirmed that the area is disturbed and sediments that could contain precontact archaeological materials have been removed (Jacobs 2024). The Cultural Resources Survey Report is provided in Appendix C of this EA.

Near the initial location of the project-generated contaminated material stockpiles, a rail line, siding two-bumper stops, and two rail trucks were observed on the surface. These appear to date the operation of the coal storage facility in the 1940s and 1950s. They are recommended not NRHP-eligible. No other temporally diagnostic historic artifacts or structures were observed (Jacobs 2024).

Research and field survey revealed no NRHP-eligible historic properties in the APE.

3.9 SOILS

Soils are the unconsolidated surface materials that form from underlying bedrock or other parent material.

Soils in the Anchorage area were most recently surveyed in the Soil Survey of Anchorage Area, Alaska (NRCS 2001). In general, soils on JBER are dominated by three types of unconsolidated deposits: (1) coarse-grained deposits consisting of sand and gravel deposited by streams (glacial outwash) in the outwash plain and along modern stream channels, lakes, or estuaries; (2) fine-grained deposits consisting of silt and clay deposited in still water, such as former lakes and ponds in the ground moraine, former marine estuaries, and tidal zones; and (3) till, a

mixture of coarse and fine-grained material consisting of boulders, gravel sand, silt, and clay, which is found in well-sorted interbeds or poorly-sorted single beds (673 ABW 2021).

Soil types within the proposed project areas are described in Table 3-3.

Table 3-3. Soil Types within Proposed Project Areas

Proposed Project Area	Soil Type	Parent Material	Drainage Class	Surface Runoff Rate
Truck Fillstand	Kashwitna-Kichatna complex, 0 to 3% slopes	Coarse-silty loess over gravelly outwash	Well-drained	Low
Tank Farm 6	Dumps, landfill	Not Applicable	Not Applicable	Not Applicable
Connection Line to Tank Farm 5	Cryorthents and Urban land, 5 to 20% slopes	Glacial sediments	Somewhat excessively drained	Medium
Connection Line to Tank Farm 5	Kashwitna-Kichatna complex, 0 to 3% slopes	Coarse-silty loess over gravelly outwash	Well-drained	Low
Connection Line to Tank Farm 5	Dumps, landfill	Not Applicable	Not Applicable	Not Applicable
Tank Farm 5 Demolition	Cryorthents and Urban land, 5 to 20% slopes	Glacial sediments	Somewhat excessively drained	Medium

Source: NRCS 2024

There is potential for soil contamination within the proposed project areas. Additional details on contamination are provided in Section 3.6.2, Environmental Restoration Program.

3.10 UTILITIES

Base Utilities manages JBER's utilities, with power provided via overhead lines in the vicinity of the proposed project. Anchorage Water and Wastewater Utility provides wastewater services in the vicinity of the proposed project. Doyon provides water to the installation; however, JBER manages the distribution of water in the vicinity of the proposed project.

Although a 22-inch water main is located within the proposed truck fillstand site, it would not conflict with proposed improvements. No known utilities exist in the proposed Tank Farm 6 site. Water would be necessary for the proposed tank farm hydrants and pumphouse and sanitary sewer would be necessary for the pumphouse bathroom. The nearest water main is a 22-inch main approximately 550 feet from the proposed Tank Farm 6. The nearest sewer main is approximately 450 feet from the proposed pumphouse location (USACE 2022).

3.11 CLIMATE CHANGE AND GREENHOUSE GASES

Greenhouse gases (GHGs) are compounds that may contribute to accelerated climate change by altering the thermodynamic properties of the Earth's atmosphere. GHGs consist of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, and perfluorocarbons. Under the EPA Mandatory Reporting Rule, facilities that emit 25,000 metric tons or more per year of carbon dioxide equivalent (CO_2e) emissions must submit annual reports to EPA.

Based on DAF's GHG and Climate Change Assessment Guide (AFCEC 2023), GHGs should be analyzed like any other air pollutant and quantified using the Air Conformity Applicability Model (ACAM). A GHG emissions evaluation is required and can be calculated using the ACAM.

3.11.1 Climate and Climate Trends

According to the Western Regional Climate Center, JBER lies in a transitional climatic zone between the maritime climatic zone of coastal Alaska and the continental climatic zone of interior Alaska. In the transition zone, temperatures are typically moderate with long, cool winters and short, warm summers (DAF 2023). The average high temperature for the Anchorage, Alaska area is 66.2 degrees Fahrenheit (°F) in the hottest month of July, and an average low temperature of 11.0°F in the coldest month of January. Anchorage has average annual precipitation of 16.42 inches per year. The wettest month of the year is September, with an average rainfall of 3.10 inches (National Weather Service, 2023).

Alaska is experiencing warming air temperatures, droughts, reduced snowpack, shrinking glaciers, continued permafrost thaw, relative sea level change, pollen outbreaks, wildfires, changing snowfall amounts and seasons, and changing patterns of windstorms. Alaska's statewide annual average surface air temperature is projected to increase by 8.1°F by the end of the century under an intermediate scenario and 14.2°F under a very high scenario for 2081 to 2100 relative to 1981 to 2010. (USGCRP 2023).

3.12 TRANSPORTATION RESOURCES

Ground transportation resources generally include the roadway and street systems surrounding the affected environment.

The proposed Tank Farm 6 site and proposed truck fillstand location would be accessed via existing paved roadways east of the airfield. The proposed tie-in pipeline connecting Tank Farm 6 to the existing transfer pipeline would cross the road between Tank Farm 6 and the truck fillstand. This road has one lane of traffic in each direction (north-south) and a center two-way left turn lane with 5-foot-wide shoulders on each side, for a total width of approximately 55 feet. Roads to the west, south, and east of the airfield would be used for haul routes (Figure 2-1) during the proposed construction and demolition activities.

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Tank Farm 5

Proposed Truck Fill Stand Site

Proposed Tank Farm 6 Site

MOUNT SPURR ELEMENTARY SCHOOL

Mountain View Elementary School

William Tyson Elementary School

Clark Middle School

USAF ELMENDORF HOSPITAL

Bartlett Senior High School

Bartlett Senior High School

JBER

Municipality of Anchorage

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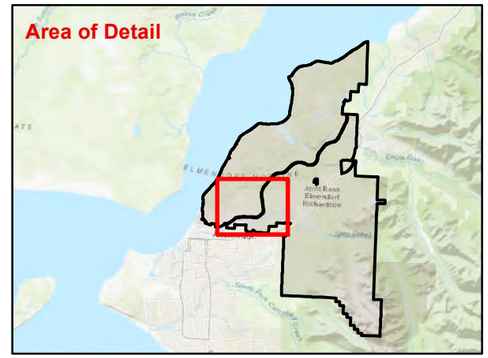
Area of Detail



Joint Base Elmendorf-Richardson (Federal Land)
Proposed Improvement Area
Fence - Cantonment Perimeter
Railroad

Building Category
- Cultural
- Education
- Medical
- Recreation
- Religious
- Building
- Airfield Surface
- Water Body

Mean Aircraft Noise Level in Decibels
- 65
- 65 - 70
- 70 - 75
- 75 - 80
- 80 - 85

Sources
GIS Data:USAF GeoBase 2023
Imagery: JBER_19jun2023_wgs84_utm6_7.5cm_1of2.sid

1 inch = 2,000 feet

0 1,000 2,000 3,000 4,000

Feet

WGS 1984 UTM Zone 6N

N

Figure 3-1a. Aircraft Noise Contours
F-22 Fuel Dispensing System EA
Joint Base Elmendorf-Richardson, Alaska

DATE:	PROJECT MANAGER:	FIGURE NO:
02 MAY 2024	J. HESSE	3-1a

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347067 347567 348067 348567 349067 349567 350067 350567 351067 351567 352067 352567 353067 353567 354067

6796261 6795761 6795261 6794761 6794261 6793761 6793261 6792761 6792261 6791761 6791261 6790761

Contour Line 115

Tank Farm 5

Proposed Truck Fill Stand Site

Proposed Tank Farm 6 Site

MOUNT SPURR ELEMENTARY SCHOOL

Mountain View Elementary School

William Tyson Elementary School

Clark Middle School

USAF ELMENDORF HOSPITAL

Bartlett Senior High School

Bartlett Senior High School

Contour Line 130

JBER

Municipality of Anchorage

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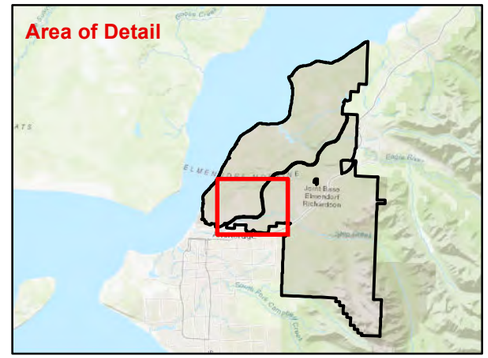
Area of Detail



Joint Base Elmendorf-Richardson (Federal Land)

Proposed Improvement Area

Fence - Cantonment Perimeter

Railroad

Building Category

Cultural

Education

Medical

Recreation

Religious

Building

Airfield Surface

Water Body

Large Arms Mean Noise Level in Decibels

70 - 115

115 - 130

Sources

GIS Data:USAF GeoBase 2023

Imagery: JBER_19jun2023_wgs84_utm6_7.5cm_1of2.sid

1 inch = 2,000 feet

0 1,000 2,000 3,000 4,000

Feet

WGS 1984 UTM Zone 6N

N

Figure 3-1b. Large Caliber Arms Noise Contours

F-22 Fuel Dispensing System EA

Joint Base Elmendorf-Richardson, Alaska

DATE:	PROJECT MANAGER:	FIGURE NO:
18 JUL 2024	J. HESSE	3-1b

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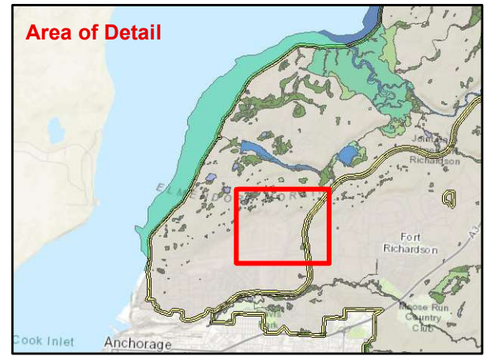
348963 349463 349963 350463 350963 351463 351963 352463

6796301 6795801 6795301 6794801 6794301 6793801

Tank Farm 5

Area of Detail



- Approximate Pipeline Tie-In
- Haul Route
- Fence
- Railroad
- Proposed Improvement
- Building
- Airfield Surface
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Base Boundary

Sources
GIS Data:USAF GeoBase 2023
Imagery: JBER_19jun2023_wgs84_utm6_7.5cm_1of2.sid

1 inch = 1,000 feet
0 500 1,000 1,500 2,000
Feet

N

WGS 1984 UTM Zone 6N

Figure 3-2a. Wetlands, Tank Farm 5
F-22 Fuel Dispensing System EA

Joint Base Elmendorf-Richardson, Alaska

DATE:	PROJECT MANAGER:	FIGURE NO:
08 OCT 2024	J. HESSE	3-2.a

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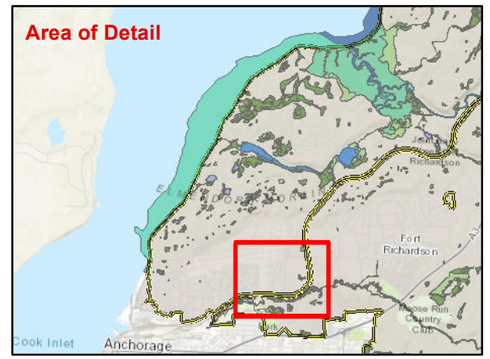
348930 349430 349930 350430 350930 351430 351932 352430

6794245 6793745 6793245 6792745 6792245 6791745

Proposed Truck Fill Stand Site

Proposed Tank Farm 6 Site

Area of Detail



- Approximate Pipeline Tie-In
- Project Generated Contaminated Material Stockpiles
- Haul Route
- Fence
- Railroad
- Proposed Improvement
- Building
- Airfield Surface
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine
- Base Boundary

Sources
GIS Data:USAF GeoBase 2023
Imagery: JBER_19jun2023_wgs84_utm6_7.5cm_1of2.sid

1 inch = 1,000 feet

0 500 1,000 1,500 2,000

Feet

WGS 1984 UTM Zone 6N

N

Figure 3-2b. Wetlands, Proposed Truck Fillstand and Tank Farm 6 Sites
F-22 Fuel Dispansing System EA
Joint Base Elmendorf-Richardson, Alaska

DATE:	PROJECT MANAGER:	FIGURE NO:
26 NOV 2024	J. HESSE	3-2.b

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4.0 ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter describes the potential environmental consequences that are likely to occur as a result of implementation of Alternative 1 or the No Action Alternative. Impacts described in this section are evaluated in terms of type (positive/beneficial or adverse), context (setting or location), intensity (no impact, less than significant, or significant), and duration (short-term/temporary or long-term/permanent). The type, context, and intensity of an impact on a resource are explained under each resource area. Unless otherwise noted, short-term impacts are those that would result from the activities associated with a project's construction and/or demolition phase, which would end upon the completion of those phases. Long-term impacts are generally those resulting from the operation of a proposed project.

4.2 NOISE

A proposed action could have a significant effect on noise if noise-sensitive areas experienced excessive noise levels. While not strictly applicable, the Municipality of Anchorage's construction noise limits (Chapter 15.70.060(B)(3)) are indicative thresholds for determining excessive noise levels. The Municipality of Anchorage established an A-weighted hourly average (Leq) threshold of 80 dBA for construction activities at a residential real property boundary or within a noise-sensitive zone, or within a commercial or industrial real property boundary between 6:00 a.m. to 10:00 p.m. from 01 April through 31 October and from 7:00 a.m. to 10:00 p.m. during other months. These restrictions do not apply to emergency work of public service utilities or construction for which a noise permit has been issued.

4.2.1 Alternative 1 (Preferred Alternative)

Construction and demolition activities would temporarily increase ambient noise levels in and around the project areas. The increased noise levels would be limited to daytime working hours and the overall construction periods.

Table 4-1 provides typical noise levels and usage factors for general construction equipment and activities. The acoustical usage factor does not equate to the percentage of time the equipment is in use, but instead, to the percentage of time that it is operated at its maximum sound emission level. As shown in Table 4-1, the loudest typical construction equipment generally emits noise in the range of 80 to 90 dBA at 50 feet, with usage factors of 40% to 50%.

Table 4-1. Typical Construction Equipment Noise Levels

Equipment Description	Acoustical Usage Factor (%)	Specified L_{max} at 50 feet (dBA)	Calculated L_{eq} (dBA) at 100 feet	Calculated L_{eq} (dBA) at 1,000 feet	Calculated L_{eq} (dBA) at 2,000 feet	Calculated L_{eq} (dBA) at 4,000 feet
Auger Drill Rig	20	85	72	52	46	40
Backhoe	40	80	70	50	44	38
Bar Bender	20	80	67	47	41	35
Boring Jack Power Unit	50	80	71	51	45	39
Chain Saw	20	85	72	52	46	40
Clam Shovel (dropping)	20	93	80	60	54	48

Equipment Description	Acoustical Usage Factor (%)	Specified L_{max} at 50 feet (dBA)	Calculated L_{eq} (dBA) at 100 feet	Calculated L_{eq} (dBA) at 1,000 feet	Calculated L_{eq} (dBA) at 2,000 feet	Calculated L_{eq} (dBA) at 4,000 feet
Compactor (ground)	20	80	67	47	41	35
Compressor (air)	40	80	70	50	44	38
Concrete Batch Plant	15	83	69	49	43	37
Concrete Mixer Truck	40	85	75	55	49	43
Concrete Pump Truck	20	82	69	49	43	37
Concrete Saw	20	90	77	57	51	45
Crane	16	85	71	51	45	39
Dozer	40	85	75	55	49	43
Drill Rig Truck	20	84	71	51	45	39
Drum Mixer	50	80	71	51	45	39
Dump Truck	40	84	74	54	48	42
Excavator	40	85	75	55	49	43
Flat Bed Truck	40	84	74	54	48	42
Front End Loader	40	80	70	50	44	38
Generator	50	82	73	53	47	41
Generator (less than 25 kilovolt-amperes)	50	70	61	41	35	29
Gradall	40	85	75	55	49	43
Grader	40	85	75	55	49	43
Grapple (on backhoe)	40	85	75	55	49	43
Horizontal Boring Hydraulic Jack	25	80	68	48	42	36
Hydra Break Ram	10	90	74	54	48	42
Impact Pile Driver	20	95	82	62	56	50
Jackhammer	20	85	72	52	46	40
Man Lift	20	85	72	52	46	40
Mounted Impact Hammer (hoe ram)	20	90	77	57	51	45
Pavement Scarifier	20	85	72	52	46	40
Paver	50	85	76	56	50	44
Pickup Truck	40	55	45	25	19	13
Pneumatic Tools	50	85	76	56	50	44
Pumps	50	77	68	48	42	36
Refrigerator Unit	100	82	76	56	50	44
Rivet Buster/Chipping Gun	20	85	72	52	46	40
Rock Drill	20	85	72	52	46	40
Roller	20	85	72	52	46	40

Equipment Description	Acoustical Usage Factor (%)	Specified L_{max} at 50 feet (dBA)	Calculated L_{eq} (dBA) at 100 feet	Calculated L_{eq} (dBA) at 1,000 feet	Calculated L_{eq} (dBA) at 2,000 feet	Calculated L_{eq} (dBA) at 4,000 feet
Sand Blasting (single nozzle)	20	85	72	52	46	40
Scraper	40	85	75	55	49	43
Shears (on backhoe)	40	85	75	55	49	43
Slurry Plant	100	78	72	52	46	40
Slurry Trenching Machine	50	82	73	53	47	41
Soil Mix Drill Rig	50	80	71	51	45	39
Tractor	40	84	74	54	48	42
Vacuum Excavator (vac-truck)	40	85	75	55	49	43
Vacuum Street Sweeper	10	80	64	44	38	32
Ventilation Fan	100	85	79	59	53	47
Vibrating Hopper	50	85	76	56	50	44
Vibratory Concrete Mixer	20	80	67	47	41	35
Vibratory Pile Driver	20	95	82	62	56	50
Warning Horn	5	85	66	46	40	34
Welder/Torch	40	73	63	43	37	31
All Other Equipment Greater than 5 Horsepower	50	85	76	56	50	44

Source: FHWA 2006

L_{max} = highest sound level measured during single noise event

The following assumptions were used for modeling construction noise associated with the Preferred Alternative:

- One piece of equipment generating a reference noise level of 85 dBA (at 50 feet distance with a 40% usage factor) located at the edge of the construction boundary closest to the sensitive receptors.
- Two pieces of equipment generating reference noise levels of 85 dBA located 50 feet farther away from the construction boundary (100 feet distance with a 40% usage factor).
- Two additional pieces of equipment generating reference noise levels of 85 dBA located 100 feet farther away from the construction boundary (200 feet distance with a 40% usage factor).

Table 4-2 presents construction noise levels at various distances based on the noise modeling assumptions.

Table 4-2. Construction Equipment Noise Levels Versus Distance

Distance from Construction Activity (feet)	Leq Noise Level (dBA)
50	83
100	79
200	74
400	69
800	63
1,600	58
3,200	52
6,400	46

Construction activities are not proposed near noise-sensitive uses. Noise-sensitive uses are substantially farther than 800 feet from planned activities and, as shown in Table 4-2, are predicted to be less than that of a normal conversation (65 dBA at 3 feet per Table 3-1). The closest noise-sensitive receptor (housing) is located 0.7 mile (3,700 feet) to the south. At this distance, the construction sound level is expected to be less than 52 dBA. This would comply with the Municipality of Anchorage's construction sound limit of 80 dBA and is less than the predicted aircraft sound level of 65 dBA.

Construction workers would use hearing protection and comply with DAF Hearing Conservation Program, DoD, and OSHA requirements to protect themselves from construction noise and/or noise generated by surrounding aircraft/training activities. Overall, temporary, less-than-significant, adverse noise impacts would occur during construction and demolition activities.

No significant long-term noise impacts from the operation of the proposed facilities would be expected. There would be intermittent vehicle noise associated with the R-11 refueling trucks using the truck fillstand. Given the location of the proposed truck fillstand close to the airfield and roadways and the lack of noise-sensitive receptors in the area, no adverse impacts to noise would occur. Noise-producing equipment, such as the standby generator, would be located inside an enclosure and, therefore, attenuated.

4.2.2 No Action Alternative

Under the No Action Alternative, there would be no construction of Tank Farm 6 or demolition of Tank Farm 5 and the existing fueling infrastructure would remain in service. No impact to the existing noise environment would occur.

4.3 AIR QUALITY

Under the General Conformity rule established under the CAA, federal agencies must ensure that their actions conform to the state implementation plan in a nonattainment or maintenance area. The Proposed Action is within an attainment area; therefore, it is exempt from the General Conformity rule and does not require an associated air quality conformity analysis. There are established insignificance thresholds for use in General Conformity for nonattainment and maintenance areas; however, there are no established significance thresholds for attainment areas. In accordance with DAF's Air Quality EIAP guidance (AFCEC 2023a), the General Conformity *de minimis* threshold of 250 tons per year for criteria pollutants (except for lead, which is 25 tons per year) can be used as an indicator of potentially significant air quality

impacts under NEPA for attainment areas. DAF quantifies emissions of criteria pollutants for NEPA assessments using its ACAM.

4.3.1 Alternative 1 (Preferred Alternative)

4.3.1.1 Criteria Pollutants

Air quality impacts associated with the Preferred Alternative were evaluated based on whether emissions would be localized, and whether a reasonable potential exists for a violation of an ambient air quality standard or regulatory threshold.

Implementation of the Preferred Alternative would result in short-term, less-than-significant, adverse impacts on overall air quality from construction activities. The operation of various equipment during construction activities would create exhaust emissions and generate dust and other particles in the air. Mobile source emissions also would be generated from vehicular traffic.

Emissions were estimated using the USAF's ACAM (Version 5.0.23a). Table 4-3 summarizes the Preferred Alternative's projected total air emissions from construction activities. A copy of the calculations used to develop these estimates is provided in Appendix B.

Emissions from a diesel-fired emergency generator, fuel storage, and fuel loading and unloading would be generated once the F-22 fuel dispensing facility is operational. Operational emissions are the "net" emissions, taking into account the existing operations that will cease with the construction and installation of new equipment. Operational emissions do not account for emissions from the existing sources. Table 4-4 summarizes the Preferred Alternative's projected total air emissions from operational activities. A copy of the calculations used to develop these estimates is provided in Appendix B.

Table 4-3. Preferred Alternative Construction Emissions (tons per year)

Year	Emission Source	VOC	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$
2025	Construction Emissions	0.514	5.36	4.45	0.009	51.2	0.179
2025	Total Emissions	0.514	5.36	4.45	0.009	51.2	0.179
2025	*de minimis* levels (tons per year)	250	250	250	250	250	250
2025	Threshold Exceeded for Any Activity?	No	No	No	No	No	No
2026	Construction Emissions	0.271	3.10	2.31	0.005	0.182	0.088
2026	Total Emissions	**0.271**	**3.10**	**2.31**	**0.005**	**0.182**	**0.088**
2026	*de minimis* levels (tons per year)	250	250	250	250	250	250
2026	Thresholds Exceeded for Any Activity?	No	No	No	No	No	No
2027	Construction Emissions	0.223	1.18	3.66	0.002	0.116	0.116
2027	Total Emissions	**0.223**	**1.18**	**3.66**	**0.002**	**0.116**	**0.116**
2027	*de minimis* levels (tons per year)	250	250	250	250	250	250
2027	Thresholds Exceeded for Any Activity?	No	No	No	No	No	No

No lead emissions would be generated during construction activities.

NO_x = nitrogen oxides

VOC = volatile organic compound

Table 4-4. Preferred Alternative Operational Emissions (tons per year)

Emission Source	VOC	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$
Operational Activities (Fueling and Emergency Generator)	0.224	1.38	5.21	0.003	0.163	0.163
Total Emissions	**0.224**	**1.38**	**5.21**	**0.003**	**0.163**	**0.163**
De minimis levels (tons per year)	250	250	250	250	250	250
Threshold Exceeded for Any Activity?	No	No	No	No	No	No

No lead emissions would be generated during construction activities.

Based on the estimated emissions listed in Table 4-3, the emissions from construction activities associated with the Preferred Alternative would be below the *de minimis* thresholds under DAF's Air Quality EIAP guidance (AFCEC 2023a), which are used as significance indicators for all criteria pollutants. Although implementation of the Preferred Alternative would result in minimal increases in operational VOC emissions (Table 4-4) because of the increased size of the storage tanks, the emissions would be less than DAF's Air Quality EIAP guidance significance indicator. The total fuel throughput for the new system is not expected to change under the Preferred Alternative. Therefore, the Preferred Alternative would not be subject to Prevention of Significant Deterioration or NSR requirements. The analysis indicates that the emissions would be below the *de minimis* thresholds under DAF's Air Quality EIAP guidance (AFCEC 2023a). A Record of Conformity Analysis would be used to document that the proposed project is exempt from General Conformity requirements. Appendix B contains the Record of Conformity Analysis and detailed emission calculations.

BMPs would be implemented during construction to reduce potential impacts on air quality, including having no visible emissions such as dust and wind-blown soil. These control measures could include applying water or using other stabilization measures on areas of bare soil or soil piles; creating wind breaks; and covering dump trucks that transport materials that could become airborne. Additionally, contractors would be required to maintain construction equipment in accordance with manufacturers' specifications to reduce exhaust emissions.

4.3.2 No Action Alternative

Under the No Action Alternative, there would be no construction of Tank Farm 6 or demolition of Tank Farm 5 and the existing fueling infrastructure would remain in service. There would be no emissions from construction/demolition activities, and no increase in fugitive dust emissions. Therefore, no impacts to air quality would occur.

4.4 WATER RESOURCES

The threshold level of significance for surface water would be an activity that results in violation of state water quality criteria, constitutes a violation of federal or state discharge permits, and/or consists of an unpermitted placement of structures inside of the ordinary high water mark.

The threshold level of significance for groundwater would be a release of contamination that creates concentrations that exceed the federal or state standards.

4.4.1 Alternative 1 (Preferred Alternative)

4.4.1.1 Surface Waters and Groundwater

No wetlands or waterbodies are within or immediately adjacent to the proposed project sites. Wetlands/waterbodies farther away would be protected through implementation of BMPs to control runoff from the proposed project sites. The proposed project would not require the use of groundwater or excavation to the depth of groundwater. During construction and demolition, potential impacts to surface water and groundwater quality could occur as a result of spills. This risk would be minimized by properly storing materials and fueling and maintaining construction equipment offsite or in designated areas with appropriate control and containment. The contractor would be required to address all spills in accordance with the JBER SPCC/CPlan. Replacing outdated fuel storage and dispensing facilities would reduce the risk of fuel spills/leaks and would have beneficial impacts to surface waters and groundwater.

With the implementation of BMPs and JBER's SPCC/CPlan, impacts to surface waters and groundwater from the Preferred Alternative would be less than significant.

4.4.1.2 Stormwater

The Preferred Alternative would have short-term, adverse impacts on stormwater during construction from increased erosion from soil disturbance. A Stormwater Pollution Prevention Plan (SWPPP) would be prepared and coverage under the Alaska Construction General Permit would be obtained for the proposed project. Additionally, construction operators would be provided with construction BMPs that JBER considers adequate in protecting JBER's MS4 (USACE 2022). The proposed project would avoid disturbing existing infiltration areas.

The Preferred Alternative would have a long-term, adverse impact on stormwater from an increase in impervious surfaces. Project design would incorporate infiltration areas to meet stormwater runoff requirements. Design of infiltration areas factored in that there would be no standing water for the 100-year, 24-hour storm event.

Storing large quantities of JP-8 presents a potential risk to the stormwater system. Preventive measures (i.e., secondary containment) would be in place prior to conducting any fuel storage or transfer operations. Replacing outdated fuel storage and dispensing facilities would reduce the risk of fuel spills/leaks and would have beneficial impacts to stormwater.

With the implementation of the SWPPP and BMPs and compliance with the construction permit, impacts to stormwater from the Preferred Alternative would be less than significant.

4.4.2 No Action Alternative

Under the No Action Alternative, there would be no construction of Tank Farm 6 or demolition of Tank Farm 5 and the existing fueling infrastructure would remain in service. The continued use of outdated infrastructure would carry an increased risk of environmental contamination from leaks and spills, which could adversely impact water resources. With the implementation of the JBER SPCC/CPlan, impacts would be less than significant.

4.5 SAFETY AND OCCUPATIONAL HEALTH

The threshold for a significant impact would be one of the following:

- Substantially increases risks associated with the safety of construction personnel, contractors, or the local community.

- Substantially hinders the ability to respond to an emergency.
- Introduces a new health or safety risk for which the installation is not prepared or does not have adequate management and response plans in place.

4.5.1 Alternative 1 (Preferred Alternative)

The Preferred Alternative would have short-term, adverse impacts on worker safety and occupational health during construction. All construction contractors would be required to follow and implement OSHA standards and applicable DoD and USAF regulations to establish and maintain safety procedures. Lockout/tagout safety procedures would be implemented when working around utilities.

A temporary secure perimeter fence would be installed around the construction area with a construction access gate. During construction, signs would be placed on roads to alert drivers to changes in traffic patterns and trucks entering and exiting the road.

During proposed project activities within the BASH clear zone, solid waste BMPs would be followed so as not to attract wildlife. Open standing water is not permitted in the BASH area to avoid creating a bird attractant. Secondary containment areas would collect rainwater, as they normally have closed valves. Occasional ponding resulting from stormwater runoff in the operating tanks' secondary containment area would be mitigated through maintenance and operation procedures to remove water as soon as possible.

Fueling stations carry a risk of fire and explosion. New facilities would be constructed in accordance with applicable National Fire Protection Association codes and standards and UFCs. The proposed project sites would be served by an underground fire loop supported by the existing base water distribution system. The POL facilities would be provided with a minimum of two hydrants within 300 feet of the protected exposures, including tanks and the pumphouse. The pumphouse would also be equipped with a fire alarm system (USACE 2022). Appropriate hazard markings would be placed on the area's security fencing, ASTs, and pumphouse.

Implementation of the Preferred Alternative would have no impact on the availability, capabilities, or capacity of emergency services available on JBER or neighboring communities. With implementation of appropriate safety standards, codes, and procedures, impacts to safety and occupational health from the Preferred Alternative would be less than significant.

4.5.2 No Action Alternative

Under the No Action Alternative, there would be no construction of Tank Farm 6 or demolition of Tank Farm 5 and the existing fueling infrastructure would remain in service. Therefore, no impacts on safety and occupational health would occur.

4.6 HAZARDOUS MATERIALS/WASTE

The effects on hazardous materials and hazardous waste would be considered significant if one or more of the following criteria were met with the implementation of the Proposed Action:

- Noncompliance with applicable federal, state, and local regulations and DAFI or JBER guidance as a result of the Preferred Alternative.
- Disturbance or creation of contaminated sites resulting in adverse effects on human health or the environment.

- Established management policies, procedures, and handling capacities are unable to accommodate the proposed activities.

4.6.1 Alternative 1 (Preferred Alternative)

4.6.1.1 Hazardous Materials / Wastes

Construction and demolition activities would require the use, storage, and disposal of hazardous materials such as gasoline, oils, coolant, and lubricants commonly used by construction equipment, paints, welding gases, solvents, preservatives, and sealants. Hazardous waste would be generated during construction activities and may include empty hazardous substance or petroleum containers, spent solvents, paints, sealants, adhesives, waste oil, spill cleanup materials, batteries, and various universal wastes. Accidental spills or releases of hazardous materials could occur during construction and result in surface water, groundwater, and soil contamination. All spills or releases of petroleum oil lubricating products, hazardous materials, pollutants, or contaminants would be handled in accordance with the JBER SPCC/CPlan. Handling, storing, and disposing of hazardous materials and hazardous waste, including taking measures to prevent releases, would be conducted in accordance with Safety Data Sheet recommendations, all applicable federal, state, and local regulations and DAFI and JBER's environmental management plans.

Demolition of existing infrastructure at Tank Farm 5 would involve the removal and disposal of hazardous building materials, including asbestos, lead, and PCBs. It is anticipated that removal and disposal of asbestos and lead would be conducted by a subcontractor to the general contractor who is qualified for such removal. Awareness training and possibly respiratory protection would be required for all contractor personnel who would disturb any settled and concealed dusts. USTs and associated infrastructure would be surveyed to locate and determine the extent of hazardous and regulated building materials before demolition. This survey would inform future mitigation and abatement for proper handling and disposal in accordance with government regulations to prevent human health exposure and potential release to the environment during demolition activities. Removal of the USTs at Tank Farm 5 would be completed using an ADEC-approved Site Work Plan and an ADEC certified UST worker and would follow ADEC 18 AAC 78 requirements. UST tank work would be completed in accordance with the following ADEC guidance documents and regulations:

- Field Sampling Guidance
- 18 AAC 78, Underground Storage Tanks
- 18 AAC 75, Oil and Other Hazardous Substances Pollution Control
- *Underground Storage Tanks Procedures Manual: Guidance for Treatment of Petroleum-Contaminated Soil and Groundwater and Standard Sampling Procedures* (ADEC 2017)

Operation of the proposed fueling system would be performed in accordance with JBER's SPCC/CPlan, which would be updated to include the proposed fueling system. Secondary containment areas would be constructed around areas of fuel transfer (truck fillstand and truck offload) and for single walled ASTs. Secondary containment areas would meet the requirements of UFC 3-460-01, NFPA 30, 40 CFR Part 112, and ADEC 18 AAC 75 regulation. Drain piping from secondary containment systems would have valves that are normally in the closed position to prevent a fuel spill from exiting the containment area. Operators would inspect collected stormwater within each system for a fuel sheen prior to opening the valve to release clean

stormwater from the system. If a fuel sheen is present, contents of the secondary containment system would be pumped out and properly disposed.

With adherence to applicable regulations, guidance, and management plans, impacts relating to the use of hazardous materials and/or generation of hazardous waste during construction, demolition, and operation would be less than significant.

4.6.1.2 Environmental Restoration Program

Excavation activities for the proposed project would not reach the depth of the contaminated shallow groundwater aquifer and no groundwater dewatering is anticipated. Because the proposed manned facility (i.e., pumphouse) is located outside the documented contamination plumes and landfills, vapor mitigation measures are not required for the manned structure. However, since the pumphouse is situated between two solvent plumes (SS022 groundwater plume and northern groundwater plume) that are potential vapor intrusion sources and is adjacent to several landfills, installing a vapor intrusion barrier under the pumphouse to prevent intrusion of chemical vapors from existing contaminated groundwater and soil into the pumphouse has been recommended.

It is assumed that 25 percent of the excavated material from the proposed Tank Farm 6 would be fuel contaminated and 100 percent of excavated material from Tank Farm 5 would be contaminated (USACE 2024). Contaminated soil would not be allowed for backfilling excavations or for common fill. All excavated soils would be temporarily stockpiled within the project-generated contaminated material stockpiles area (Figure 2-1) until testing is performed and the soils can be classified as contaminated or not. An alternative location for the project-generated contaminated material stockpiles was required to avoid affecting historic-era resources. The stockpile location was relocated to a vacant concrete pad north of the proposed Tank Farm 6 site. Contaminated soil would be transported to an approved off-base soil treatment facility with the ADEC soil transportation form approved by ADEC. Any coal piles or buried coal encountered would be removed and tested for waste characterization purposes.

4.6.1.3 Solid Waste

Under the Preferred Alternative, construction and demolition debris would be generated, consisting of typical building materials such as solid pieces of concrete, metals, and lumber. The construction contract would require the contractor to handle disposal of all solid waste in accordance with applicable federal, state, and local regulations and requirements. DoD requires a 60% diversion rate for construction and demolition projects in accordance with EO and DoD Instruction requirements. A diversion rate measures the amount of waste not sent to landfills. Diversion during construction and demolition activities would likely include a combination of reuse, donation, recycling, and composting. Long-term impacts would result from permanently using landfill capacity through disposal of nonrecyclable construction and demolition debris. However, the quantity of waste generated would not exceed the capacity of regional facilities. Therefore, impacts relating to solid waste would be less than significant.

4.6.2 No Action Alternative

Under the No Action Alternative, there would be no construction of Tank Farm 6 or demolition of Tank Farm 5 and the existing fueling infrastructure would remain in service. The continued use of outdated infrastructure would carry an increased risk of leaks and spills of JP-8, a hazardous material, which could have adverse environmental and health effects. With the implementation of the JBER SPCC/CPlan, impacts would be less than significant.

4.7 BIOLOGICAL/NATURAL RESOURCES

The effects on biological and natural resources would be considered significant if one or more of the following criteria were met with the implementation of the Proposed Action:

- Substantial loss of populations or habitat of a federal Species of Concern or otherwise regionally rare or sensitive species that could jeopardize the continued existence of that species in the project region.
- Injury, mortality, or clutch loss of species protected under the MBTA.
- Substantial loss or long-term disruption of a major wildlife movement corridor.
- Substantial loss of native plant or animal species or community diversity.

4.7.1 Alternative 1 (Preferred Alternative)

This section addresses potential impacts to biological and natural resources from the Preferred Alternative, including construction and operations. The areas assessed include the proposed Tank Farm 6 site, the proposed truck fillstand, and the route of the proposed pipeline connecting the two. The area of Tank Farm 5 was not assessed for effects because all activity involved in demolition of this feature would be confined to existing disturbed areas that do not provide natural vegetation or wildlife habitat.

4.7.1.1 Common Wildlife and Vegetation

There would be a loss of approximately 4.3 acres of mixed quaking aspen-paper birch habitat in the area proposed for Tank Farm 6 and a loss of approximately 4.6 acres of mowed/maintained grass/forb habitat from construction of the truck fillstand. This habitat type is common on JBER and the Preferred Alternative would not result in loss of native plant or animal species or community diversity.

The JBER forester would perform an assessment of the timber volume before land clearing activities. Trunks of all trees with a greater than 4-inch diameter at breast height would be salvaged and transported to the Richardson Wood Lot. JBER would make an attempt to offer for sale any forests products that require removal prior to the initiation of land clearing.

It is expected that the activity associated with project construction would cause most animal species to leave the area, but limited incidental mortality of common species cannot be ruled out. Preconstruction surveys would be conducted before ground disturbance and tree clearing. If a little brown bat maternity colony is discovered at the Tank Farm 6 site, tree clearing activities would avoid the maternity colony and/or commence in the fall after the bats have dispersed. The loss of the woodland would not disrupt wildlife movement corridors because the proposed project area is surrounded by modified human environments. Therefore, the Preferred Alternative would result in long-term, less-than-significant, adverse impacts to common terrestrial vegetation and wildlife in the proposed project area.

4.7.1.2 Bald and Golden Eagles

Neither Bald nor Golden Eagles are anticipated to nest or forage in the proposed project area and there would be no impacts to these species.

4.7.1.3 MBTA

JBER reviews projects to ensure compliance with the MBTA and EO 13186, “Responsibilities of Federal Agencies to Protect Migratory Birds.” USFWS issues Alaska-by-region specific

guidance for land clearing and vegetation removal activities that have the potential to impact migratory birds. USFWS's timing recommendation for avoiding vegetation clearing in the southcentral forest/woodland and shrub or open-type habitats is 01 May to 15 July (USFWS 2017). To avoid potential impacts on nesting birds, including birds protected under the MBTA, the following measure would be implemented during construction and operation activities as part of the Preferred Alternative:

- To the extent possible, land clearing would be conducted outside the migratory bird breeding season (01 May to 15 July).

With implementation of the preceding mitigation measure, impacts to species listed under the MBTA would be less than significant.

4.7.2 No Action Alternative

Under the No Action Alternative, there would be no construction of Tank Farm 6 or demolition of Tank Farm 5 and the existing fueling infrastructure would remain in service. There would be no impact to vegetation, terrestrial habitat, or wildlife species, including species listed under the MBTA in the Preferred Alternative area.

4.8 CULTURAL RESOURCES

The threshold level for significant impacts on cultural resources would adversely affect any historic property that is eligible for listing in, or is listed in, the NRHP or has been identified by a Federally Recognized Tribe as a sacred site.

4.8.1 Alternative 1 (Preferred Alternative)

Information gathered during the literature review suggests that there is a moderate-to-high probability of finding new historic-period archaeological sites. Previous cultural resources investigations surrounding JBER indicate a low probability that significant prehistoric deposits would be present. No NRHP-eligible historic properties were identified in the APE during research and surveys; therefore, the project is expected to have no effects to historic properties. Section 106 consultation is ongoing. Consultation with Tribes and other interested parties did not identify other cultural resources, traditional cultural properties, or sacred sites.

If any unanticipated discoveries of archaeological resources or cultural items occur, work would be temporarily halted at the discovery site, the JBER Cultural Resources Manager would be contacted, and all appropriate measures would be implemented to avoid disturbance. JBER would immediately inform the SHPO and any associated Tribes of the discovery and invite the parties to consult on the procedures to minimize adverse effects and/or render disposition of cultural items. Procedures for inadvertent discoveries are detailed in the JBER Integrated Cultural Resources Management Plan (673 ABW 2023).

No impacts on cultural resources are expected as a result of the Preferred Alternative.

4.8.2 No Action Alternative

Under the No Action Alternative, there would be no construction of Tank Farm 6 or demolition of Tank Farm 5 and the existing fueling infrastructure would remain in service. No impacts to cultural resources would occur.

4.9 SOILS

The threshold level of significance for soils is a substantial loss of soil and/or an increased potential for erosion of soils to a level where standard sediment and erosion control measures would not prevent the erosion.

4.9.1 Alternative 1 (Preferred Alternative)

The Preferred Alternative would have a long-term, adverse impact on soils on the proposed project sites. The Tank Farm 6 and truck fillstand sites would require grading, excavation, and removal and import of materials for site development. The construction contractor would be required to develop and implement effective sedimentation and erosion control procedures and BMPs to be used during construction and demolition to minimize erosion of surrounding soils because of soil/ground disturbance. These BMPs could include installing silt fencing, applying water to disturbed soil, and limiting soil disturbance only to areas where the construction is proposed. Treatment of contaminated soil is discussed in Section 4.6.1.2, Environmental Restoration Program.

Replacing outdated fuel storage and dispensing facilities would reduce the risk of fuel spills and leaks and would have beneficial impacts on soils.

With implementation of BMPs and sedimentation and erosion control procedures, impacts on soils would be less than significant.

4.9.2 No Action Alternative

Under the No Action Alternative, there would be no construction of Tank Farm 6 or demolition of Tank Farm 5 and the existing fueling infrastructure would remain in service. The continued use of outdated infrastructure would carry an increased risk of environmental contamination from leaks and spills, which could adversely impact soils. With implementation of the JBER SPCC/CPlan, impacts would be less than significant.

4.10 UTILITIES

The threshold level for a significant adverse impact to utilities is defined as an exceedance of the existing utility service capacity.

4.10.1 Alternative 1 (Preferred Alternative)

New proposed infrastructure would require extension of utilities and short-term interruptions to utilities could occur when infrastructure is disconnected from or connected to utilities. Any planned interruptions in services would be coordinated with area users prior to disconnection, to the extent practicable. Existing utilities in and near the construction and demolition areas would be identified in advance of activities to limit impacts.

Connection to the existing water main would be performed in accordance with American Water Works Association and ADEC standards and the State of Alaska Drinking Water Regulations, 18 AAC 80.

There would be a long-term, negligible increase in demand from the proposed new infrastructure. Energy supply, water supply, and wastewater treatment capacity are sufficient to accommodate the increased demand resulting from the new infrastructure and no significant impacts to utilities would occur.

4.10.2 No Action Alternative

Under the No Action Alternative, there would be no construction of Tank Farm 6 or demolition of Tank Farm 5 and the existing fueling infrastructure would remain in service. No impacts to utilities would occur.

4.11 CLIMATE CHANGE AND GREENHOUSE GASES

The DAF has adopted the PSD threshold for GHG of 75,000 tons per year (tpy), or 68,039 metric tons per year (mtpy), as an indicator or threshold of insignificance for air quality impacts in all areas under NEPA (AFCEC 2023). This indicator does not define a significant impact; however, it identifies actions that are insignificant. The DAF considers proposed actions (or alternatives) with a net change in GHG (CO_2e) emissions below 75,000 tpy as being too insignificant to warrant further consideration beyond the ACAM analysis. Actions with a net change in GHG emissions above 75,000 tpy, or 68,039 mtpy, are considered only potentially significant and require further analysis to determine whether they would have a significant impact.

4.11.1 Alternative 1 (Preferred Alternative)

The Preferred Alternative would generate GHG emissions from construction- and operation-related activities. A copy of the calculations used to develop the GHG estimate is in Appendix B. Construction of the Preferred Alternative would result in a short-term increase in GHG emissions. Estimated peak GHG emissions resulting from the Preferred Alternative would be 923 metric tons CO_2e for construction in 2025, which is well below EPA's 25,000 metric-ton-per-year threshold for mandatory reporting and the USAF indicator of insignificance for GHG emissions, which is 68,039 mtpy (AFCEC 2023). Therefore, long-term, less-than-significant, adverse impacts on climate change as a result of GHG emissions would be expected from implementation of the Preferred Alternative. No indirect impacts would be anticipated.

The construction-related social cost of GHG was calculated in ACAM and is derived by multiplying the annual GHG emissions for a given year by the annual social cost of GHG cost per metric ton for the corresponding GHGs (Table 4-5). The peak social cost of GHG for construction is $76,640 in 2025, as shown in Table 3.1-6.

Table 4-5. Annual Social Cost of GHG per Year for the Proposed Action

Year	CO_2	CH_4	N_2O	CO_2e
2025 [a]	$76,320.00	$80.00	$230.00	**$76,640.00**
2026	$42,340.00	$50.00	$140.00	**$42,530.00**
2027	$15,580.00	$20.00	$50.00	**$15,640.00**
2028 (Steady-State)	$18,240.00	$20.00	$50.00	**$18,320.00**

[a] 2025 is the peak year for CO_2e construction emissions.

Operational, or steady-state, GHG emissions would result from the diesel-fired emergency generator, fuel storage, and fuel loading and unloading. Operational emissions are the "net" emissions, taking into account the existing operations that will cease with the construction and installation of new equipment associated with the Preferred Alternative. Annual operational GHG emissions resulting from the Preferred Alternative would be 243 mtpy CO_2e, which is well below EPA's 25,000 metric-ton-per-year threshold for mandatory reporting and the USAF

indicator of insignificance for GHG emissions, which is 68,039 mtpy (AFCEC 2023). Therefore, operations would result in a less-than-significant impact on climate change.

4.11.2 No Action Alternative

Under the No Action Alternative, there would be no construction of Tank Farm 6 or demolition of Tank Farm 5 and the existing fueling infrastructure would remain in service. No impacts to climate change would occur.

4.12 TRANSPORTATION RESOURCES

The threshold level for significant impacts on ground transportation would be a disruption in traffic flow on adjacent roadways or other surrounding roads. Factors considered in determining whether a significant traffic-related impact could occur include the extent to which the considered alternatives would result in one or more of the following:

- An increase in vehicle trips that would exceed the capacity of current roadways.
- Activities that would create potential transportation safety hazards.

4.12.1 Alternative 1 (Preferred Alternative)

Construction activity would result in short-term, adverse impacts to traffic on local roadways from an increase in construction-related vehicular traffic and temporary lane closures and traffic pattern alterations. These impacts would be temporary and would end after construction of the Preferred Alternative is completed. Traffic control procedures, including flaggers, would minimize impacts on traffic flow. The roadway that underground piping and utilities would cross is of sufficient width to perform open-cut road crossings in stages, without requiring a full road closure. The construction contractor would be required to phase utility construction so that two lanes of traffic, one in each direction, are maintained at all times. Construction traffic would account for a small percentage of the total traffic on the installation. Many of the heavy construction vehicles would be driven to the site and kept onsite for the duration of construction activities, resulting in relatively few additional trips.

No new personnel would be added to JBER; therefore, there would be no long-term impacts to transportation from operation of the Preferred Alternative.

With implementation of traffic control procedures, impacts on transportation would be less than significant.

4.12.2 No Action Alternative

Under the No Action Alternative, there would be no construction of Tank Farm 6 or demolition of Tank Farm 5 and the existing fueling infrastructure would remain in service. No impacts to transportation would occur.

4.13 OTHER NEPA CONSIDERATIONS

4.13.1 Unavoidable Adverse Effects

This EA identifies any unavoidable adverse impacts that would be required to implement the Preferred Alternative and the significance of the potential impacts to resources and issues. 40 CFR 1501.3(d) specifies that a determination of significance requires consideration of context and intensity. Construction of a new fueling system would impact the local project area

at JBER. The severity of potential impacts would be limited by implementation of BMPs and regulatory compliance for the protection of the human and natural environment.

Unavoidable short-term adverse impacts associated with implementing the Preferred Alternative would include intermittent construction and demolition noise; a temporary increase in fugitive dust and air/GHG emissions during construction; construction worker safety risks; increased generation of hazardous and solid wastes; temporary erosion and sedimentation from soils disturbance; and minor alterations to local traffic. However, these effects are considered minor and would be confined to the immediate area. Use of environmental controls and implementing controls required in permits and approvals obtained would minimize these potential impacts.

For the Preferred Alternative to be accomplished, these impacts would occur. The action is required to provide aircraft fuel storage and dispensing infrastructure necessary to support the fifth generation F-22 fighter aircraft in use at JBER and meet the current 3rd Wing/673d Logistics Readiness Squadron's fuel storage and fueling needs.

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

The relationship between short-term uses and enhancement of long-term productivity from implementation of the Proposed Action is evaluated from the standpoint of short-term effects and long-term effects. Short-term effects would be those associated with the construction and demolition activities to replace the fueling infrastructure. The long-term enhancement of productivity would be those effects associated with operation and maintenance of the tank farm and truck fillstand after implementation of the Preferred Alternative.

The Preferred Alternative represents an enhancement of long-term productivity for aircraft operations at JBER. The negative effects of short-term operational changes during construction and demolition activities would be minor compared to the positive benefits from replacement of the fueling infrastructure. Immediate and long-term benefits would be realized for operation and maintenance after completion of the Preferred Alternative.

4.13.3 Irreversible and Irretrievable Commitments of Resources

This EA identifies any irreversible and irretrievable commitments of resources that would be involved in the Preferred Alternative if implemented. An irreversible effect results from the use or destruction of resources (e.g., energy) that cannot be replaced within a reasonable time. An irretrievable effect results from the loss of resources (e.g., endangered species) that cannot be restored as a result of the Proposed Action.

Irreversible commitments of resources that would occur would include planning and engineering costs, building materials and supplies and their cost, use of energy resources during construction and operation, and labor. Materials, energy, and human resources are not in short supply, and given the relatively small scale of the project, use of these resources would not be expected to impact their regional availability. Therefore, no significant impacts to irreversible and irretrievable commitments of resources would be expected.

4.14 CUMULATIVE EFFECTS

This EA also considers the effects of cumulative effects as required in 40 CFR 1508.1(i)(3) and concurrent actions as required in 40 CFR 1501.3(b). A cumulative effect, as defined by the CEQ (40 CFR 1508.1(i)(3)) is an effect that results from "the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative

effects can result from actions with individually minor but collectively significant effects taking place over a period of time."

4.14.1 Past Regional Actions

Past actions shape the growth, use, and changes within an area. Actions such as infrastructure changes, park formations, state or national disasters, and other events are all noteworthy when considering the cumulative effects of a project. Major past actions that have shaped the regional environment around JBER include the following:

- Building the Alaska Railroad, 1913–1923
- Founding Anchorage, 1915
- Granting Alaska statehood, 1959
- Developing oil and natural gas on the Kenai Peninsula and Upper Cook Inlet, 1960s
- Incorporating the Greater Anchorage Area Borough, 1963
- Occurrence of the Good Friday earthquake, 1964
- Forming the Municipality of Anchorage, 1975

Past actions served to establish a military presence in the Anchorage area as well as the primary transportation network in Alaska. These actions have led to the creation of a political framework that exhibits strong support of the military; encourages population growth concurrent with military training activities and land use; and established and maintains regional natural resource conservation efforts while promoting the continuance of recreational opportunities for the regional community simultaneous with population growth.

4.14.2 Past Actions on JBER

JBER is located adjacent to Anchorage and the community of Eagle River. Knik Arm of Cook Inlet borders the northern boundary of the installation, and Chugach State Park lies to the south and southeast. The community of Eagle River lies along the northeast border. Anchorage and Cook Inlet form the western boundary.

The following past actions have influenced resources on JBER that are analyzed in this EA:

- Former Fort Richardson established at current location of former Elmendorf AFB, 1940–1941
- World War II-related expansion, 1941–1945
- C-17 Beddown, 2004
- F-22A Beddown at JBER-Elmendorf, 2006
- 176th Wing Relocation to JBER-Elmendorf, 2011
- F-22A Plus-Up, 2012
- JBER at full operational capacity, 2010
- Extension of the JBER-E Elmendorf Airfield 16/34 Runway, 2024

4.14.3 Present and Reasonably Foreseeable Future Actions

Projects or actions that are currently taking place, in addition to future actions, were assessed to determine cumulative effects. Project location, timing, size, and typical impact concerns relevant to the scope and scale of the proposed project were taken into consideration to determine whether the project would result in significant cumulative effects when considered in addition to the proposed action and other past, present, and reasonably foreseeable future actions. Table 4-3 includes present as well as potential actions that could occur in the region beyond mere speculation. Past actions are also included for context.

Table 4-6. Past, Present, and Reasonably Foreseeable Future Actions

Location	Project/Activity	Description	Time Frame	Resource Interaction
Beluga River Gas Field	Cook Inlet Oil and Gas Exploration (Upper Cook Inlet Seismic Survey)	Offshore seismic surveys in Cook Inlet.	Past	Noise, climate change, water resources, biological resources, utilities
Port MacKenzie	Port MacKenzie Development	Development intended to increase use of Port MacKenzie for the transportation of goods that are currently transported through the POA or on the highway.	Ongoing	Noise, air quality, climate change, water resources, biological resources, utilities
Port MacKenzie	Alaska Railroad Port MacKenzie Rail Extension	Construction and operation of a new rail line to connect the Borough's Port MacKenzie to ARRC's rail system. The port lies about 30 miles southwest of Wasilla and about 5 miles due north of Anchorage, across Cook Inlet. The selected route involves 32 miles of new rail line extending from Port MacKenzie to the Alaska Railroad's mainline just south of Houston.	Ongoing	Noise, air quality, safety and occupational health, transportation, utilities
Port of Alaska, west of JBER	POA Modernization Program	A series of infrastructure improvement projects at the POA to upgrade and replace aging infrastructure. A south floating dock was completed in 2022. The next phases of the program will include two cargo terminals, a petroleum terminal, and demolition of a remaining cargo terminal.	Ongoing	Noise, air quality, climate change, water resources, biological resources, utilities

Location	Project/Activity	Description	Time Frame	Resource Interaction
JBER-E	Extension of North/South Runway	USAF is extending the North/South Runway at JBER to upgrade the airfield to enable full use of the North/South Runway by a variety of aircraft that presently exist at JBER. Estimated completion is 2026.	Ongoing	Noise, air quality, water resources, utilities
JBER-E	Sand Storage Facility	Construct new sand storage facility.	Ongoing	Noise, air quality, climate change, utilities
JBER-E	Joint Integrated Test and Training Center	Construct new 112,200-square-foot simulator building with training bays for integrated virtual training. Construction anticipated in 2023. Project to be constructed in already developed cantonment area.	Ongoing	Noise, utilities
JBER-E	Repair, Relocate, and Renovate – Multiple Projects in Elmendorf Airfield	Several projects have been scheduled in the next 1 to 5 years to repair, relocate, and/or renovate fuel systems, waterlines, fire suppression systems, heating, ventilation, and air conditioning, as well as hangars, dormitories, and other structures and infrastructure.	Ongoing	Noise, air quality, climate change, utilities, cultural resources
JBER-E	Combat Rescue Helicopter Simulator Building	8,500-square-foot building to be constructed near other simulator facilities by 176 Air National Guard. Project to be constructed in already developed cantonment area.	Ongoing	Noise, utilities
JBER-R	11th Airborne Basing	Basing of approximately 300+ new personnel at JBER-R.	Ongoing	Utilities, transportation
JBER-R	Expand the Malemute FLS to meet C17 requirements	Expand the southern end of the Malemute Drop Zone FLS in accordance with Air Force regulations for safely landing, turning around, and taking off a C17 aircraft.	Ongoing	Noise, air quality, utilities
JBER-R	Camp Mad Bull Range Expansion (Combat Site Training Range – CSTR)	Expand capacity for Arctic Field training capabilities at Camp Mad Bull. Add storage facilities, latrine, office space, mock runway, and landing zone capable.	Ongoing	Noise, safety and occupational health, utilities, biological resources, cultural resources

Location	Project/Activity	Description	Time Frame	Resource Interaction
JBER-R	Water Treatment Facility	Doyon to construct new water treatment facility at Ship Creek site; demolish old water treatment plant due to toxic substances.	Ongoing	Noise, water resources, utilities, cultural resources
JBER-R&E	Installation Security	Expand installation security infrastructure around boundary areas where trespassing occurs or where security is compromised from lack of security features.	Ongoing	Noise, safety and occupational health, utilities
JBER-R&E	JBER Cantonment Sustainment, Restoration, and Modernization Construction (e.g., infrastructure repairs, demolition, and minor construction)	Includes general construction and maintenance projects throughout JBER within cantonment. Projects vary in size and scope, including repairing earthquake damage at facilities, replacing water mains, resurfacing parking areas, and renovating. Projects may include demolition of current facilities.	Ongoing/ Future	Air quality, climate change, water resources, utilities, cultural resources
Federally owned portion of Cook Inlet	Cook Inlet Planning Area Oil and Gas Lease Sale 258	Oil and gas exploration, development, and production.	Future	Air quality, climate change, water resources, biological resources, hazardous materials/waste
JBER-E	Tank Farm 3 & 4 Replacement	Demolish and reconstruct tanks.	Future	Water resources, utilities
JBER-E	Combat Alert Cell	Construct new 8-bay fighter aircraft hangar within existing airfield.	Future	Noise, air quality, climate change, utilities, cultural resources
JBER-E	Joint Deployment Campus	Construct joint deployment campus.	Future	
JBER-E	Army National Guard Aircraft Maintenance Hangar	Construct new 54,250-square-foot aircraft maintenance hangar within existing Bryant Army Airfield.	Future	Noise, air quality, climate change, utilities

Location	Project/Activity	Description	Time Frame	Resource Interaction
JBER-E	Electrical Substation(s) JBER-E	Construct one or more new substations to meet current and future power needs. Primary distribution line underground, Secondary distribution line underground, Site improvements (earthwork, tree removal associated with utilities).	Future	Noise, air quality, climate change, utilities
JBER-E	Airfield Perimeter Road	Traffic study, relocate fire training, NEPA, wetland survey, cultural resource survey, gravel pit fill tree removal, utilities/infrastructure.	Future	Noise, air quality, climate change, utilities, biological resources, cultural resources
JBER-E	Munitions Complex (Precision Guided Munitions, Conventional Munitions Complex, Combined Munitions Operations Center)	Construct Precision Guided Munitions Complex, Conventional Munitions Complex, and Combined Munitions Operations Center.	Future	Noise, air quality, climate change, utilities, biological resources, cultural resources
JBER-E	Fire Station 7	Construct new Fire Station 7 (North Airfield).	Future	Noise, air quality, climate change, utilities
JBER-E	176th MX Complex	Construct new Air National Guard munitions complex.	Future	Noise, air quality, climate change, utilities
JBER-R	JBER Range Military Construction (e.g., new or upgrades to current range, course, and trailing facilities)	Includes Military Construction and Unit Level projects throughout JBER ranges to improve weapons and maneuver capabilities to meet training requirements. These projects include new construction, modifications and/or upgrades to current ranges and facilities and allow for increased requirements of unit stationing and use of ranges within the Richardson Training Area.	Future	Air quality, climate change, water resources, utilities, biological resources, cultural resources
JBER-R	Multi Domain Task Force – New weapons system stationing	M10 Booker (Mobile Protected Firepower, Indirect Fire Power Capability, Long Range Hypersonic Weapons, High Power Direct Energy, Future Uncrewed Aircraft Systems, etc.)	Future	Noise, water resources, safety and occupational health, utilities, biological resources, cultural resources

Location	Project/Activity	Description	Time Frame	Resource Interaction
JBER-E	Fighter Town	Actions required to address mission requirements, planning objectives, and command priorities.	Future	Noise, air quality, water quality, climate change, utilities, biological resources, cultural resources

ARRC = Alaska Railroad Corporation

FLS = flight landing strip

POA = Port of Alaska

For this EA analysis, these announced actions are addressed from a cumulative perspective and are analyzed in this section. These announced future actions would be evaluated under separate NEPA actions conducted by the appropriate involved federal agency. Based on the best available information for these proposals by others, the USAF cumulative effect analysis does consider them.

The following sections provide descriptions of the cumulative effects for the resource areas.

4.14.4 Noise

4.14.4.1 Alternative 1 (Preferred Alternative)

The Preferred Alternative would occur concurrently with the Extension of North/South Runway and the Joint Integrated Test and Training Center projects, which are all in close proximity to each other, and would contribute to adverse cumulative effects on noise from construction. Construction/demolition noise under the Preferred Alternative would be temporary, as would construction noise from other development that occurs in the surrounding areas. The Preferred Alternative is comparatively far from noise-sensitive receptors, thus the cumulative increase resulting from cumulative activities would be small. The cumulative effect is not anticipated to vary substantially from the direct effect. When two projects are concurrent and both close to the same sensitive receptor, the maximum cumulative increase would be 3 dBA, which is generally considered the threshold of a perceivable difference. For example, if both projects result in 65 dBA, the combined level would be 68 dBA. If one project is closer, the increase would be less and the closer activities would be expected to be the dominate sound level. For example, if one project results in 65 dBA while the other yields 54 dBA, the combined level would be 65 dBA. Thus, if projects are constructed concurrently, significant adverse cumulative noise effects are not expected because of the geographical separation between the construction sites, as well as the distance the Preferred Alternative is from noise-sensitive receptors.

4.14.4.2 No Action Alternative

Implementation of the No Action Alternative would result in no change in current conditions. Therefore, no cumulative effects to noise would occur.

4.14.5 Air Quality

4.14.5.1 Alternative 1 (Preferred Alternative)

Construction activities and operational activities related to the Preferred Alternative would cause adverse cumulative effect on air quality when combined with other past, present, and future

projects in the area. These cumulative effects would not be significant because the Preferred Alternative would not be expected to increase air pollutants to levels that exceed regulatory thresholds. The Preferred Alternative would result in short-term cumulative effects on air quality from the generation of fugitive dust when combined with other concurrent construction projects in close proximity, including the Extension of North/South Runway and the construction of the Joint Integrated Test and Training Center. Impacts would not be significant because dust suppression techniques would be used during construction of all projects to minimize impacts from dust.

4.14.5.2 No Action Alternative

Implementation of the No Action Alternative would result in no change in current conditions. Therefore, no cumulative effects to air quality would occur.

4.14.6 Safety and Occupational Health

4.14.6.1 Alternative 1 (Preferred Alternative)

The Preferred Alternative, when combined with other past, present, or reasonably foreseeable future projects, would not contribute to cumulative effects related to construction worker safety and occupational health because the effects experienced would be limited to the individual construction zones. Emergency response times could potentially be impacted if simultaneous projects resulted in multiple lane closures or detours on roadways. Traffic-related cumulative effects on safety would be minimized through coordination of route closures and proper signage to warn motorists of altered traffic patterns, speed limits, and construction vehicles entering and exiting the road.

4.14.6.2 No Action Alternative

Implementation of the No Action Alternative would result in no change in current conditions. Therefore, no cumulative effects on safety and occupational health would occur.

4.14.7 Hazardous Materials/Waste

4.14.7.1 Alternative 1 (Preferred Alternative)

The Preferred Alternative would combine with other past, present, and future development projects and have the potential for an incremental increase in generation of hazardous wastes. With proper handling and disposal of hazardous materials and wastes during construction and operation, cumulative effects to hazardous materials/waste would be less than significant. Replacement of the outdated fuel tanks and dispensing system would reduce the risk of fuel leaking to the environment and would have an overall beneficial impact to hazardous materials at JBER.

The Preferred Alternative would contribute to cumulative effects on solid waste when added to other construction and demolition projects in the vicinity. However, the construction/demolition waste generation would be temporary and would not exceed the capacities of local landfills. Therefore, any impact of cumulative effects to solid waste would be less than significant.

4.14.7.2 No Action Alternative

Implementation of the No Action Alternative would result in no change in current conditions. The continued use of outdated infrastructure would carry an increased risk of leaks and spills of hazardous materials (jet fuel) to the environment. Leaks and spills at Tank Farm 5 would

contribute to cumulative adverse effects to hazardous materials/waste at JBER. With implementation of the JBER SPCC/CPlan, the impact of cumulative effects would be less than significant.

4.14.8 Biological/Natural Resources

4.14.8.1 Alternative 1 (Preferred Alternative)

Vegetation and habitat loss from the Preferred Alternative would combine with other development projects on JBER and result in adverse cumulative effects to vegetation and wildlife habitat. The incremental contribution to other projects would not be significant because the proposed truck fillstand would be located on mowed and maintained habitat with minimal value to wildlife and vegetation and the proposed Tank Farm 6 site, which requires clearing forested land, would not disrupt wildlife movement corridors. The Tank Farm 6 site has been cleared historically and regrown as second growth forest. The loss of the habitat area is not new, and, therefore, not a cumulative effect.

4.14.8.2 No Action Alternative

Implementation of the No Action Alternative would result in no change in current conditions. Therefore, no cumulative effects on biological/natural resources would occur.

4.14.9 Cultural Resources

4.14.9.1 Alternative 1 (Preferred Alternative)

The Preferred Alternative would not contribute to cumulative effects on cultural resources. Section 106 consultation with the SHPO and applicable Federally Recognized Tribes would be completed prior to the initiation of groundbreaking activities. Inadvertent discoveries of cultural resources would be handled in accordance with the JBER Integrated Cultural Resources Management Plan (673 ABW 2023).

4.14.9.2 No Action Alternative

Implementation of the No Action Alternative would result in no change in current conditions. Therefore, no cumulative effects on cultural resources would occur.

4.14.10 Soils

4.14.10.1 Alternative 1 (Preferred Alternative)

Actions involving ground-disturbing activities, such as construction and demolition, would have the potential to cumulatively affect soils. Under the Preferred Alternative, soil disturbance would result from clearing, grading, and excavation activities. Increased erosion following soil disturbance could contribute to adverse cumulative effects to soils when combined with other past, present, and future projects. With the implementation of BMPs and SWPPPs, any impact of cumulative effects to soils would be less than significant.

4.14.10.2 No Action Alternative

Implementation of the No Action Alternative would result in no change in current conditions. Therefore, no cumulative effects on soils would occur.

4.14.11 Climate Change and Greenhouse Gases

4.14.11.1 Alternative 1 (Preferred Alternative)

The Preferred Alternative would combine with other past, present, and future development projects in the area and contribute to cumulative effects on GHG emissions. The amount of GHG emissions from the Preferred Alternative would not be expected to contribute significantly to climate change, but any emission of GHGs represents an incremental increase in global GHG concentrations.

4.14.11.2 No Action Alternative

Implementation of the No Action Alternative would result in no change in current conditions. Therefore, no cumulative effects to climate change/GHG would occur.

4.14.12 Transportation

4.14.12.1 Alternative 1 (Preferred Alternative)

The Preferred Alternative would occur concurrently with the Extension of North/South Runway and the Joint Integrated Test and Training Center projects, which are all in close proximity to each other, and would contribute to short-term adverse cumulative effects on transportation from lane closures and construction traffic. With each project implementing traffic control plans and procedures, cumulative effects to traffic flow would be less than significant.

4.14.12.2 No Action Alternative

Implementation of the No Action Alternative would result in no change in current conditions. Therefore, no cumulative effects to transportation would occur.

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5.0 LIST OF PREPARERS

This EA has been prepared under the direction of the Air Force Civil Engineer Center, USAF, and PACAF.

The individuals that contributed to the preparation of this EA are listed in Table 5-1.

Table 5-1. List of Preparers

Name/Organization	Education	Resource Area	Years of Experience
Mark Bastasch/Jacobs	M.S., Environmental Engineering, William Marsh Rice University, 1997 B.S., Environmental Engineering, Cal Poly, 1994	Noise	21
Christina Beaty/Jacobs	B.S., Natural Science/Geology, University of Alaska, 2010 A.A.S., Geomatics/GIS, University of Alaska, 2021	GIS Analysis	24
Barbara Bundy/Jacobs	Ph.D., Anthropology, University of Oregon, 2005	Cultural Resources	28
JT Hesse/Jacobs	B.S., Environmental Science (Fisheries Ecology), Oregon State University, 2000	Senior Technical Review	22
Rich Reaves/Jacobs	Ph.D., Wetland and Wildlife Ecology, Purdue University, 1995 B.S., Wildlife Ecology and Resource Management, University of Wyoming, 1986	Biological Resources	30
Ursula Rogers/Jacobs	B.S., Biology, Guilford College, 2004	Water Resources; Safety and Occupational Health; Hazardous Materials/Waste; Soils; Transportation; Cumulative Effects	15
Caitlin Santinelli/Jacobs	B.S., Earth and Atmospheric Science, Georgia Institute of Technology, 2008	Air Quality and Climate Change	15
Shawna Rider/Jacobs	M.A., Anthropology, University of Alaska, Anchorage, 2011 B.A., Anthropology, Southern Oregon University, 2003	Cultural Resources	14

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6.0 PERSONS AND AGENCIES CONSULTED/COORDINATED

The following persons and agencies were contacted in the preparation of this EA:

- State Agencies
  - Alaska State Historic Preservation Officer (AK SHPO)
    Office of History and Archaeology
    Judith Bittner: judy.bittner@alaska.gov
    Review and Compliance: oha.revcomp@alaska.gov
- Tribal Agencies
  - Native Village of Eklutna
    Carrie Brophil: cbrophil@eklutna.org
    Mark Lamoraeux: markl@eklutna.org
  - Knik Tribe
    Richard Martin: rmartin@kniktribe.org
  - Chickaloon Village Tribal Council
    Tribal Historic Preservation Officer: THPO@chickaloon-nsn.gov
    Angie Wade: alwade@chickaloon-nsn.gov
    Norma Johnson: nmjohnson@chickaloon-nsn.gov

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7.0 REFERENCES

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APPENDIX A

Interagency/Intergovernmental Coordination and Public Participation

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Table A1. Federal Agencies Contacted with the Notice of Availability

Federal Agency	Federal Agency
Bureau of Indian Affairs Alaska Regional Office 709 West 9th Street PO Box 21647	Bureau of Indian Affairs Anchorage Agency: Attn. Ms. Michelle Watchman 3601 C Street, Ste 1100 Anchorage, AK 99503-5947 Michelle.watchman@nps.gov
Bureau of Land Management Anchorage Field Office Attn: Bonnie Milton 4700 BLM Road Anchorage, AK 99507-2599 blm_ak_afo_general_delivery@blm.gov	Federal Aviation Administration Alaska Region Attn: Kerry Long 222 West 7th Avenue, # 14 Anchorage, AK 99513 jean.wolfers-lawrence@faa.gov
National Park Service Alaska Regional Office 240 West 5th Avenue, Ste 114 Anchorage, AK 99501 Sarah.creachbaum@nps.gov	U.S. Department of Agriculture Natural Resources Conservation Service Attn: Alan McBee 800 E. Palmer-Wasilla Highway Suite 100 Wasilla, AK 99654 Alan.mcbee@usda.gov
U.S. Department of Interior Office of Environmental Policy & Compliance Anchorage Regional Office Attn: Philip Johnson 1689 C Street, Room 119 Anchorage, AK 99501-5126 NEPA_OEPC@ios.doi.gov	U.S. Department of Transportation Federal Highway Administration Alaska Division Attn: Sandra Garcia-Aline 709 West 9th Street, Room 851 PO Box 21648 Juneau, AK 99802-1648 sandra.garcia-aline@dot.gov
U.S. Environmental Protection Agency Region 10 Policy and Environmental Review Branch Attn: Rebecca Chu 1200 Sixth Ave, Suite 155 Seattle, WA 98101 Chu.Rebecca@epa.gov	U.S. Fish and Wildlife Service Ecological Services Branch Attn: Doug Cooper 4700 BLM Road Anchorage, AK 99507 douglass_cooper@fws.gov

Table A2. State Agencies/Office Contacted with the Notice of Availability

State Agency/Office	State Agency/Office
Alaska Department of Environmental Conservation Division of Air Quality Attn: Jason Olds 410 Willoughby Avenue, Ste 303 PO Box 111800 Juneau, AK 99801 jason.olds@alaska.gov	Alaska Department of Environmental Conservation Division of Environmental Health Attn: Christina Carpenter 555 Cordova Street Anchorage, AK 99501 christina.carpenter@alaska.gov
Alaska Department of Environmental Conservation Division of Spill Prevention and Response Attn: Teresa Melville 410 Willoughby Avenue, Ste 302 PO Box 111800 Juneau, AK 99811-1800 teresa.melville@alaska.gov	Alaska Department of Environmental Conservation Division of Water Attn: Randy Bates 555 Cordova Street Anchorage, AK 99501-2617 randy.bates@alaska.gov
Alaska Department of Fish and Game Division of Wildlife Conservation Attn: Cynthia Wardlow 333 Raspberry Road Anchorage, AK 99518-1599 cynthia.wardlow@alaska.gov	Alaska Department of Environmental Conservation Office of the Commissioner Attn: Jason Brune PO Box 111800 Juneau, AK 99811-1800 Dec.commissioner@alaska.gov
Alaska Department of Natural Resources Commissioner Attn: John Boyle 550 West 7th Avenue, Ste 1400 Anchorage, AK 99501 john.boyle@alaska.gov	Alaska Railroad Corporation Attn: Meghan Clemens, External Affairs Director 327 West Ship Creek Avenue PO Box 107500 Anchorage, AK 99510 Public_comment@akrr.com clemensM@akrr.com
Alaska Resources Library and Information Services 3211 Providence Drive, Ste 111 Anchorage, AK 99508 reference@arlis.org	Alaska State Court Law Library 303 K Street Anchorage, AK 99501 library@akcourts.gov
Alaska State Department of Natural Resources, Office of History and Archaeology, Alaska State Historic Preservation Officer Attn: Judith Bittner Judy.bittner@alaska.gov	Alaska Department of Fish and Game Division of Sport Fish 333 Raspberry Road Anchorage, AK 99518-1599 jay.baumer@alaska.gov
State of Alaska Office of the Governor Attn: Mike Dunleavy PO Box 110001 Juneau, AK 99811-0001	U.S. House of Representatives Rep. Mary Peltola 121 West Fireweed Lane Suite 260 Anchorage, AK 99503 https://peltola.house.gov/contact/

State Agency/Office	State Agency/Office
U.S. Senate Sen. Lisa Murkowski 510 L. Street Suite 600 Anchorage, AK 99501 https://www.murkowski.senate.gov/contact/email	U.S. Senate Sen. Dan Sullivan 510 L. Street Suite 600 Anchorage, AK 99501 https://www.sullivan.senate.gov/contact/email
Alaska Department of Fish and Game Division of Habitat 333 Raspberry Road Anchorage, AK 99518-1599 ronald.benkert@alaska.gov	Alaska Department of Military and Veterans Affairs Major General Torrence Saxe PO Box 5800 Rm C-211 Camp Denali JBER, AK 99505 torrence.saxe@alaska.gov

Table A3. Local Agencies/Offices Contacted with the Notice of Availability

Local Agency/Office	Local Agency/Office
Anchorage Historic Preservation Commission Municipality of Anchorage c/o Planning Dept. Tom Davis, Senior Planner PO Box 196650 Anchorage, AK 99519-6650 tom.davis@anchorageak.gov	Municipality of Anchorage Attn: Dave Bronson 632 West Sixth Avenue, Ste 840 Anchorage, AK 99501 mayor@muni.org https://www.muni.org/Departments/Mayor/Pages/ContactTheMayor.aspx
Municipality of Anchorage Anchorage Community Development Authority 245 West 5th Avenue, Ste 122 Anchorage, AK 99501 info@acda.net	Municipality of Anchorage Community Planning & Development Attn: Lyon Craig 4700 Elmore Road Anchorage, AK 99507 Craig.lyon@anchorageak.gov
Ted Stevens Anchorage International Airport Attn: Attn: Angie Spear, Interim Director PO Box 196960 Anchorage, AK 99519 angie.spear@alaska.gov	Anchorage Assembly Attn: Municipal Clerk PO Box 196650 Anchorage, AK 99519 wwmasmc@anchorageak.gov
Port MacKenzie Matanuska-Susitna Borough Attn: David Griffin 350 East Dahlia Avenue Palmer, AK 99645 David.griffin@matsugov.us	Port of Anchorage Attn: Stephen Ribuffo 2000 Anchorage Port Road Anchorage, AK 99501 Steve.ribuffo@anchorageak.gov portofalaska@anchorageak.gov

Table A4. Other Stakeholders Contacted with the Notice of Availability

Other Stakeholder	Other Stakeholder
Eagle River Community Council 12002 Business Blvd. #123 Eagle River, Alaska 99577 eaglercommunitycouncil@gmail.com	South Fork Community Council 8609 Acadia Dr Anchorage, AK 99577 sofccak@gmail.com
Government Hill Community Council 1057 West Fireweed Ln Anchorage, AK 99503 ghccpres@gmail.com	Mountain View Community Council 3701 Mountain View Drive Anchorage, AK 99508 info@communitycouncils.org
Northeast Community Council 1057 West Fireweed Ln Anchorage, AK 99503 Northeastcommunitycouncil@gmail.com	Scenic Foothills Community Council 8609 Acadia Dr Eagle River AK 99577 sfccakpresident@gmail.com
Birchwood Community Council PO Box 670984 Chugiak AK 99567-0984 birchwoodcouncil@gmail.com	Basher Community Council 1057 West Fireweed Ln Anchorage, AK 99503 info@communitycouncils.org

Table A5. Tribal Entities Contacted for Government-to-Government Consultation and the Notice of Availability

Tribal Entity	Tribal Entity
Chickaloon Native Village Ms. Kendra Zamzow Environmental Program Manager P.O. Box 1105 Chickaloon, AK 99674 klzamzow@chickaloon-nsn.gov	Chickaloon Native Village Ms. Jessica Winnestaffer Environmental Stewardship Director P.O. Box 1105 Chickaloon, AK 99674 jewinnestaffer@chickaloon-nsn.gov
Chickaloon Native Village Mr. Gary Harrison Traditional Chief P.O. Box 1105 Chickaloon, AK 99674 chiefgaryharrison@chickaloon-nsn.gov	Chickaloon Native Village Ms. Angie Wade Tribal Historic Preservation Officer P.O. Box 1105 Chickaloon, AK 99674 alwade@chickaloon-nsn.gov
Chickaloon Native Village Ms. Lisa Wade Executive Director (Acting) P.O. Box 1105 Chickaloon, AK 99674 cvadmin@chickaloon-nsn.gov	Eklutna Native Village Ms. Carrie Ann Brophil Land and Environment Coordinator 26339 Eklutna Village Road Chugiak, AK 99567 cbrophil@eklutna.org
Eklutna Native Village Dr. Marc Lamoreaux Land and Environment Director 26339 Eklutna Village Road Chugiak, AK 99567 marcl@eklutna.org	Eklutna Native Village Mr. Aaron Leggett President 26339 Eklutna Village Road Chugiak, AK 99567 aleggett@eklutna.org
Eklutna Native Village Mr. Richard Farber Tribal Administrator 26339 Eklutna Village Road Chugiak, AK 99567 rfarber@eklutna.org	Knik Tribe Mr. Theodore Garcia Environmental Coordinator P.O. Box 871565 Wasilla, AK 99687 tgarcia@kniktribe.org
Knik Tribe Mr. Richard Porter Executive Director P.O. Box 871565 Wasilla, AK 99687 rporter@kniktribe.org	Knik Tribe Mr. Richard Martin Historic Preservation Officer P.O. Box 871565 Wasilla, AK 99687 rmartin@kniktribe.org

Tribal Entity	Tribal Entity
Native Village of Tyonek Mr. Justin Trenton Environmental Coordinator P.O. Box 82009 100 A Street Tyonek, AK 99682 NVTEnvironmental_DIR@outlook.com NVTenvironmental_asst@outlook.com	Native Village of Tyonek Mr. Johann Bartels President P.O. Box 82009 100 A Street Tyonek, AK 99682 NVTPresident@gmail.com
Native Village of Tyonek Ms. Janelle Baker Tribal Administrator/ Council Secretary P.O. Box 82009 100 A Street Tyonek, AK 99682 NVTcouncilsecretary@yahoo.com	Cook Inlet Region, Inc. Ms. Sarah Lukin President P.O. Box 93330 Anchorage, AK 99509 slukin@ciri.com
Eklutna, Inc Mr. Kyle Smith Director of Land Assets 16515 Centerfield Drive Suite 201 Eagle River, AK 99577 ksmith@eklutnainc.com	Eklutna, Inc Mr. Kyle Foster CEO 16515 Centerfield Drive Suite 201 Eagle River, AK 99577 kfoster@eklutnainc.com
Cook Inlet Region, Inc. Ms. Suzanne Settle VP, Energy, Land, & Resources P.O. Box 93330 Anchorage, AK 99509 ssettle@ciri.com	

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS, JOINT BASE ELMENDORF-RICHARDSON
JOINT BASE ELMENDORF-RICHARDSON, ALASKA

1 October 2024

MEMORANDUM FOR COOK INLET REGION, INC.
ATTN: MS. SARAH LUKIN, PRESIDENT
PO BOX 93330
ANCHORAGE AK 99509

FROM: Joint Base Elmendorf-Richardson Executive Director
10471 20th Street
JBER AK 99506

SUBJECT: Notification of Draft Environmental Assessment

1. The United States Air Force is preparing a draft Environmental Assessment (EA) under National Environmental Policy Act (NEPA) Implementing Regulations (40 CFR Parts 1500-1508) regarding the F-22 fighter jet fuel dispensing system, hereafter referred to as the F-22 fuel draft EA. The F-22 fuel draft EA is accompanied by a proposed Finding of No Significant Impact (FONSI).

2. The draft EA assesses demolishing existing fuel tanks and constructing new fuel tanks and associated infrastructure at Joint Base Elmendorf-Richardson (JBER). There would be no change in the number of personnel assigned nor a requirement for additional acreage to support the fuel system. A Notice of Availability for the F-22 fuel draft EA and proposed FONSI will be published on October 6 and will be available for 30 days.

3. The Air Force invites you to review the F-22 fuel draft EA and proposed FONSI; the documents will be available for download at https://www.jber.jb.mil/Services-Resources/Environmental/Environmental-Planning/. The draft EA and proposed FONSI will also be available at the JBER, Loussac, and Chugiak-Eagle River libraries. If you choose to review the documents, you may provide comments electronically via email to 673CES.CEIEC.EnvPlanning@us.af.mil using the subject line "F-22 fuel draft EA public comments". You may also comment via voicemail at (907) 384-7526.

4. This also serves as an offer to initiate government-to-government consultation on this topic.

5. Should you or your staff have any questions about the F-22 fuel draft EA, please contact the JBER Tribal Liaison, Joy Boston at (907) 551-1598 or via email at joy.boston.2@us.af.mil.

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DONALD C. WECKHORST, GS-15, DAF
Executive Director

cc: Chickaloon Village Tribal Council
Knik Tribe
Native Village of Eklutna
Native Village of Tyonek
Eklutna, Inc.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS, JOINT BASE ELMENDORF-RICHARDSON
JOINT BASE ELMENDORF-RICHARDSON, ALASKA

1 October 2024

MEMORANDUM FOR CHICKALOON VILLAGE TRADITIONAL COUNCIL
ATTN: CHIEF GARY HARRISON, CHAIRMAN AND ELDER
PO BOX 1105
CHICKALOON AK 99674

FROM: Joint Base Elmendorf-Richardson Executive Director
10471 20th Street
JBER AK 99506

SUBJECT: Notification of Draft Environmental Assessment

1. The United States Air Force is preparing a draft Environmental Assessment (EA) under National Environmental Policy Act (NEPA) Implementing Regulations (40 CFR Parts 1500-1508) regarding the F-22 fighter jet fuel dispensing system, hereafter referred to as the F-22 fuel draft EA. The F-22 fuel draft EA is accompanied by a proposed Finding of No Significant Impact (FONSI).

2. The draft EA assesses demolishing existing fuel tanks and constructing new fuel tanks and associated infrastructure at Joint Base Elmendorf-Richardson (JBER). There would be no change in the number of personnel assigned nor a requirement for additional acreage to support the fuel system. A Notice of Availability for the F-22 fuel draft EA and proposed FONSI will be published on October 6 and will be available for 30 days.

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DONALD C. WECKHORST, GS-15, DAF
Executive Director

cc: Knik Tribe
Native Village of Eklutna
Native Village of Tyonek
Cook Inlet Region, Inc.
Eklutna, Inc.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS, JOINT BASE ELMENDORF-RICHARDSON
JOINT BASE ELMENDORF-RICHARDSON, ALASKA

1 October 2024

MEMORANDUM FOR EKLUTNA, INC.
ATTN: MR. KYLE FOSTER, CEO
16515 CENTERFIELD DRIVE, SUITE 201
EAGLE RIVER AK 99577

FROM: Joint Base Elmendorf-Richardson Executive Director
10471 20th Street
JBER AK 99506

SUBJECT: Notification of Draft Environmental Assessment

1. The United States Air Force is preparing a draft Environmental Assessment (EA) under National Environmental Policy Act (NEPA) Implementing Regulations (40 CFR Parts 1500-1508) regarding the F-22 fighter jet fuel dispensing system, hereafter referred to as the F-22 fuel draft EA. The F-22 fuel draft EA is accompanied by a proposed Finding of No Significant Impact (FONSI).

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5. Should you or your staff have any questions about the F-22 fuel draft EA, please contact the JBER Tribal Liaison, Joy Boston at (907) 551-1598 or via email at joy.boston.2@us.af.mil.

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Date: 2024.10.01 10:20:48 -08'00'

DONALD C. WECKHORST, GS-15, DAF
Executive Director

cc: Chickaloon Village Traditional Council
Knik Tribe
Native Village of Eklutna
Native Village of Tyonek
Cook Inlet Region, Inc.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS, JOINT BASE ELMENDORF-RICHARDSON
JOINT BASE ELMENDORF-RICHARDSON, ALASKA

1 October 2024

MEMORANDUM FOR KNIK TRIBE
ATTN: MR. ALFRED TELLMAN, PRESIDENT
PO BOX 871565
WASILLA AK 99687

FROM: Joint Base Elmendorf-Richardson Executive Director
10471 20th Street
JBER AK 99506

SUBJECT: Notification of Draft Environmental Assessment

1. The United States Air Force is preparing a draft Environmental Assessment (EA) under National Environmental Policy Act (NEPA) Implementing Regulations (40 CFR Parts 1500-1508) regarding the F-22 fighter jet fuel dispensing system, hereafter referred to as the F-22 fuel draft EA. The F-22 fuel draft EA is accompanied by a proposed Finding of No Significant Impact (FONSI).

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4. This also serves as an offer to initiate government-to-government consultation on this topic.

5. Should you or your staff have any questions about the F-22 fuel draft EA, please contact the JBER Tribal Liaison, Joy Boston at (907) 551-1598 or via email at joy.boston.2@us.af.mil.

WECKHORST.DONALD.CARL.1145478142
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Date: 2024.10.01 10:18:19 -08'00'

DONALD C. WECKHORST, GS-15, DAF
Executive Director

cc: Chickaloon Village Traditional Council
Native Village of Eklutna
Native Village of Tyonek
Cook Inlet Region, Inc.
Eklutna, Inc.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS, JOINT BASE ELMENDORF-RICHARDSON
JOINT BASE ELMENDORF-RICHARDSON, ALASKA

1 October 2024

MEMORANDUM FOR NATIVE VILLAGE OF EKLUTNA
ATTN: MR. AARON LEGGETT, PRESIDENT
26339 EKLUTNA VILLAGE ROAD
CHUGIAK AK 99567

FROM: Joint Base Elmendorf-Richardson Executive Director
10471 20th Street
JBER AK 99506

SUBJECT: Notification of Draft Environmental Assessment

1. The United States Air Force is preparing a draft Environmental Assessment (EA) under National Environmental Policy Act (NEPA) Implementing Regulations (40 CFR Parts 1500-1508) regarding the F-22 fighter jet fuel dispensing system, hereafter referred to as the F-22 fuel draft EA. The F-22 fuel draft EA is accompanied by a proposed Finding of No Significant Impact (FONSI).

2. The draft EA assesses demolishing existing fuel tanks and constructing new fuel tanks and associated infrastructure at Joint Base Elmendorf-Richardson (JBER). There would be no change in the number of personnel assigned nor a requirement for additional acreage to support the fuel system. A Notice of Availability for the F-22 fuel draft EA and proposed FONSI will be published on October 6 and will be available for 30 days.

3. The Air Force invites you to review the F-22 fuel draft EA and proposed FONSI; the documents will be available for download at https://www.jber.jb.mil/Services-Resources/Environmental/Environmental-Planning/. The draft EA and proposed FONSI will also be available at the JBER, Loussac, and Chugiak-Eagle River libraries. If you choose to review the documents, you may provide comments electronically via email to 673CES.CEIEC.EnvPlanning@us.af.mil using the subject line "F-22 fuel draft EA public comments". You may also comment via voicemail at (907) 384-7526.

4. This also serves as an offer to initiate government-to-government consultation on this topic.

5. Should you or your staff have any questions about the F-22 fuel draft EA, please contact the JBER Tribal Liaison, Joy Boston at (907) 551-1598 or via email at joy.boston.2@us.af.mil.

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Date: 2024.10.01 10:19:05 -08'00'

DONALD C. WECKHORST, GS-15, DAF
Executive Director

cc: Chickaloon Village Traditional Council
Knik Tribe
Native Village of Tyonek
Cook Inlet Region, Inc.
Eklutna, Inc.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS, JOINT BASE ELMENDORF-RICHARDSON
JOINT BASE ELMENDORF-RICHARDSON, ALASKA

1 October 2024

MEMORANDUM FOR NATIVE VILLAGE OF TYONEK
ATTN: MR. JOHANN BARTELS, PRESIDENT
PO BOX 82009
TYONEK AK 99682

FROM: Joint Base Elmendorf-Richardson Executive Director
10471 20th Street
JBER AK 99506

SUBJECT: Notification of Draft Environmental Assessment

1. The United States Air Force is preparing a draft Environmental Assessment (EA) under National Environmental Policy Act (NEPA) Implementing Regulations (40 CFR Parts 1500-1508) regarding the F-22 fighter jet fuel dispensing system, hereafter referred to as the F-22 fuel draft EA. The F-22 fuel draft EA is accompanied by a proposed Finding of No Significant Impact (FONSI).

2. The draft EA assesses demolishing existing fuel tanks and constructing new fuel tanks and associated infrastructure at Joint Base Elmendorf-Richardson (JBER). There would be no change in the number of personnel assigned nor a requirement for additional acreage to support the fuel system. A Notice of Availability for the F-22 fuel draft EA and proposed FONSI will be published on October 6 and will be available for 30 days.

3. The Air Force invites you to review the F-22 fuel draft EA and proposed FONSI; the documents will be available for download at https://www.jber.jb.mil/Services-Resources/Environmental/Environmental-Planning/. The draft EA and proposed FONSI will also be available at the JBER, Loussac, and Chugiak-Eagle River libraries. If you choose to review the documents, you may provide comments electronically via email to 673CES.CEIEC.EnvPlanning@us.af.mil using the subject line "F-22 fuel draft EA public comments". You may also comment via voicemail at (907) 384-7526.

4. This also serves as an offer to initiate government-to-government consultation on this topic.

5. Should you or your staff have any questions about the F-22 fuel draft EA, please contact the JBER Tribal Liaison, Joy Boston at (907) 551-1598 or via email at joy.boston.2@us.af.mil.

WECKHORST.DONALD.CARL.1145478142
Digitally signed by WECKHORST.DONALD.CARL.1145478142
Date: 2024.10.01 10:19:52 -08'00'

DONALD C. WECKHORST, GS-15, DAF
Executive Director

cc: Chickaloon Village Traditional Council
Knik Tribe
Native Village of Eklutna
Cook Inlet Region, Inc.
Eklutna, Inc.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Anchorage Fish & Wildlife Field Office
4700 Blm Road
Anchorage, AK 99507
Phone: (907) 271-2888 Fax: (907) 271-2786

In Reply Refer To: 09/06/2024 15:23:31 UTC
Project Code: 2024-0058618
Project Name: JBER New Fuel Farm

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, and proposed species, designated critical habitat, and some candidate species 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.). Please note that candidate species are not included on this list. We encourage you to visit the following website to learn more about candidate species in your area: https://www.fws.gov/library/collections/candidate-conservation

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 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 IPaC system by completing the same process used to receive the enclosed list.

Endangered Species: 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:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.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/program/migratory-bird-permit/what-we-do.

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/library/collections/threats-birds.

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/partner/council-conservation-migratory-birds.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle

Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (https://www.fws.gov/program/eagle-management/working-around-eagles). Additionally, wind energy projects should follow the wind energy guidelines (https://www.fws.gov/node/266177) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

https://www.fws.gov/media/recommended-best-practices-communication-tower-design-siting-construction-operation
http://www.towerkill.com

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 Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds

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:

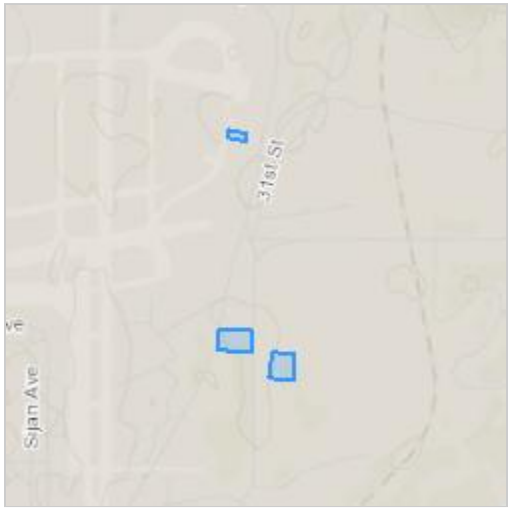
Anchorage Fish & Wildlife Field Office
4700 Blm Road
Anchorage, AK 99507
(907) 271-2888

PROJECT SUMMARY

Project Code: 2024-0058618
Project Name: JBER New Fuel Farm
Project Type: Military Development
Project Description: Construction of a new aboveground storage tank fuel farm and truck fillstand.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@61.248199,-149.78038697716067,14z



Counties: Anchorage County, Alaska

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[1], 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.

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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.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

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.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Please refer to Alaskas Bird Nesting Season for recommendations to minimize impacts to migratory birds, including eagles.

---

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

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

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

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* 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. https://ecos.fws.gov/ecp/species/1626	Breeds Mar 1 to Aug 31
Golden Eagle *Aquila chrysaetos* 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. https://ecos.fws.gov/ecp/species/1680	Breeds Mar 1 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 "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

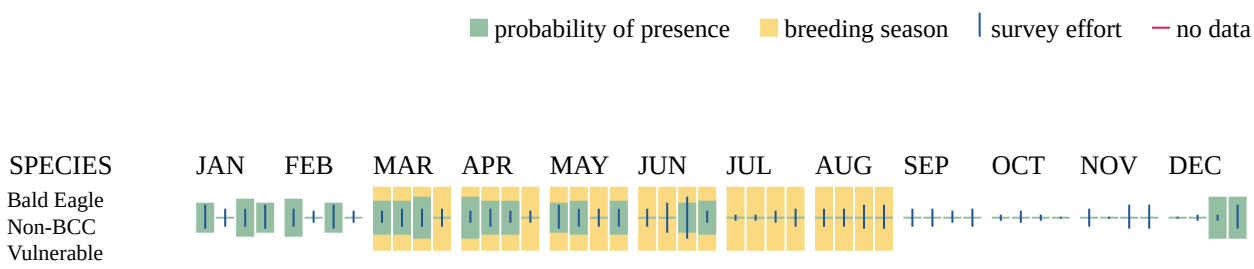
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

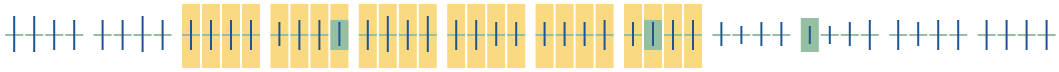
Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Golden Eagle
Non-BCC
Vulnerable



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

There are migratory birds in your project area. Please refer to Alaska's Bird Nesting Season for recommendations to minimize impacts to migratory birds, including eagles.

---

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)

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

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* 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. https://ecos.fws.gov/ecp/species/1626	Breeds Mar 1 to Aug 31
Golden Eagle *Aquila chrysaetos* 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. https://ecos.fws.gov/ecp/species/1680	Breeds Mar 1 to Aug 31
Hudsonian Godwit *Limosa haemastica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9482	Breeds May 15 to Jul 31
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds May 1 to Aug 15
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds Jun 1 to Aug 10
Wandering Tattler *Tringa incana* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/11941	Breeds May 15 to Aug 15

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 "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

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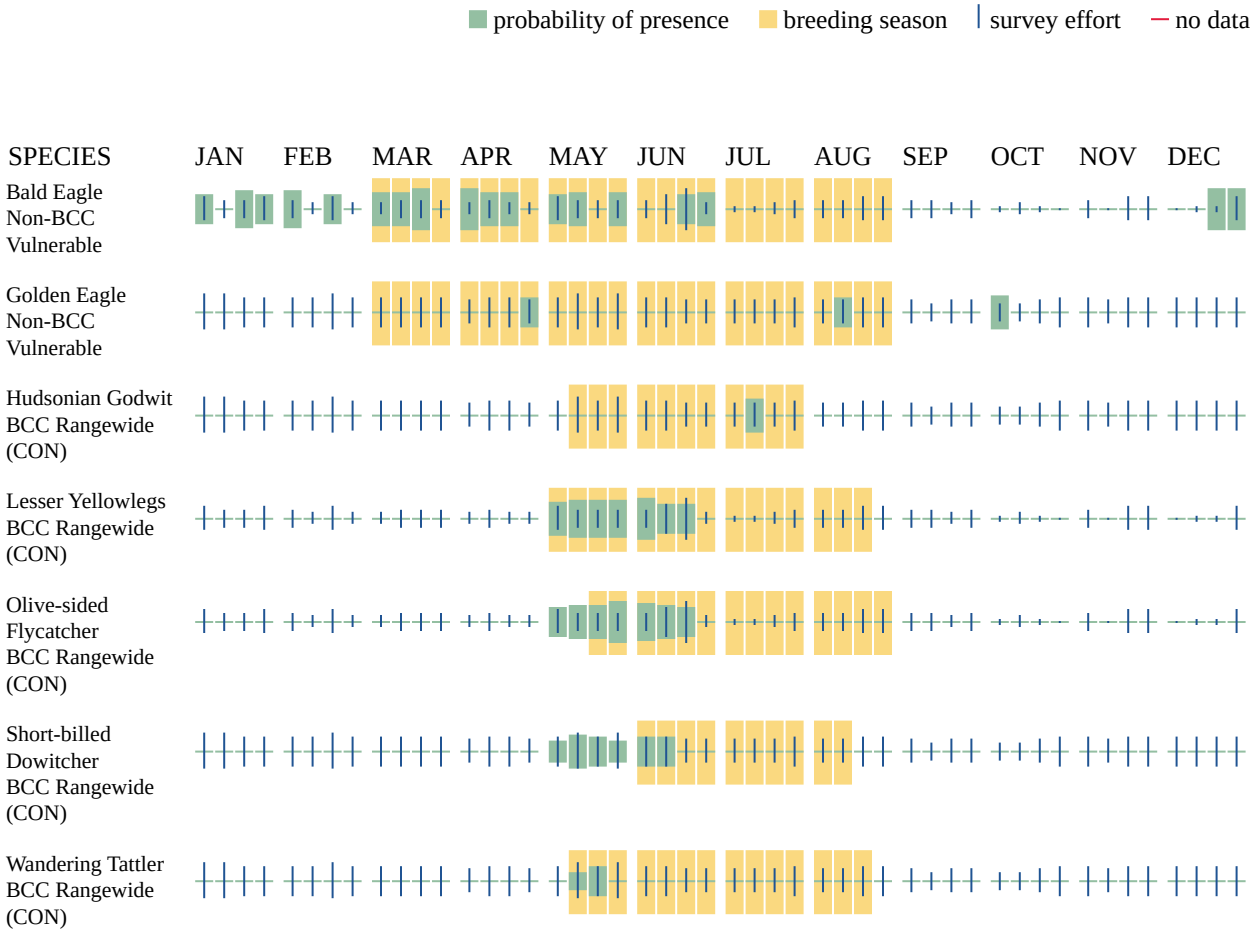

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

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Outlook

From: Meitl, Sarah J (DNR) <sarah.meitl@alaska.gov>
Sent: Tuesday, December 24, 2024 1:45 PM
To: ORTIZ, ELIZABETH M CIV USAF PACAF 673 CES/CEIEC <elizabeth.ortiz.10@us.af.mil>
Cc: GROVER, MARGAN A CIV USAF PACAF 673 CES/CEIEC <margan.grover@us.af.mil>; Meitl, Sarah J (DNR) <sarah.meitl@alaska.gov>
Subject: [Non-DoD Source] RE: 3130-1R AF / 2024-00487 *Continued consultation re: JBER F-22 Fuel Dispensing System Project

3130-1R AF / 2024-00487

Good afternoon,

The Alaska State Historic Preservation Office (AK SHPO) received your correspondence (dated November 21, 2024) concerning the subject project on November 29, 2024. Following our review of the documentation provided, we concur with the finding of No Historic Properties Affected.

This email serves as our office's official correspondence for the purposes of Section 106. Please note that our office may need to re-evaluate our concurrence if changes are made to the project's scope or design, or comments are received from other consulting parties. 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. Our response does not end the 30-day review period provided to other consulting parties. Should unidentified cultural 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 sites can be deeply buried and that fossils are considered cultural resources subject to the Alaska Historic Preservation Act.

Thank you for the opportunity to comment. Please contact me if you have any questions or if we can be of further assistance.

Best,
Sarah

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

From: DNR, Parks OHA Review Compliance (DNR sponsored) <oha.revcomp@alaska.gov>
Sent: Friday, November 29, 2024 8:00 AM
To: ORTIZ, ELIZABETH M GS-12 USAF PACAF 673 CES/CEIEC <elizabeth.ortiz.10@us.af.mil>
Cc: Meitl, Sarah J (DNR) <sarah.meitl@alaska.gov>; GROVER, MARGAN A GS-12 USAF PACAF 673 CES/CEIEC <margan.grover@us.af.mil>
Subject: FW: 3130-1R AF / 2024-00487 *Continued consultation re: JBER F-22 Fuel Dispensing System Project

Good morning,

The Office of History and Archaeology/Alaska State Historic Preservation Office received your documentation, and its review has been logged in with me under 2024-00487. 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
sarah.meitl@alaska.gov

From: ORTIZ, ELIZABETH M CIV USAF PACAF 673 CES/CEIEC <elizabeth.ortiz.10@us.af.mil>
Sent: Thursday, November 21, 2024 11:56 AM
To: Meitl, Sarah J (DNR) <sarah.meitl@alaska.gov>; GROVER, MARGAN A CIV USAF PACAF 673 CES/CEIEC <margan.grover@us.af.mil>
Cc: DNR, Parks OHA Review Compliance (DNR sponsored) <oha.revcomp@alaska.gov>; THP Officer <THPO@chickaloon-nsn.gov>; Angie Wade <alwade@chickaloon-nsn.gov>; Norma Johnson <nmjohnson@chickaloon-nsn.gov>; Marc Lamoreaux <marcl@eklutna.org>; Richard Mar n <rmartin@kniktribe.org>; tom.davis@anchorageak.gov
Subject: RE: 3130-1R AF / 2024-00487 *Continued consultation re: JBER F-22 Fuel Dispensing System Project

3130-1R AF 2024-00487
Good morning Sarah,

Attached is notification under Section 106 of the National Historic Preservation Act regarding the constrution of a new F-22 Fuel Dispensing System and demolition of Tank Farm 5 on JBER. The project was previously assigned the SHPO number 2024-00487. Cultural resources survey identified railroad features (ANC-04873) in the Area of Potential Effects. JBER submitted a determination of eligibility and finding of effects in October 2024 recommending the property as not eligible for listing in the National Register of Historic Places. Response from the SHPO was received November 8, 2024 requesting more information regarding the historic context of the Alaska Railroad, the Whitney Station, the ALCOP Train and this site's significance in both WWII and the Cold War. JBER is committed to completing this research, but in the interest of keeping this vital project moving forward, we have selected an alternative APE that avoids effects to this site.

Please see the attached letter with the revised project description, APE, and finding of effect. We have also attached the original report submittal for easy reference. JBER recommends a finding of No Historic Properties Affected for the project with the Alternate APE. There are no DOEs with this review request.

Thank you for your me and continued support,
V/r
Liz Ortiz, Archaeologist
Cultural Resources Program Manager
673d CES/CEIEC, Environmental Conservation
USAF, Joint Base Elmendorf Richardson
DSN 317-384-2444, Comm (907)384-2444
I live and work on *Dena'ina Ełnena* land

From: Meitl, Sarah J (DNR) <sarah.meitl@alaska.gov>
Sent: Friday, November 8, 2024 8:26 AM
To: GROVER, MARGAN A CIV USAF PACAF 673 CES/CEIEC <margan.grover@us.af.mil>
Cc: ORTIZ, ELIZABETH M CIV USAF PACAF 673 CES/CEIEC <elizabeth.ortiz.10@us.af.mil>
Subject: [Non-DoD Source] RE: 3130-1R AF / 2024-00487 JBER F-22 report submi al, DOE, and effects

Good morning,

Please see the attached for SHPO comment. Let me know if you have any questions or wish to discuss.

Best,
Sarah

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

From: DNR, Parks OHA Review Compliance (DNR sponsored) <oha.revcomp@alaska.gov>
Sent: Thursday, October 10, 2024 2:01 PM
To: GROVER, MARGAN A GS-12 USAF PACAF 673 CES/CEIEC <margan.grover@us.af.mil>
Cc: ORTIZ, ELIZABETH M GS-12 USAF PACAF 673 CES/CEIEC <elizabeth.ortiz.10@us.af.mil>; Meitl, Sarah J (DNR) <sarah.meitl@alaska.gov>
Subject: FW: 3130-1R AF / 2024-00487 JBER F-22 report submittal, DOE, and effects

Good afternoon,

The Office of History and Archaeology/Alaska State Historic Preservation Office received your documentation, and its review has been logged in with me under 2024-00487. 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
sarah.meitl@alaska.gov

From: GROVER, MARGAN A CIV USAF PACAF 673 CES/CEIEC <margan.grover@us.af.mil>
Sent: Wednesday, October 2, 2024 4:26 PM
To: DNR, Parks OHA Review Compliance (DNR sponsored) <oha.revcomp@alaska.gov>
Cc: Meitl, Sarah J (DNR) <sarah.meitl@alaska.gov>; Richard Mar n <rmartin@kniktribe.org>; Marc Lamoreaux <marcl@eklutna.org>; THP Officer <THPO@chickaloon-nsn.gov>; ORTIZ, ELIZABETH M CIV USAF PACAF 673 CES/CEIEC <elizabeth.ortiz.10@us.af.mil>; Angie Wade <alwade@chickaloon-nsn.gov>; Norma Johnson <nmjohnson@chickaloon-nsn.gov>; tom.davis@anchorageak.gov
Subject: 3130-1R AF / 2024-00487 JBER F-22 report submital, DOE, and effects

Good afternoon,

Attached is notification under Section 106 of the National Historic Preservation Act regarding the construction of a new F-22 Fuel Dispensing System and demolition of Tank Farm 5 on JBER. The project was previously assigned the number 2024-00487 by your office. The attached report provides a description of the undertaking and area of potential effect, the methods and results of the archaeological survey, and recommendations for National Register eligibility and assessment of effect. JBER agrees with the report that ANC-04873 (Alaska Railroad spur) is not eligible for the National Register; therefore this undertaking will result in no historic properties affected. We are requesting your concurrence.

As always, we appreciate your time and consideration. Thank you!

Margan Grover
Cultural Resource Manager
673 CES/CEIEC Environmental Conservation
Joint Base Elmendorf-Richardson, Alaska
Office: 907-384-3467 (DSN: 317-384-3467)
Mobile: 907-244-9188
I live and work on Dena'ina land.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS, 673D AIR BASE WING
JOINT BASE ELMENDORF-RICHARDSON, ALASKA

November 21, 2024

MEMORANDUM FOR ALASKA DEPARTMENT OF NATURAL RESOURCES
STATE HISTORIC PRESERVATION OFFICER
ATTENTION: MS. JUDITH E. BITTNER

FROM: 673 CES/CEI
730 Quartermaster Road
JBER AK 99505

SUBJECT: F-22 Fuel Dispensing System Construction Project, JBER [SHPO file no. 2024-00487]

1. Purpose and Need: The Department of the Air Force (DAF) proposes to construct new fueling infrastructure at Joint Base Elmendorf-Richardson (JBER) to support fifth generation F-22 fighter aircraft. The proposed action would construct two 5,000-barrel (210,000 gallon) above-ground storage tanks for jet propulsion fuel, a pumphouse, a four-position truck fillstand, two position offload stand, and a connection to the existing transfer pipeline. The proposed action also includes demolition of the existing Tank Farm 5 (Figure 1). JBER Environmental Conservation Section (673d CES/CEIEC) is coordinating this effort under 54 U.S.C. § 306108 (formerly Section 106 of the National Historic Preservation Act) and seeks your concurrence on an assessment of effect.

2. Consultation and Coordination Background: The project included archaeological survey and evaluation of sites for the National Register of Historic Places (NRHP). The work was completed by Jacobs Solutions Inc. A survey Work Plan was provided to SHPO for review and approval in May 2024. We received comments on June 14, 2024 that were incorporated into the field methods and the cultural resources report. JBER provided consulting parties with a copy of the *Cultural Resources Survey Report: Joint Base Elmendorf-Richardson F-22 Fuel Dispensing System* (Bundy 2024) for review and comment, distributed October 2, 2024. SHPO replied on November 5, 2024 with a request for more information regarding the JBER Rail Spur (ANC-04873) before they can issue a statement of concurrence. The JBER Rail Spur (ANC-04873) is located where JBER had identified as a possible site for temporarily storing contaminated soils. While we comply with SHPO's request, the project has selected a different alternative to avoid impacts to ANC-04873. The following project update and assessment has a new APE and finding of effect.

3. Project Description: The new fueling system consists of three elements: an aboveground storage tank fuel farm (Tank Farm 6) and associated infrastructure, a truck fill stand, and demolition of existing fuel storage facilities (Tank Farm 5). The proposed Tank Farm 6 area is a wooded lot east of Vandenburg Avenue and the flightline. Its construction would require the area to be cleared of vegetation and graded up to 10 feet below the existing surface. The site of the proposed truck fill stand will also be graded. It is west of Vandenburg Avenue in an area that has already been disturbed by construction of the flightline and associated facilities. The tie-ins to existing utility corridors will be buried under existing paved areas. Tank Farm 5 consists of two buildings, a pipeline, and a pump station. It is at the northeast edge of the flightline and west of Vandenburg Avenue. The area around it is

paved and there are two large underground storage tanks at the site. A complete description of the project can be found in Section 1.3 of *Cultural Resources Survey Report: Joint Base Elmendorf-Richardson F-22 Fuel Dispensing System*, attached.

The JBER Rail Spur (ANC-04873) was identified where one of the materials staging areas was proposed. This area was where the temporary staging of contaminated soils encountered during excavation would be stored. Because the evaluations and SHPO concurrence are pending, the project has selected an alternative location for the temporary soils storage to avoid impacts to the resource (Figures 2-4).

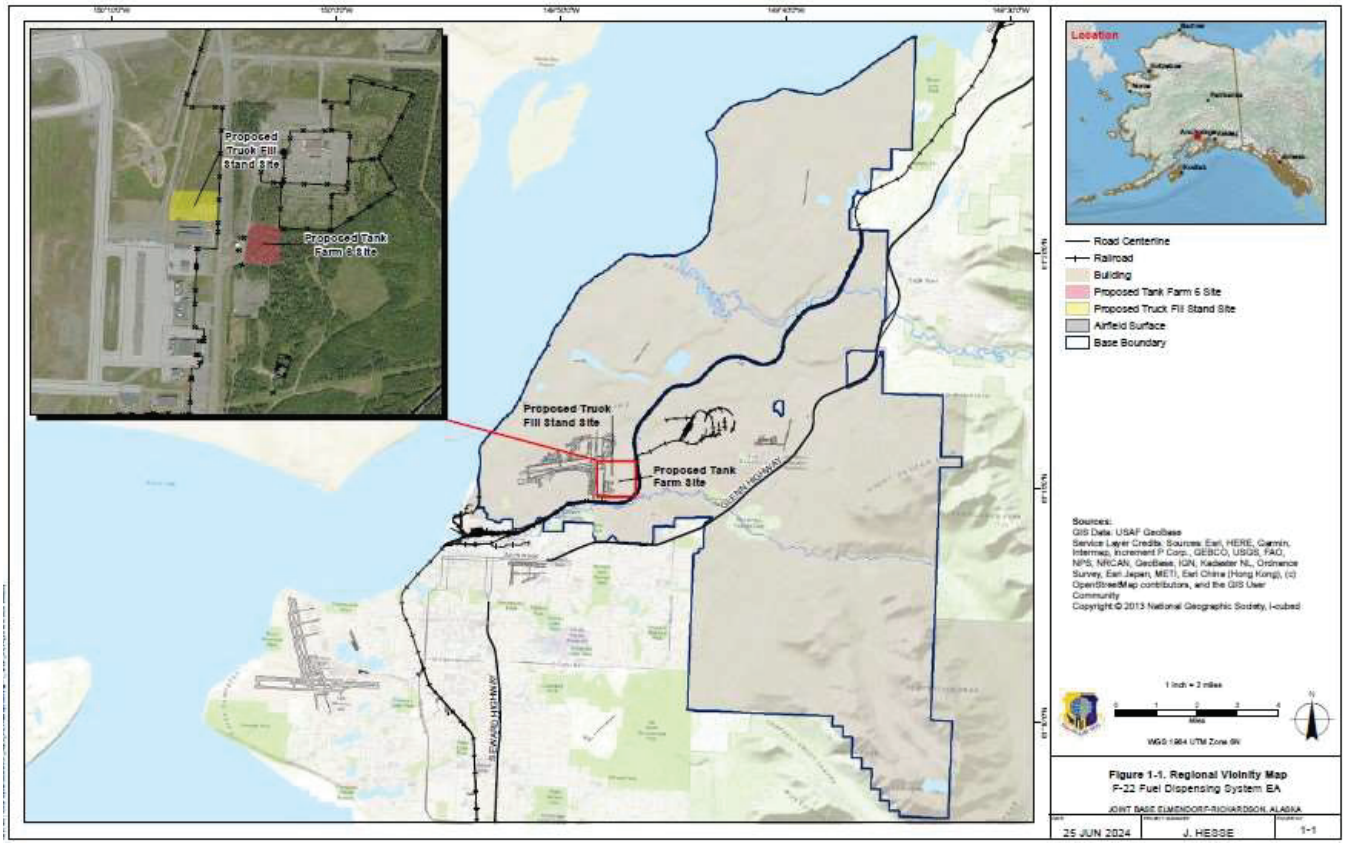

Figure 1. *F-22 Fuel Dispending System project location (from draft Environmental Assessment; Figure 1-1)*

4. Historic Properties and the Area of Potential Effect: There are ten extant historic resources within ½ mile of the project construction area, ten properties that have been evaluated and demolished, and one property with a pending National Register of Historic Places eligibility status (Table 1; Figure 5). For additional historic context, the attached *Cultural Resources Survey Report: Joint Base Elmendorf-Richardson F-22 Fuel Dispensing System* provides a description of the undertaking, area of potential effects, culture history, analysis of historic aerial imagery, partial summary of previous research, survey results, recommendations for NRHP eligibility, and assessment of effects. Please note that the APE for the project has changed since the assessment of effects was written in the attached study, and the revised APE and findings of effect are analyzed and presented here.

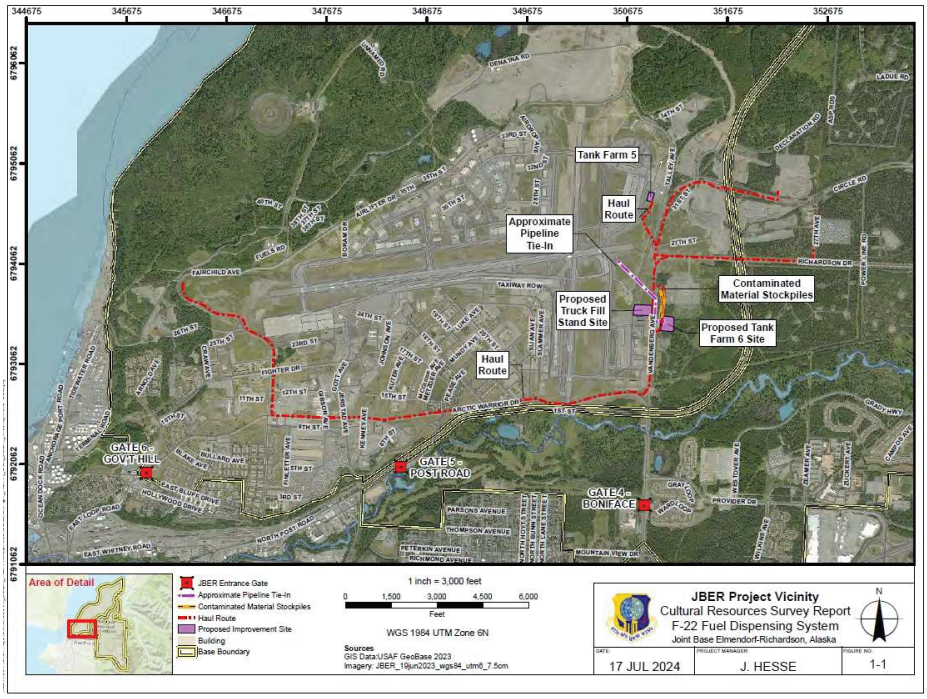

Figure 2. *Project APE with old Contaminated Stockpiles location in orange*

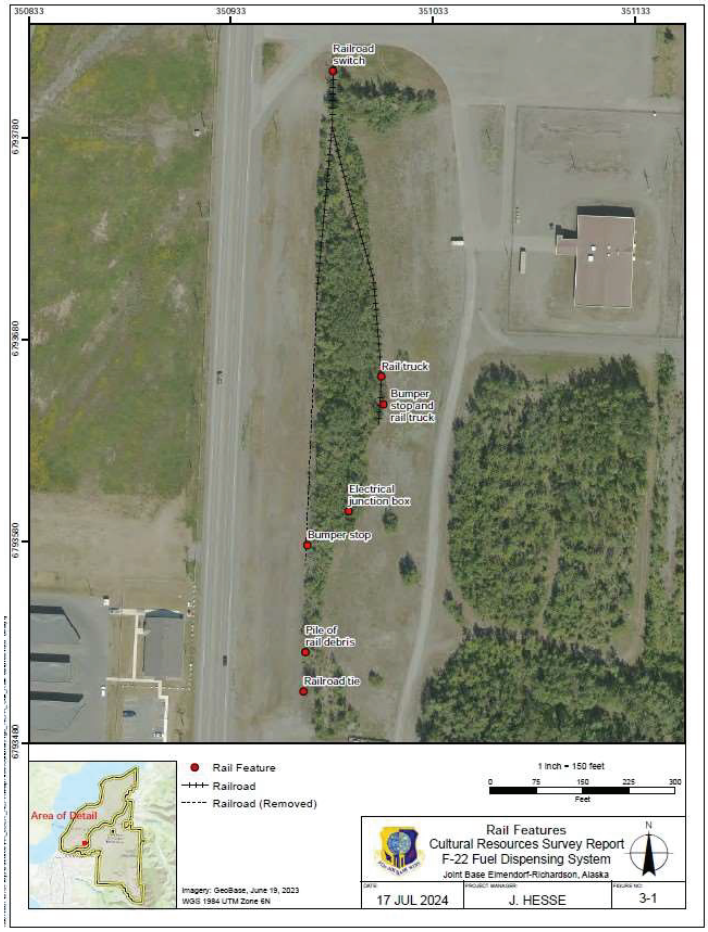

Figure 3. *Railroad features of ANC-04873 JBER Rail Spur - eligibility status pending*

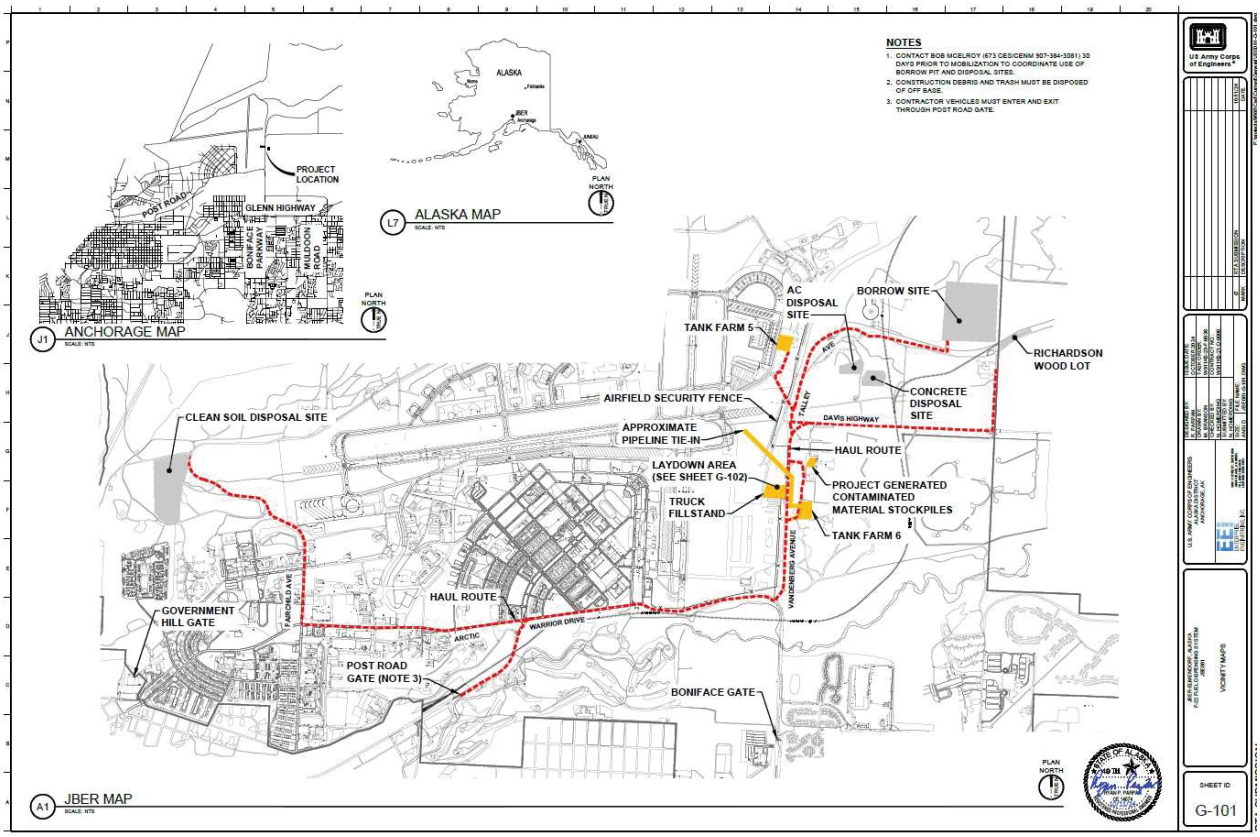

Figure 4. *Project APE with alternate location for Project Generated Contaminated Materials Stockpiles*

Figure 5. *Aerial view of element changes to Project APE - old stockpile location in red, new location with yellow star (2024)*

Table 1. *Historic Properties within 1/2 mile of Fueling Station and Tank Farm 6*

AHRS No.	Description	NR Eligible?	Affected by Undertaking?
ANC-00777	ALCOP Train Cars	Demo'd	No
ANC-01055	B11827 Ammo Storage Igloo	No	No
ANC-01074	B12737 Carpenter Shop	Demo'd	No
ANC-01075	B12739 Sheet Metal Shop	Demo'd	No
ANC-01076	B12757 Warehouse	Demo'd	No
ANC-01077	B12759 Warehouse	Demo'd	No
ANC-01078	B12763 Warehouse	Demo'd	No
ANC-01079	B12761 Warehouse	Demo'd	No
ANC-01080	B12765 Maintenance Shop	Demo'd	No
ANC-01081	B12767 Maintenance Shop	No	No
ANC-01171	Fortified Berm-Line	No	No
ANC-01179	Highway Foxholes	No	No
ANC-01184	Landfill	No	No
ANC-01192	Ammo Bunker B	No	No
ANC-01240	B11634 Weather Station	Demo'd	No
ANC-02364	B10641 Ammo Storage Igloo	Demo'd	No
ANC-02365	B9637 Sentry Gate House	Demo'd	No
ANC-02861	B11723 Railroad Pump House	No	No
ANC-04501	Structural Remains	No	No
ANC-04502	Stockpile of lumber	No	No
ANC-04873	JBER Rail Spur	Pending	No

5. Assessment of Effect: The project APE has several elements: Demolition of Tank Farm 5 (including ANC-03267); Construction of the truck fill stand; Fuels distribution pipeline tie-in; Construction of Tank Farm 6; Contaminated soils stockpile; Gravel/borrow pits; Concrete and asphalt disposal sites; Clean soils disposal site; and associated haul routes. The concrete, asphalt, and clean soils disposal sites have been long established on JBER. These materials are crushed and recycled whenever feasible and will not be affected by this undertaking. The gravel pits do not need to be expanded to support this project, and materials will be sourced from stocks on hand. This element of the project will not affect historic properties.

The pump station (ANC-03267, Building 15699) at Tank Farm 5 is the only facility that is greater than 50 years old. It was determined not eligible for the NRHP in 2018 as part of the *Cultural Resources Services Cold War Survey: Historic Building Inventory at Joint Base Elmendorf-Richardson, Alaska* report (Maggioni 2018). The other Tank Farm 5 facilities were built between 1996 and 2012. Because there are no historic properties at Tank Farm 5, this project element will also have no effect to cultural resources.

The survey of Tank Farm 6 yielded modern debris and evidence of gravel mining during the 1950s. The survey confirmed that the truck fill stand area consisted of fill material and underground utilities placed

in 2020. Section 3.2 of the *Cultural Resources Survey Report: Joint Base Elmendorf-Richardson F-22 Fuel Dispensing System* report describes the modern and non-diagnostic material that was identified during pedestrian survey for the fill stand and the lot for Tank Farm 6 which includes modern plastic litter, demolished fencing, and fuel cans. These elements of the project will have no effect to historic properties.

The pipeline tie-in uses existing utility corridors and any ground disturbance is in areas that have been heavily altered and disturbed since early construction of Elmendorf Field in the 1940s (Figure 6). The pipeline tie-in will not affect historic properties.

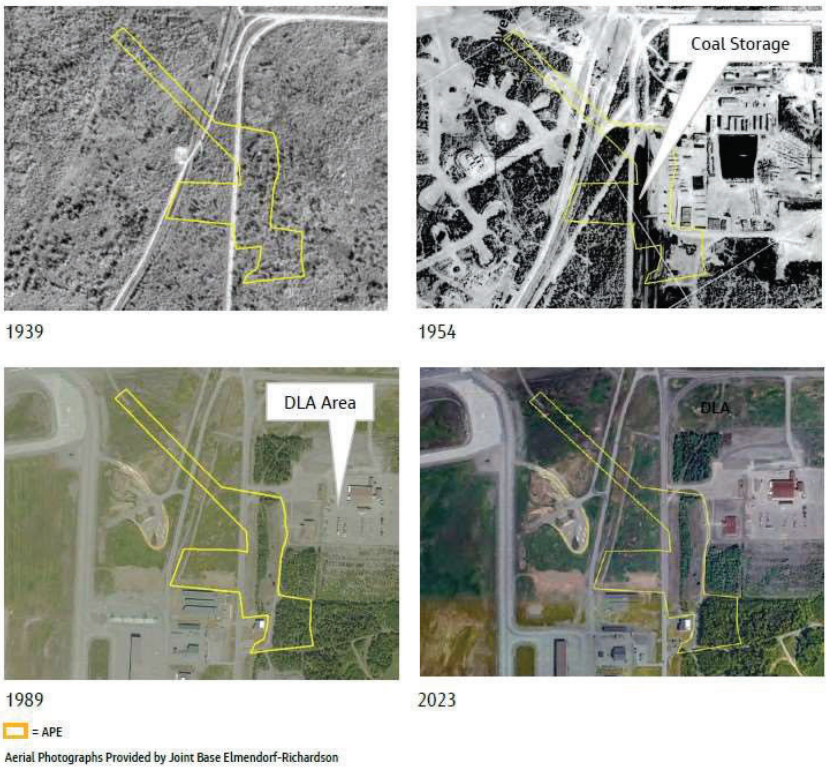

Figure 6. *Aerial view of general project area. Please note, the old APE is in yellow. Images from Bundy 2024:13*

In the original APE, the materials staging area for contaminated soils was adjacent to Vandenburg Drive. During survey, the crew encountered the remains of a railroad spur (ANC-04873). Features include a section of rail and track, rail ties, a rail switch, and bumper stops. An evaluation for National Register of Historic Places eligibility was completed and the status is still pending. The SHPO has requested additional research, and JBER agrees to treat this site as eligible while we provide the additional information requests to consulting parties. To facilitate project success, JBER is changing the APE to *avoid effects* to the JBER Railroad Spur (ANC-04873).

The materials storage location has been moved to the vacant asphalt lot to the north (Figure 5). A Carpenter's Shop building (ANC-01074), built in 1942, stood in this location until it was demolished in 2018 (SHPO letter dated July 2, 2014, no file number). It was evaluated and determined not eligible for listing in 1999 due to lack of integrity. The temporary use of this parking lot as contaminated soils storage will have no effect on historic properties.

With the selection of an alternate materials storage area, we have changed the APE to avoid effects to potential historic properties. JBER recommends that the construction of the F-22 Fuel Dispensing System and demolition of Tank Farm 5 will result in no historic properties affected. The attached report has also been provided to Federally Recognized Tribes (Native Village of Eklutna Traditional Council, Native Village of Tyonek, Knik Tribal Council, and the Chickaloon Village Traditional Council) and the Anchorage Historic Preservation Commission. If you have any questions or comments, please contact Liz Ortiz at 907-384-2444, elizabeth.ortiz.10@us.af.mil or Margan Grover at 907-384-3467, margan.grover@us.af.mil.

DYE-PORTO.JEANNE.L.1246003641

Digitally signed by DYE-PORTO.JEANNE.L.1246003641
Date: 2024.11.21 11:35:35 -09'00'

JEANNE DYE-PORTO, GS-14, DAF
Chief, Installation Management Flight

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ANCHORAGE DAILY NEWS
AFFIDAVIT OF PUBLICATION

Account #: 109766
3800 Centerpoint Dr, #920, ANCHORAGE, AK 99503

Order #: W0048840

STATE OF ALASKA
THIRD JUDICIAL DISTRICT

Lisi Misa being first duly sworn on oath deposes and says that she is a representative of the Anchorage Daily News, a daily newspaper. That said newspaper has been approved by the Third Judicial Court, Anchorage, Alaska, and it now and has been published in the English language continually as a daily newspaper in Anchorage, Alaska, and it is now and during all said time was printed in an office maintained at the aforesaid place of publication of said newspaper. That the annexed is a copy of an advertisement as it was published in regular issues (and not in supplemental form) of said newspaper on

10/23/2024, 10/27/2024

and that such newspaper was regularly distributed to its subscribers during all of said period. That the full amount of the fee charged for the foregoing publication is not in excess of the rate charged private individuals.

Lisi Misa

Signed_____

Subscribed and sworn to before me

2024-10-28

Jada L. Nowling

Notary Public in and for
The State of Alaska.
Third Division
Anchorage, Alaska

MY COMMISSION EXPIRES

2028-07-14

Jada Nowling
ELECTRONIC NOTARY PUBLIC
STATE OF ALASKA
MY COMMISSION EXPIRES 07/14/2028

NOTICE OF AVAILABILITY
DRAFT ENVIRONMENTAL ASSESSMENT AND PROPOSED FINDING OF NO SIGNIFICANT IMPACT FOR F-22 FUEL DISPENSING SYSTEM FOR JOINT BASE ELMENDORF-RICHARDSON, ALASKA

An Environmental Assessment (EA) has been prepared to analyze the potential impacts of constructing new fueling infrastructure necessary to support the fifth generation F-22 fighter aircraft and demolishing existing Tank Farm 5 at Joint Base Elmendorf-Richardson (JBER) to meet the current 3rd Wing/673d Logistics Readiness Squadron's fuel storage and fueling needs. The proposed action would construct two 5,000-barrel (210,000 gallon) above-ground storage tanks for jet propulsion fuel, a pumphouse, a four-position truck fillstand, two position offload stand, and a connection to the existing transfer pipeline. The proposed action also includes demolition of the existing Tank Farm 5.

The EA, prepared in accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations, and Air Force regulations implementing NEPA, evaluates the environmental effects of the proposed action and alternatives, including the No Action Alternative. Based on this analysis, the Air Force has prepared a proposed Finding of No Significant Impact (FONSI).

The Draft EA and proposed FONSI are available for review at the following locations:

* Joint Base Elmendorf-Richardson Library, Bldg. 7, JBER-R, AK 99505
* Z.J. Loussac Library, 3600 Denali Street, Anchorage, AK 99503
* Chugiak-Eagle River Library, 12001 Business Boulevard 176, Eagle River Town Center, Eagle River, AK 99577

Electronic copies of the documents can also be found on the JBER website at https://www.jber.jb.mil/Services-Resources/Environmental/Environmental-Planning/

Comments received by 15 November 2024 will be considered in preparation of the Final Environmental Assessment. Comments should be provided to JBER by email at 673CES.CEIEC.EnvPlanning@us.af.mil or voicemail at (907) 384-7526.

PRIVACY ADVISORY NOTICE
Public comments on this Draft EA are requested pursuant to NEPA, 42 United States Code 4321, et seq. All written comments received during the comment period will be made available to the public and considered during the Final EA preparation. Providing private address information with your comment is voluntary and such personal information will be kept confidential unless release is required by law. However, address information will be used to compile the project mailing list and failure to provide it will result in your name not being included on the mailing list.

Pub: Oct. 23, 27/2024

Frontiersman
Growing with the Valley since 1947.

5751 E. MAYFLOWER CT.
Wasilla, AK 99654

(907) 352-2250 ph
(907) 352-2277 fax

AFFIDAVIT OF PUBLICATION

UNITED STATES OF AMERICA, STATE OF ALASKA, THIRD DIVISION

BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC, THIS DAY

PERSONALLY APPEARED BEFORE **BENJAMIN BORG** WHO, BEING

FIRST DULY SWORN, ACCORDING TO LAW, SAYS THAT HE IS THE

LEGAL AD CLERK OF THE **FRONTIERSMAN**

PUBLISHED AT WASILLA AND CIRCULATED THROUGH OUT MATANUSKA

SUSITNA BOROUGH, IN SAID DIVISION THREE AND STATE OF ALASKA

AND THAT THE ADVERTISEMENT, OF WHICH THE ANNEXED IS A TRUE

COPY, WAS PUBLISHED ON THE FOLLOWING DAYS:

10/23/2024 10/25/2024

AND THAT THE RATE CHARGED THEREIN IS NOT IN EXCESS OF

THE RATE CHARGED PRIVATE INDIVIDUALS.

SUBSCRIBED AND SWORN TO BEFORE ME
THIS 21st DAY OF November, 2024.

NOTARY PUBLIC FOR STATE OF ALASKA

CHRISTY PINKERTON
Notary Public
State of Alaska
My Commission Expires
October 09, 2027

JACOBS
JBER NOA F-22 FUEL DISPEN
ACCOUNT NUMBER 545477

NOTICE OF AVAILABILITY
DRAFT ENVIRONMENTAL ASSESSMENT AND PROPOSED FINDING OF NO SIGNIFICANT IMPACT FOR F-22 FUEL DISPENSING SYSTEM FOR JOINT BASE ELMENDORF-RICHARDSON, ALASKA

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APPENDIX B

Air Pollutant Emissions Calculations

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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 a net change in emissions analysis to assess the potential air quality impact/s associated with the action. The analysis was performed in accordance with the Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention*; the *Environmental Impact Analysis Process* (EIAP, 32 CFR 989); the *General Conformity Rule* (GCR, 40 CFR 93 Subpart B); and the *USAF Air Quality Environmental Impact Analysis Process (EIAP) Guide*. This report provides a summary of the ACAM analysis.

Report generated with ACAM version: 5.0.23a

a. Action Location:

Base: ELMENDORF AFB
State: Alaska
County(s): Anchorage Municipality
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: F-22 Fuel Dispensing System at JBER, Alaska

c. Project Number/s (if applicable):

d. Projected Action Start Date: 1 / 2025

e. Action Description:

The Proposed Action would include construction of a new fuel farm for jet-propulsion fuel, Grade 8 (JP-8). The Proposed Action also includes demolition of Tank Farm 5.

f. Point of Contact:

Name: Caitlin Santinelli
Title: Scientist
Organization: Jacobs
Email: caitlin.santinelli@jacobs.com
Phone Number:

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the GCR are:

____ applicable
_X_ not applicable

Total reasonably foreseeable 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" (hsba.e., no net gain/loss in emission stabilized and the action is fully implemented) emissions. The ACAM analysis uses 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 the proposed Action's potential impacts to local air quality. The insignificance indicators are trivial (de minimis) rate thresholds that have been demonstrated to have little to no impact to air quality. These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold and 25 ton/yr for lead for actions occurring in areas that are "Attainment" (hsba.e., not exceeding any National Ambient Air Quality Standard (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

pollutants is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQS. For further detail on insignificance indicators, refer to *Level II, Air Quality Quantitative Assessment, Insignificance Indicators*.

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

Analysis Summary:

2025 (Not in a Regulatory Area)

Pollutant	Action Emissions (ton/yr)	Insignificance Indicator (ton/yr)	Insignificance Exceedance (Yes or No)
VOC	0.514	250	No
NOx	4.454	250	No
CO	5.358	250	No
SOx	0.009	250	No
PM 10	51.208	250	No
PM 2.5	0.179	250	No
Pb	0.000	25	No
NH3	0.005	250	No

2026 (Not in a Regulatory Area)

Pollutant	Action Emissions (ton/yr)	Insignificance Indicator (ton/yr)	Insignificance Exceedance (Yes or No)
VOC	0.271	250	No
NOx	2.309	250	No
CO	3.101	250	No
SOx	0.005	250	No
PM 10	0.182	250	No
PM 2.5	0.088	250	No
Pb	0.000	25	No
NH3	0.005	250	No

2027 (Not in a Regulatory Area)

Pollutant	Action Emissions (ton/yr)	Insignificance Indicator (ton/yr)	Insignificance Exceedance (Yes or No)
VOC	0.223	250	No
NOx	3.660	250	No
CO	1.175	250	No
SOx	0.002	250	No
PM 10	0.116	250	No
PM 2.5	0.116	250	No
Pb	0.000	25	No
NH3	0.000	250	No

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

2028 - (Steady State - Not in a Regulatory Area)

Pollutant	Action Emissions (ton/yr)	Insignificance Indicator (ton/yr)	Insignificance Exceedance (Yes or No)
VOC	0.224	250	No
NOx	5.206	250	No
CO	1.383	250	No
SOx	0.003	250	No
PM 10	0.163	250	No
PM 2.5	0.163	250	No
Pb	0.000	25	No
NH3	0.000	250	No

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

Caitlin Santinelli, Scientist — May 01 2024

Name, Title — **Date**

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location

Base: ELMENDORF AFB
State: Alaska
County(s): Anchorage Municipality
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: F-22 Fuel Dispensing System at JBER, Alaska

- Project Number/s (if applicable):

- Projected Action Start Date: 1 / 2025

- Action Purpose and Need:

The purpose of the Proposed Action is to provide petroleum, oil, and lubricants (POL) infrastructure necessary to support the fifth generation F-22 fighter aircraft at JBER. The need for the Proposed Action is to ensure readiness to support Global Strike Task Force and project overall air dominance.

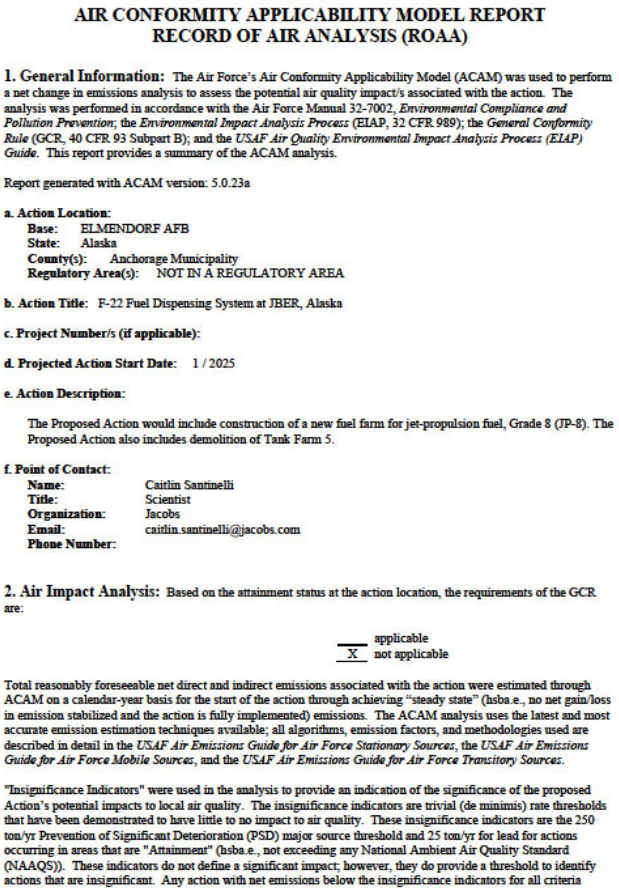
- Action Description:

The Proposed Action would include construction of a new fuel farm for jet-propulsion fuel, Grade 8 (JP-8). The Proposed Action also includes demolition of Tank Farm 5.

- Point of Contact

Name: Caitlin Santinelli
Title: Scientist
Organization: Jacobs
Email: caitlin.santinelli@jacobs.com
Phone Number:

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT



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Report generated with ACAM version: 5.0.23a

a. Action Location:
Base: ELMENDORF AFB
State: Alaska
County(s): Anchorage Municipality
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: F-22 Fuel Dispensing System at JBER, Alaska

c. Project Number/s (if applicable):

d. Projected Action Start Date: 1 / 2025

e. Action Description:

The Proposed Action would include construction of a new fuel farm for jet-propulsion fuel, Grade 8 (JP-8). The Proposed Action also includes demolition of Tank Farm 5.

f. Point of Contact:
Name: Caitlin Santinelli
Title: Scientist
Organization: Jacobs
Email: caitlin.santinelli@jacobs.com
Phone Number:

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the GCR are:

___ applicable
_X_ not applicable

Total reasonably foreseeable 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" (hsba.e., no net gain/loss in emission stabilized and the action is fully implemented) emissions. The ACAM analysis uses 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 the proposed Action's potential impacts to local air quality. The insignificance indicators are trivial (de minimis) rate thresholds that have been demonstrated to have little to no impact to air quality. These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold and 25 ton/yr for lead for actions occurring in areas that are "Attainment" (hsba.e., not exceeding any National Ambient Air Quality Standard (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

Report generated with ACAM version: 5.0.23a

- Activity List:

	Activity Type	Activity Title
2.	Tanks	New Fuel Farm - Tank 1
3.	Tanks	New Fuel Farm - Tank 2
4.	Tanks	Demo of Old Tank Farm
5.	Tanks	Demo of Old Tank Farm
6.	Tanks	Demo of Old Tank Farm
7.	Tanks	Demo of Old Tank Farm
8.	Construction / Demolition	Construction of new fuel farm & fill stand site
9.	Emergency Generator	Emergency Generator Operations

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.

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

2. Tanks

2.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Anchorage Municipality
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: New Fuel Farm - Tank 1

- Activity Description:
New fueling farm, Tank 1 - 5,000 barrel (210,000 gals) JP-8 AST

- Activity Start Date
Start Month: 5
Start Year: 2027

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions of Criteria Pollutants:

Pollutant	Emissions Per Year (TONs)
VOC	0.701459
SO_x	0.000000
NO_x	0.000000
CO	0.000000

Pollutant	Emissions Per Year (TONs)
PM 10	0.000000
PM 2.5	0.000000
Pb	0.000000
NH_3	0.000000

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Emissions Per Year (TONs)
CH_4	0.000000
N_2O	0.000000

Pollutant	Emissions Per Year (TONs)
CO_2	0.000000
CO_2e	0.000000

2.2 Tanks Assumptions

- Chemical
Chemical Name: Jet kerosene (JP-5, JP-8 or Jet-A)
Chemical Category: Petroleum Distillates
Chemical Density: 7
Vapor Molecular Weight (lb/lb-mole): 130
Stock Vapor Density (lb/ft^3): 0.000170775135930213
Vapor Pressure: 0.00725
Vapor Space Expansion Factor (dimensionless): 0.068

- Tank
Type of Tank: Vertical Tank
Tank Height (ft): 36
Tank Diameter (ft): 39
Annual Net Throughput (gallon/year): 7000000

2.3 Tank Formula(s)

- Vapor Space Volume

VSV = (PI / 4) * D^2 * H / 2

VSV: Vapor Space Volume (ft^3)
PI: PI Math Constant
D^2: Tank Diameter (ft)
H: Tank Height (ft)
2: Convertion Factor (Vapor Space Volume is assumed to be one-half of the tank volume)

- Vented Vapor Saturation Factor

VVSF = 1 / (1 + (0.053 * VP * H / 2))

VVSF: Vented Vapor Saturation Factor (dimensionless)
0.053: Constant
VP: Vapor Pressure (psia)
H: Tank Height (ft)

- Standing Storage Loss per Year

SSL_{VOC} = 365 * VSV * SVD * VSEF * VVSF / 2000

SSL_{VOC}: Standing Storage Loss Emissions (TONs)
365: Number of Daily Events in a Year (Constant)
VSV: Vapor Space Volume (ft^3)
SVD: Stock Vapor Density (lb/ft^3)
VSEF: Vapor Space Expansion Factor (dimensionless)
VVSF: Vented Vapor Saturation Factor (dimensionless)
2000: Conversion Factor pounds to tons

- Number of Turnovers per Year

NT = (7.48 * ANT) / ((PI / 4.0) * D * H)

NT: Number of Turnovers per Year
7.48: Constant
ANT: Annual Net Throughput
PI: PI Math Constant
D^2: Tank Diameter (ft)
H: Tank Height (ft)

- Working Loss Turnover (Saturation) Factor per Year

WLSF = (18 + NT) / (6 * NT)

WLSF: Working Loss Turnover (Saturation) Factor per Year
18: Constant
NT: Number of Turnovers per Year
6: Constant

- Working Loss per Year

WL_{VOC} = 0.0010 * VMW * VP * ANT * WLSF / 2000

0.0010: Constant
VMW: Vapor Molecular Weight (lb/lb-mole)
VP: Vapor Pressure (psia)
ANT: Annual Net Throughput

WLSF: Working Loss Turnover (Saturation) Factor
2000: Conversion Factor pounds to tons

3. Tanks

3.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Anchorage Municipality
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: New Fuel Farm - Tank 2

- Activity Description:
New fueling farm, Tank 2 - 5,000 barrel (210,000 gals) JP-8 AST

- Activity Start Date
Start Month: 5
Start Year: 2027

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions of Criteria Pollutants:

Pollutant	Emissions Per Year (TONs)
VOC	0.701459
SO_x	0.000000
NO_x	0.000000
CO	0.000000

Pollutant	Emissions Per Year (TONs)
PM 10	0.000000
PM 2.5	0.000000
Pb	0.000000
NH_3	0.000000

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Emissions Per Year (TONs)
CH_4	0.000000
N_2O	0.000000

Pollutant	Emissions Per Year (TONs)
CO_2	0.000000
CO_2e	0.000000

3.2 Tanks Assumptions

- Chemical
Chemical Name: Jet kerosene (JP-5, JP-8 or Jet-A)
Chemical Category: Petroleum Distillates
Chemical Density: 7
Vapor Molecular Weight (lb/lb-mole): 130
Stock Vapor Density (lb/ft^3): 0.0001707751359302 13
Vapor Pressure: 0.00725
Vapor Space Expansion Factor (dimensionless): 0.068

- Tank
Type of Tank: Vertical Tank
Tank Height (ft): 36

Tank Diameter (ft): 39
Annual Net Throughput (gallon/year): 7000000

3.3 Tank Formula(s)

- Vapor Space Volume

VSV = (PI / 4) * D^2 * H / 2

VSV: Vapor Space Volume (ft^3)
PI: PI Math Constant
D^2: Tank Diameter (ft)
H: Tank Height (ft)
2: Convertion Factor (Vapor Space Volume is assumed to be one-half of the tank volume)

- Vented Vapor Saturation Factor

VVSF = 1 / (1 + (0.053 * VP * H / 2))

VVSF: Vented Vapor Saturation Factor (dimensionless)
0.053: Constant
VP: Vapor Pressure (psia)
H: Tank Height (ft)

- Standing Storage Loss per Year

SSL_{VOC} = 365 * VSV * SVD * VSEF * VVSF / 2000

SSL_{VOC}: Standing Storage Loss Emissions (TONs)
365: Number of Daily Events in a Year (Constant)
VSV: Vapor Space Volume (ft^3)
SVD: Stock Vapor Density (lb/ft^3)
VSEF: Vapor Space Expansion Factor (dimensionless)
VVSF: Vented Vapor Saturation Factor (dimensionless)
2000: Conversion Factor pounds to tons

- Number of Turnovers per Year

NT = (7.48 * ANT) / ((PI / 4.0) * D * H)

NT: Number of Turnovers per Year
7.48: Constant
ANT: Annual Net Throughput
PI: PI Math Constant
D^2: Tank Diameter (ft)
H: Tank Height (ft)

- Working Loss Turnover (Saturation) Factor per Year

WLSF = (18 + NT) / (6 * NT)

WLSF: Working Loss Turnover (Saturation) Factor per Year
18: Constant
NT: Number of Turnovers per Year
6: Constant

- Working Loss per Year

WL_{VOC} = 0.0010 * VMW * VP * ANT * WLSF / 2000

0.0010: Constant

VMW: Vapor Molecular Weight (lb/lb-mole)
VP: Vapor Pressure (psia)
ANT: Annual Net Throughput
WLSF: Working Loss Turnover (Saturation) Factor
2000: Conversion Factor pounds to tons

4. Tanks

4.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Remove

- Activity Location
County: Anchorage Municipality
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Demo of Old Tank Farm

- Activity Description:
Demo of old tank farm - Tank 49

- Activity Start Date
Start Month: 5
Start Year: 2027

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions of Criteria Pollutants:

Pollutant	Emissions Per Year (TONs)
VOC	-0.331442
SO_x	0.000000
NO_x	0.000000
CO	0.000000

Pollutant	Emissions Per Year (TONs)
PM 10	0.000000
PM 2.5	0.000000
Pb	0.000000
NH_3	0.000000

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Emissions Per Year (TONs)
CH_4	0.000000
N_2O	0.000000

Pollutant	Emissions Per Year (TONs)
CO_2	0.000000
CO_2e	0.000000

4.2 Tanks Assumptions

- Chemical
Chemical Name: Jet kerosene (JP-5, JP-8 or Jet-A)
Chemical Category: Petroleum Distillates
Chemical Density: 7
Vapor Molecular Weight (lb/lb-mole): 130
Stock Vapor Density (lb/ft^3): 0.00019928913475457
Vapor Pressure (psia): 0.0085
Vapor Space Expansion Factor (dimensionless): 0.073

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- Tank

Type of Tank:	Horizontal Tank
Tank Length (ft):	88
Tank Diameter (ft):	10
Annual Net Throughput (gallon/year):	3500000

4.3 Tank Formula(s)

- Vapor Space Volume

VSV = (PI / 4) * D^2 * L / 2

VSV: Vapor Space Volume (ft^3)
PI: PI Math Constant
D^2: Tank Diameter (ft)
L: Tank Length (ft)
2: Convertion Factor (Vapor Space Volume is assumed to be one-half of the tank volume)

- Vented Vapor Saturation Factor

VVSF = 1 / (1 + (0.053 * VP * L / 2))

VVSF: Vented Vapor Saturation Factor (dimensionless)
0.053: Constant
VP: Vapor Pressure (psia)
L: Tank Length (ft)

- Standing Storage Loss per Year

SSL_{VOC} = 365 * VSV * SVD * VSEF * VVSF / 2000

SSL_{VOC}: Standing Storage Loss Emissions (TONs)
365: Number of Daily Events in a Year (Constant)
VSV: Vapor Space Volume (ft^3)
SVD: Stock Vapor Density (lb/ft^3)
VSEF: Vapor Space Expansion Factor (dimensionless)
VVSF: Vented Vapor Saturation Factor (dimensionless)
2000: Conversion Factor pounds to tons

- Number of Turnovers per Year

NT = (7.48 * ANT) / ((PI / 4.0) * D * L)

NT: Number of Turnovers per Year
7.48: Constant
ANT: Annual Net Throughput
PI: PI Math Constant
D^2: Tank Diameter (ft)
L: Tank Length (ft)

- Working Loss Turnover (Saturation) Factor per Year

WLSF = (18 + NT) / (6 * NT)

WLSF: Working Loss Turnover (Saturation) Factor per Year
18: Constant
NT: Number of Turnovers per Year
6: Constant

- Working Loss per Year

WL_{VOC} = 0.0010 * VMW * VP * ANT * WLSF / 2000

0.0010: Constant
VMW: Vapor Molecular Weight (lb/lb-mole)
VP: Vapor Pressure (psia)
ANT: Annual Net Throughput
WLSF: Working Loss Turnover (Saturation) Factor
2000: Conversion Factor pounds to tons

5. Tanks

5.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Remove

- Activity Location

County: Anchorage Municipality
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Demo of Old Tank Farm

- Activity Description:

Demo of old tank farm - Tank 50

- Activity Start Date

Start Month: 5
Start Year: 2027

- Activity End Date

Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions of Criteria Pollutants:

Pollutant	Emissions Per Year (TONs)
VOC	-0.331442
SO_x	0.000000
NO_x	0.000000
CO	0.000000

Pollutant	Emissions Per Year (TONs)
PM 10	0.000000
PM 2.5	0.000000
Pb	0.000000
NH_3	0.000000

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Emissions Per Year (TONs)
CH_4	0.000000
N_2O	0.000000

Pollutant	Emissions Per Year (TONs)
CO_2	0.000000
CO_2e	0.000000

5.2 Tanks Assumptions

- Chemical

Chemical Name: Jet kerosene (JP-5, JP-8 or Jet-A)
Chemical Category: Petroleum Distillates
Chemical Density: 7
Vapor Molecular Weight (lb/lb-mole): 130

Stock Vapor Density (lb/ft^3): 0.00019928913475457
Vapor Pressure (psia): 0.0085
Vapor Space Expansion Factor (dimensionless): 0.073

- Tank

Type of Tank: Horizontal Tank
Tank Length (ft): 88
Tank Diameter (ft): 10
Annual Net Throughput (gallon/year): 3500000

5.3 Tank Formula(s)

- Vapor Space Volume

$VSV = (PI / 4) * D^2 * L / 2$

VSV: Vapor Space Volume (ft^3)
PI: PI Math Constant
D^2: Tank Diameter (ft)
L: Tank Length (ft)
2: Convertion Factor (Vapor Space Volume is assumed to be one-half of the tank volume)

- Vented Vapor Saturation Factor

$VVSF = 1 / (1 + (0.053 * VP * L / 2))$

VVSF: Vented Vapor Saturation Factor (dimensionless)
0.053: Constant
VP: Vapor Pressure (psia)
L: Tank Length (ft)

- Standing Storage Loss per Year

$SSL_{VOC} = 365 * VSV * SVD * VSEF * VVSF / 2000$

SSL_{VOC}: Standing Storage Loss Emissions (TONs)
365: Number of Daily Events in a Year (Constant)
VSV: Vapor Space Volume (ft^3)
SVD: Stock Vapor Density (lb/ft^3)
VSEF: Vapor Space Expansion Factor (dimensionless)
VVSF: Vented Vapor Saturation Factor (dimensionless)
2000: Conversion Factor pounds to tons

- Number of Turnovers per Year

$NT = (7.48 * ANT) / ((PI / 4.0) * D * L)$

NT: Number of Turnovers per Year
7.48: Constant
ANT: Annual Net Throughput
PI: PI Math Constant
D^2: Tank Diameter (ft)
L: Tank Length (ft)

- Working Loss Turnover (Saturation) Factor per Year

$WLSF = (18 + NT) / (6 * NT)$

WLSF: Working Loss Turnover (Saturation) Factor per Year
18: Constant

NT: Number of Turnovers per Year
6: Constant

- Working Loss per Year

$WL_{VOC} = 0.0010 * VMW * VP * ANT * WLSF / 2000$

0.0010: Constant
VMW: Vapor Molecular Weight (lb/lb-mole)
VP: Vapor Pressure (psia)
ANT: Annual Net Throughput
WLSF: Working Loss Turnover (Saturation) Factor
2000: Conversion Factor pounds to tons

6. Tanks

6.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Remove

- Activity Location
County: Anchorage Municipality
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Demo of Old Tank Farm

- Activity Description:
Demo of old tank farm - Tank 51

- Activity Start Date
Start Month: 5
Start Year: 2027

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions of Criteria Pollutants:

Pollutant	Emissions Per Year (TONs)
VOC	-0.329968
SO_x	0.000000
NO_x	0.000000
CO	0.000000

Pollutant	Emissions Per Year (TONs)
PM 10	0.000000
PM 2.5	0.000000
Pb	0.000000
NH_3	0.000000

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Emissions Per Year (TONs)
CH_4	0.000000
N_2O	0.000000

Pollutant	Emissions Per Year (TONs)
CO_2	0.000000
CO_2e	0.000000

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6.2 Tanks Assumptions

- Chemical

Chemical Name:	Jet kerosene (JP-5, JP-8 or Jet-A)
Chemical Category:	Petroleum Distillates
Chemical Density:	7
Vapor Molecular Weight (lb/lb-mole):	130
Stock Vapor Density (lb/ft^3):	0.00019928913475457
Vapor Pressure (psia):	0.0085
Vapor Space Expansion Factor (dimensionless):	0.073

- Tank

Type of Tank:	Horizontal Tank
Tank Length (ft):	51
Tank Diameter (ft):	12
Annual Net Throughput (gallon/year):	3500000

6.3 Tank Formula(s)

- Vapor Space Volume

$VSV = (PI / 4) * D^2 * L / 2$

VSV: Vapor Space Volume (ft^3)
PI: PI Math Constant
D^2: Tank Diameter (ft)
L: Tank Length (ft)
2: Convertion Factor (Vapor Space Volume is assumed to be one-half of the tank volume)

- Vented Vapor Saturation Factor

$VVSF = 1 / (1 + (0.053 * VP * L / 2))$

VVSF: Vented Vapor Saturation Factor (dimensionless)
0.053: Constant
VP: Vapor Pressure (psia)
L: Tank Length (ft)

- Standing Storage Loss per Year

$SSL_{VOC} = 365 * VSV * SVD * VSEF * VVSF / 2000$

SSL_{VOC}: Standing Storage Loss Emissions (TONs)
365: Number of Daily Events in a Year (Constant)
VSV: Vapor Space Volume (ft^3)
SVD: Stock Vapor Density (lb/ft^3)
VSEF: Vapor Space Expansion Factor (dimensionless)
VVSF: Vented Vapor Saturation Factor (dimensionless)
2000: Conversion Factor pounds to tons

- Number of Turnovers per Year

$NT = (7.48 * ANT) / ((PI / 4.0) * D * L)$

NT: Number of Turnovers per Year
7.48: Constant
ANT: Annual Net Throughput
PI: PI Math Constant
D^2: Tank Diameter (ft)

L: Tank Length (ft)

- Working Loss Turnover (Saturation) Factor per Year

WLSF = (18 + NT) / (6 * NT)

WLSF: Working Loss Turnover (Saturation) Factor per Year
18: Constant
NT: Number of Turnovers per Year
6: Constant

- Working Loss per Year

WL_{VOC} = 0.0010 * VMW * VP * ANT * WLSF / 2000

0.0010: Constant
VMW: Vapor Molecular Weight (lb/lb-mole)
VP: Vapor Pressure (psia)
ANT: Annual Net Throughput
WLSF: Working Loss Turnover (Saturation) Factor
2000: Conversion Factor pounds to tons

7. Tanks

7.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Remove

- Activity Location

County: Anchorage Municipality
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Demo of Old Tank Farm

- Activity Description:

Demo of old tank farm - Tank 52

- Activity Start Date

Start Month: 5
Start Year: 2027

- Activity End Date

Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions of Criteria Pollutants:

Pollutant	Emissions Per Year (TONs)
VOC	-0.329968
SO_x	0.000000
NO_x	0.000000
CO	0.000000

Pollutant	Emissions Per Year (TONs)
PM 10	0.000000
PM 2.5	0.000000
Pb	0.000000
NH_3	0.000000

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- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Emissions Per Year (TONs)
CH_4	0.000000
N_2O	0.000000

Pollutant	Emissions Per Year (TONs)
CO_2	0.000000
CO_2e	0.000000

7.2 Tanks Assumptions

- Chemical

Chemical Name: Jet kerosene (JP-5, JP-8 or Jet-A)
Chemical Category: Petroleum Distillates
Chemical Density: 7
Vapor Molecular Weight (lb/lb-mole): 130
Stock Vapor Density (lb/ft^3): 0.00019928913475457
Vapor Pressure (psia): 0.0085
Vapor Space Expansion Factor (dimensionless): 0.073

- Tank

Type of Tank: Horizontal Tank
Tank Length (ft): 51
Tank Diameter (ft): 12
Annual Net Throughput (gallon/year): 3500000

7.3 Tank Formula(s)

- Vapor Space Volume

$VSV = (PI / 4) * D^2 * L / 2$

VSV: Vapor Space Volume (ft^3)
PI: PI Math Constant
D^2: Tank Diameter (ft)
L: Tank Length (ft)
2: Convertion Factor (Vapor Space Volume is assumed to be one-half of the tank volume)

- Vented Vapor Saturation Factor

$VVSF = 1 / (1 + (0.053 * VP * L / 2))$

VVSF: Vented Vapor Saturation Factor (dimensionless)
0.053: Constant
VP: Vapor Pressure (psia)
L: Tank Length (ft)

- Standing Storage Loss per Year

$SSL_{VOC} = 365 * VSV * SVD * VSEF * VVSF / 2000$

SSL_{VOC}: Standing Storage Loss Emissions (TONs)
365: Number of Daily Events in a Year (Constant)
VSV: Vapor Space Volume (ft^3)
SVD: Stock Vapor Density (lb/ft^3)
VSEF: Vapor Space Expansion Factor (dimensionless)
VVSF: Vented Vapor Saturation Factor (dimensionless)
2000: Conversion Factor pounds to tons

- Number of Turnovers per Year

$NT = (7.48 * ANT) / ((PI / 4.0) * D * L)$

NT: Number of Turnovers per Year
7.48: Constant
ANT: Annual Net Throughput
PI: PI Math Constant
D^2: Tank Diameter (ft)
L: Tank Length (ft)

- Working Loss Turnover (Saturation) Factor per Year
WLSF = (18 + NT) / (6 * NT)

WLSF: Working Loss Turnover (Saturation) Factor per Year
18: Constant
NT: Number of Turnovers per Year
6: Constant

- Working Loss per Year
WL_{VOC} = 0.0010 * VMW * VP * ANT * WLSF / 2000

0.0010: Constant
VMW: Vapor Molecular Weight (lb/lb-mole)
VP: Vapor Pressure (psia)
ANT: Annual Net Throughput
WLSF: Working Loss Turnover (Saturation) Factor
2000: Conversion Factor pounds to tons

8. Construction / Demolition

8.1 General Information & Timeline Assumptions

- Activity Location
County: Anchorage Municipality
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Construction of new fuel farm & fill stand site

- Activity Description:

- Activity Start Date
Start Month: 1
Start Month: 2025

- Activity End Date
Indefinite: False
End Month: 4
End Month: 2027

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.857610
SO_x	0.014532
NO_x	6.952295
CO	8.712660

Pollutant	Total Emissions (TONs)
PM 10	51.398570
PM 2.5	0.274732
Pb	0.000000
NH_3	0.010643

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- Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)
CH_4	0.067254
N_2O	0.014233

Pollutant	Total Emissions (TONs)
CO_2	1614.754036
CO_2e	1620.675247

- Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)
CH_4	0.067254
N_2O	0.014233

Pollutant	Total Emissions (TONs)
CO_2	1614.754036
CO_2e	1620.675247

8.1 Site Grading Phase

8.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2025

- Phase Duration
Number of Month: 9
Number of Days: 0

8.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 563000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading 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
Graders Composite	2	8
Other Construction Equipment Composite	2	8
Rubber Tired Dozers Composite	1	8
Rubber Tired Loaders Composite	1	8
Scrapers Composite	2	8
Tractors/Loaders/Backhoes Composite	3	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20
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

8.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour)

Composite	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Excavators [HP: 36] [LF: 0.38]	0.40191	0.00542	3.44643	4.21104	0.10704	0.09848
Graders [HP: 148] [LF: 0.41]	0.33951	0.00490	2.85858	3.41896	0.15910	0.14637
Other Construction Equipment [HP: 82] [LF: 0.42]	0.29762	0.00487	2.89075	3.51214	0.17229	0.15851
Rubber Tired Dozers [HP: 367] [LF: 0.4]	0.37086	0.00491	3.50629	2.90209	0.15396	0.14165
Rubber Tired Loaders [HP: 150] [LF: 0.36]	0.22519	0.00486	1.60239	3.28281	0.08489	0.07810
Scrapers [HP: 423] [LF: 0.48]	0.20447	0.00489	1.90932	1.57611	0.07394	0.06803
Tractors/Loaders/Backhoes [HP: 84] [LF: 0.37]	0.19600	0.00489	2.00960	3.48168	0.07738	0.07119

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour)

Excavators Composite [HP: 36] [LF: 0.38]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02382	0.00476	587.13772	589.15263
Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02155	0.00431	531.19419	533.01712
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02141	0.00428	527.74261	529.55369
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02159	0.00432	532.17175	533.99803
Rubber Tired Loaders Composite [HP: 150] [LF: 0.36]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02134	0.00427	526.16054	527.96619
Scrapers Composite [HP: 423] [LF: 0.48]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02146	0.00429	528.94235	530.75755
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	N_2O	CO_2	CO_2e
Emission Factors	0.02149	0.00430	529.86270	531.68105

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30825	0.00122	0.15795	5.56638	0.00567	0.00502	0.05094
LDGT	0.26484	0.00151	0.20494	4.93596	0.00638	0.00565	0.04271
HDGV	0.80912	0.00340	0.66421	14.36576	0.02246	0.01987	0.09167

LDDV	0.14993	0.00122	0.15425	4.74052	0.00351	0.00323	0.01621
LDDT	0.24554	0.00139	0.49236	4.60151	0.00567	0.00522	0.01719
HDDV	0.15187	0.00430	2.59438	1.48047	0.04915	0.04522	0.06627
MC	1.97264	0.00150	0.73237	13.10298	0.01714	0.01517	0.05391

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.02302	0.00512	318.57790	320.67521
LDGT	0.02174	0.00697	393.65755	396.27273
HDGV	0.06120	0.02545	888.19798	897.30051
LDDV	0.07666	0.00066	362.65716	364.76980
LDDT	0.06043	0.00095	411.50918	413.30199
HDDV	0.04385	0.16332	1278.61579	1328.38112
MC	0.08660	0.00292	390.69172	393.72608

8.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: 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

$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
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

8.2 Trenching/Excavating Phase

8.2.1 Trenching / Excavating Phase Timeline Assumptions

- Phase Start Date
Start Month: 6
Start Quarter: 1
Start Year: 2025

- Phase Duration
Number of Month: 8
Number of Days: 0

8.2.2 Trenching / Excavating Phase Assumptions

- General Trenching/Excavating Information
Area of Site to be Trenched/Excavated (ft^2): 8715
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Trenching Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

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^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- 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 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

8.2.3 Trenching / Excavating Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Composite	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Excavators [HP: 36] [LF: 0.38]	0.40191	0.00542	3.44643	4.21104	0.10704	0.09848
Other General Industrial Equipment [HP: 35] [LF: 0.34]	0.49122	0.00542	3.71341	4.67487	0.13603	0.12515
Tractors/Loaders/Backhoes [HP: 84] [LF: 0.37]	0.19600	0.00489	2.00960	3.48168	0.07738	0.07119

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Composite	CH_4	N_2O	CO_2	CO_2e
Excavators [HP: 36] [LF: 0.38]	0.02382	0.00476	587.13772	589.15263
Other General Industrial Equipment [HP: 35] [LF: 0.34]	0.02385	0.00477	588.02637	590.04433
Tractors/Loaders/Backhoes [HP: 84] [LF: 0.37]	0.02149	0.00430	529.86270	531.68105

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30825	0.00122	0.15795	5.56638	0.00567	0.00502	0.05094
LDGT	0.26484	0.00151	0.20494	4.93596	0.00638	0.00565	0.04271
HDGV	0.80912	0.00340	0.66421	14.36576	0.02246	0.01987	0.09167
LDDV	0.14993	0.00122	0.15425	4.74052	0.00351	0.00323	0.01621
LDDT	0.24554	0.00139	0.49236	4.60151	0.00567	0.00522	0.01719
HDDV	0.15187	0.00430	2.59438	1.48047	0.04915	0.04522	0.06627
MC	1.97264	0.00150	0.73237	13.10298	0.01714	0.01517	0.05391

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.02302	0.00512	318.57790	320.67521
LDGT	0.02174	0.00697	393.65755	396.27273
HDGV	0.06120	0.02545	888.19798	897.30051
LDDV	0.07666	0.00066	362.65716	364.76980
LDDT	0.06043	0.00095	411.50918	413.30199
HDDV	0.04385	0.16332	1278.61579	1328.38112
MC	0.08660	0.00292	390.69172	393.72608

8.2.4 Trenching / Excavating Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: 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
$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
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_{VE}: 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

8.3 Building Construction Phase

8.3.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 11
Start Quarter: 1
Start Year: 2025

- Phase Duration
Number of Month: 15
Number of Days: 0

8.3.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 7900
Height of Building (ft): 20
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Aerial Lifts Composite	2	4
Concrete/Industrial Saws Composite	1	4
Cranes Composite	2	4
Excavators Composite	1	4
Forklifts Composite	2	6
Graders Composite	1	4
Other Construction Equipment Composite	1	4
Other General Industrial Equipmen Composite	1	4
Rubber Tired Dozers Composite	1	4
Surfacing Equipment Composite	1	4
Tractors/Loaders/Backhoes Composite	2	8

- 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

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

8.3.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour)

Composite	VOC	SO_x	NO_x	CO	PM 10	PM 2.5
Aerial Lifts [HP: 46] [LF: 0.31]	0.15354	0.00542	2.87672	3.08611	0.02068	0.01903
Concrete/Industrial Saws [HP: 33] [LF: 0.73]	0.43930	0.00743	3.63468	4.34820	0.10060	0.09255
Cranes [HP: 367] [LF: 0.29]	0.20113	0.00487	1.94968	1.66287	0.07909	0.07277
Excavators [HP: 36] [LF: 0.38]	0.40191	0.00542	3.44643	4.21104	0.10704	0.09848
Forklifts [HP: 82] [LF: 0.2]	0.26944	0.00487	2.55142	3.59881	0.13498	0.12418
Graders [HP: 148] [LF: 0.41]	0.33951	0.00490	2.85858	3.41896	0.15910	0.14637
Other Construction Equipment [HP: 82] [LF: 0.42]	0.29762	0.00487	2.89075	3.51214	0.17229	0.15851
Other General Industrial Equipment [HP: 35] [LF: 0.34]	0.49122	0.00542	3.71341	4.67487	0.13603	0.12515
Rubber Tired Dozers [HP: 367] [LF: 0.4]	0.37086	0.00491	3.50629	2.90209	0.15396	0.14165
Surfacing Equipment [HP: 399] [LF: 0.3]	0.10510	0.00487	0.99299	1.06751	0.03603	0.03315
Tractors/Loaders/Backhoes [HP: 84] [LF: 0.37]	0.19600	0.00489	2.00960	3.48168	0.07738	0.07119

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour)

Composite	CH_4	N_2O	CO_2	CO_2e
Aerial Lifts Composite [HP: 46] [LF: 0.31]	0.02381	0.00476	586.90005	588.91415
Concrete/Industrial Saws Composite [HP: 33] [LF: 0.73]	0.02333	0.00467	575.01338	576.98668
Cranes Composite [HP: 367] [LF: 0.29]	0.02140	0.00428	527.58451	529.39505
Excavators Composite [HP: 36] [LF: 0.38]	0.02382	0.00476	587.13772	589.15263
Forklifts Composite [HP: 82] [LF: 0.2]	0.02138	0.00428	527.10822	528.91712

Composite	CH_4	N_2O	CO_2	CO_2e
Graders Composite [HP: 148] [LF: 0.41]	0.02155	0.00431	531.19419	533.01712
Other Construction Equipment Composite [HP: 82] [LF: 0.42]	0.02141	0.00428	527.74261	529.55369
Other General Industrial Equipmen Composite [HP: 35] [LF: 0.34]	0.02385	0.00477	588.02637	590.04433
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]	0.02159	0.00432	532.17175	533.99803
Surfacing Equipment Composite [HP: 399] [LF: 0.3]	0.02138	0.00428	527.12066	528.92960
Tractors/Loaders/Backhoes [HP: 84] [LF: 0.37]	0.02149	0.00430	529.86270	531.68105

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30825	0.00122	0.15795	5.56638	0.00567	0.00502	0.05094
LDGT	0.26484	0.00151	0.20494	4.93596	0.00638	0.00565	0.04271
HDGV	0.80912	0.00340	0.66421	14.36576	0.02246	0.01987	0.09167
LDDV	0.14993	0.00122	0.15425	4.74052	0.00351	0.00323	0.01621
LDDT	0.24554	0.00139	0.49236	4.60151	0.00567	0.00522	0.01719
HDDV	0.15187	0.00430	2.59438	1.48047	0.04915	0.04522	0.06627
MC	1.97264	0.00150	0.73237	13.10298	0.01714	0.01517	0.05391

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.02302	0.00512	318.57790	320.67521
LDGT	0.02174	0.00697	393.65755	396.27273
HDGV	0.06120	0.02545	888.19798	897.30051
LDDV	0.07666	0.00066	362.65716	364.76980
LDDT	0.06043	0.00095	411.50918	413.30199
HDDV	0.04385	0.16332	1278.61579	1328.38112
MC	0.08660	0.00292	390.69172	393.72608

8.3.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
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: Worker Trips 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

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender 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

8.4 Architectural Coatings Phase

8.4.1 Architectural Coatings Phase Timeline Assumptions

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Phase Start Date
Start Month: 2
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 3
Number of Days: 0

8.4.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 4400
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

8.4.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30825	0.00122	0.15795	5.56638	0.00567	0.00502	0.05094
LDGT	0.26484	0.00151	0.20494	4.93596	0.00638	0.00565	0.04271
HDGV	0.80912	0.00340	0.66421	14.36576	0.02246	0.01987	0.09167
LDDV	0.14993	0.00122	0.15425	4.74052	0.00351	0.00323	0.01621
LDDT	0.24554	0.00139	0.49236	4.60151	0.00567	0.00522	0.01719
HDDV	0.15187	0.00430	2.59438	1.48047	0.04915	0.04522	0.06627
MC	1.97264	0.00150	0.73237	13.10298	0.01714	0.01517	0.05391

- Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.02302	0.00512	318.57790	320.67521
LDGT	0.02174	0.00697	393.65755	396.27273
HDGV	0.06120	0.02545	888.19798	897.30051
LDDV	0.07666	0.00066	362.65716	364.76980
LDDT	0.06043	0.00095	411.50918	413.30199
HDDV	0.04385	0.16332	1278.61579	1328.38112
MC	0.08660	0.00292	390.69172	393.72608

8.4.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase
$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

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

- Off-Gassing Emissions per Phase
$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

9. Emergency Generator

9.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Anchorage Municipality
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Emergency Generator Operations

- Activity Description:

- Activity Start Date
Start Month: 5
Start Year: 2027

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions of Criteria Pollutants:

Pollutant	Emissions Per Year (TONs)
VOC	0.143916
SO_x	0.002513
NO_x	5.205900

Pollutant	Emissions Per Year (TONs)
PM 10	0.162609
PM 2.5	0.162609
Pb	0.000000

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CO	1.382880

NH_3	0.000000

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Emissions Per Year (TONs)
CH_4	0.009306
N_2O	0.001861

Pollutant	Emissions Per Year (TONs)
CO_2	231.150000
CO_2e	267.330000

9.2 Emergency Generator Assumptions

- Emergency Generator
Type of Fuel used in Emergency Generator: Diesel
Number of Emergency Generators: 1

- Default Settings Used: No

- Emergency Generators Consumption
Emergency Generator's Horsepower: 804
Average Operating Hours Per Year (hours): 500

9.3 Emergency Generator Emission Factor(s)

- Emergency Generators Criteria Pollutant Emission Factor (lb/hp-hr)

VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3
0.000716	0.0000125	0.0259	0.00688	0.000809	0.000809		

- Emergency Generators Greenhouse Gasses Pollutant Emission Factor (lb/hp-hr)

CH_4	N_2O	CO_2	CO_2e
0.000046297	0.000009259	1.15	1.33

9.4 Emergency Generator Formula(s)

- Emergency Generator Emissions per Year
$AE_{POL} = (NGEN * HP * OT * EF_{POL}) / 2000$

AE_{POL}: Activity Emissions (TONs per Year)
NGEN: Number of Emergency Generators
HP: Emergency Generator's Horsepower (hp)
OT: Average Operating Hours Per Year (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hp-hr)

AIR CONFORMITY APPLICABILITY MODEL REPORT
GREENHOUSE GAS (GHG) EMISSIONS

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to estimate GHG emissions and assess the theoretical Social Cost of Greenhouse Gases (SC GHG) associated with the action. The analysis was performed 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 USAF Air Quality Environmental Impact Analysis Process (EIAP) Guide. This report provides a summary of GHG emissions and SC GHG analysis.

Report generated with ACAM version: 5.0.23a

a. Action Location:

Base: ELMENDORF AFB
State: Alaska
County(s): Anchorage Municipality
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: F-22 Fuel Dispensing System at JBER, Alaska

c. Project Number/s (if applicable):

d. Projected Action Start Date: 1 / 2025

e. Action Description:

The Proposed Action would include construction of a new fuel farm for jet-propulsion fuel, Grade 8 (JP-8). The Proposed Action also includes demolition of Tank Farm 5.

f. Point of Contact:

Name: Caitlin Santinelli
Title: Scientist
Organization: Jacobs
Email: caitlin.santinelli@jacobs.com
Phone Number:

2. Analysis: Total combined direct and indirect GHG emissions associated with the action were estimated through ACAM on a calendar-year basis from the action start through the expected life cycle of the action. The life cycle for Air Force actions with "steady state" emissions (SS, net gain/loss in emission stabilized and the action is fully implemented) is assumed to be 10 years beyond the SS emissions year or 20 years beyond SS emissions year for aircraft operations related actions.

GHG Emissions Analysis Summary:

GHGs produced by fossil-fuel combustion are primarily carbon dioxide (CO2), methane (CH4), and nitrous oxide (NO2). These three GHGs represent more than 97 percent of all U.S. GHG emissions. Emissions of GHGs are typically quantified and regulated in units of CO2 equivalents (CO2e). The CO2e takes into account the global warming potential (GWP) of each GHG. The GWP is the measure of a particular GHG's ability to absorb solar radiation as well as its residence time within the atmosphere. The GWP allows comparison of global warming impacts between different gases; the higher the GWP, the more that gas contributes to climate change in comparison to CO2. All GHG emissions estimates were derived from various emission sources using the methods, algorithms, emission factors, and GWPs from the most current Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and/or Air Emissions Guide for Air Force Transitory Sources.

AIR CONFORMITY APPLICABILITY MODEL REPORT
GREENHOUSE GAS (GHG) EMISSIONS

The Air Force has adopted the Prevention of Significant Deterioration (PSD) threshold for GHG of 75,000 ton per year (ton/yr) of CO2e (or 68,039 metric ton per year, mton/yr) as an indicator or "threshold of insignificance" for NEPA air quality impacts in all areas. This indicator does not define a significant impact; however, it provides a threshold to identify actions that are insignificant (de minimis, too trivial or minor to merit consideration). Actions with a net change in GHG (CO2e) emissions below the insignificance indicator (threshold) are considered too insignificant on a global scale to warrant any further analysis. Note that actions with a net change in GHG (CO2e) emissions above the insignificance indicator (threshold) are only considered potentially significant and require further assessment to determine if the action poses a significant impact. For further detail on insignificance indicators see Level II, Air Quality Quantitative Assessment, Insignificance Indicators (April 2023).

The following table summarizes the action-related GHG emissions on a calendar-year basis through the projected life cycle of the action.

Action-Related Annual GHG Emissions (mton/yr)

YEAR	CO2	CH4	N2O	CO2e	Threshold	Exceedance
2025	919	0.03805094	0.00781045	923	68,039	No
2026	504	0.02122002	0.00471419	506	68,039	No
2027	181	0.00736912	0.00151268	203	68,039	No
2028 [SS Year]	210	0.00844199	0.00168832	243	68,039	No
2029	210	0.00844199	0.00168832	243	68,039	No
2030	210	0.00844199	0.00168832	243	68,039	No
2031	210	0.00844199	0.00168832	243	68,039	No
2032	210	0.00844199	0.00168832	243	68,039	No
2033	210	0.00844199	0.00168832	243	68,039	No
2034	210	0.00844199	0.00168832	243	68,039	No
2035	210	0.00844199	0.00168832	243	68,039	No
2036	210	0.00844199	0.00168832	243	68,039	No
2037	210	0.00844199	0.00168832	243	68,039	No
2038	210	0.00844199	0.00168832	243	68,039	No

The following U.S. and State's GHG emissions estimates (next two tables) are based on a five-year average (2016 through 2020) of individual state-reported GHG emissions (Reference: State Climate Summaries 2022, NOAA National Centers for Environmental Information, National Oceanic and Atmospheric Administration. https://statesummaries.ncics.org/downloads/).

State's Annual GHG Emissions (mton/yr)

YEAR	CO2	CH4	N2O	CO2e
2025	31,726,311	80,092	698	31,807,101
2026	31,726,311	80,092	698	31,807,101
2027	31,726,311	80,092	698	31,807,101
2028 [SS Year]	31,726,311	80,092	698	31,807,101
2029	31,726,311	80,092	698	31,807,101
2030	31,726,311	80,092	698	31,807,101
2031	31,726,311	80,092	698	31,807,101
2032	31,726,311	80,092	698	31,807,101
2033	31,726,311	80,092	698	31,807,101
2034	31,726,311	80,092	698	31,807,101
2035	31,726,311	80,092	698	31,807,101
2036	31,726,311	80,092	698	31,807,101
2037	31,726,311	80,092	698	31,807,101
2038	31,726,311	80,092	698	31,807,101

AIR CONFORMITY APPLICABILITY MODEL REPORT
GREENHOUSE GAS (GHG) EMISSIONS

U.S. Annual GHG Emissions (mton/yr)

YEAR	CO2	CH4	N2O	CO2e
2025	5,136,454,179	25,626,912	1,500,708	5,163,581,798
2026	5,136,454,179	25,626,912	1,500,708	5,163,581,798
2027	5,136,454,179	25,626,912	1,500,708	5,163,581,798
2028 [SS Year]	5,136,454,179	25,626,912	1,500,708	5,163,581,798
2029	5,136,454,179	25,626,912	1,500,708	5,163,581,798
2030	5,136,454,179	25,626,912	1,500,708	5,163,581,798
2031	5,136,454,179	25,626,912	1,500,708	5,163,581,798
2032	5,136,454,179	25,626,912	1,500,708	5,163,581,798
2033	5,136,454,179	25,626,912	1,500,708	5,163,581,798
2034	5,136,454,179	25,626,912	1,500,708	5,163,581,798
2035	5,136,454,179	25,626,912	1,500,708	5,163,581,798
2036	5,136,454,179	25,626,912	1,500,708	5,163,581,798
2037	5,136,454,179	25,626,912	1,500,708	5,163,581,798
2038	5,136,454,179	25,626,912	1,500,708	5,163,581,798

GHG Relative Significance Assessment:

A Relative Significance Assessment uses the rule of reason and the concept of proportionality along with the consideration of the affected area (yGba.e., global, national, and regional) and the degree (intensity) of the proposed action's effects. The Relative Significance Assessment provides real-world context and allows for a reasoned choice against alternatives through a relative comparison analysis. The analysis weighs each alternative's annual net change in GHG emissions proportionally against (or relative to) global, national, and regional emissions.

The action's surroundings, circumstances, environment, and background (context associated with an action) provide the setting for evaluating the GHG intensity (impact significance). From an air quality perspective, context of an action is the local area's ambient air quality relative to meeting the NAAQSs, expressed as attainment, nonattainment, or maintenance areas (this designation is considered the attainment status). GHGs are non-hazardous to health at normal ambient concentrations and, at a cumulative global scale, action-related GHG emissions can only potentially cause warming of the climatic system. Therefore, the action-related GHGs generally have an insignificant impact to local air quality.

However, the affected area (context) of GHG/climate change is global. Therefore, the intensity or degree of the proposed action's GHG/climate change effects are gauged through the quantity of GHG associated with the action as compared to a baseline of the state, U.S., and global GHG inventories. Each action (or alternative) has significance, based on their annual net change in GHG emissions, in relation to or proportionally to the global, national, and regional annual GHG emissions.

To provide real-world context to the GHG and climate change effects on a global scale, an action's net change in GHG emissions is compared relative to the state (where action will occur) and U.S. annual emissions. The following table provides a relative comparison of an action's net change in GHG emissions vs. state and U.S. projected GHG emissions for the same time period.

Total GHG Relative Significance (mton)

		CO2	CH4	N2O	CO2e
2025-2038	State Total	444,168,352	1,121,295	9,773	445,299,420
2025-2038	U.S. Total	71,910,358,506	358,776,764	21,009,907	72,290,145,176
2025-2038	Action	3,911	0.159502	0.032609	4,300
Percent of State Totals		0.00088060%	0.00001422%	0.00033366%	0.00096556%
Percent of U.S. Totals		0.00000544%	0.00000004%	0.00000016%	0.00000595%

AIR CONFORMITY APPLICABILITY MODEL REPORT
GREENHOUSE GAS (GHG) EMISSIONS

From a global context, the action's total GHG percentage of total global GHG for the same time period is: 0.00000080%.*

* Global value based on the U.S. emits 13.4% of all global GHG annual emissions (2018 Emissions Data, Center for Climate and Energy Solutions, accessed 7-6-2023, https://www.c2es.org/content/international-emissions).

Climate Change Assessment (as SC GHG):

On a global scale, the potential climate change effects of an action are indirectly addressed and put into context through providing the theoretical SC GHG associated with an action. The SC GHG is an administrative and theoretical tool intended to provide additional context to a GHG's potential impacts through approximating the long-term monetary damage that may result from GHG emissions affect on climate change. It is important to note that the SC GHG is a monetary quantification, in 2020 U.S. dollars, of the theoretical economic damages that could result from emitting GHGs into the atmosphere.

The SC GHG estimates are derived using the methodology and discount factors in the "Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990," released by the Interagency Working Group on Social Cost of Greenhouse Gases (IWG SC GHGs) in February 2021.

The speciated IWG Annual SC GHG Emission associated with an action (or alternative) are first estimated as annual unit cost (cost per metric ton, $/mton). Results of the annual IWG Annual SC GHG Emission Assessments are tabulated in the IWG Annual SC GHG Cost per Metric Ton Table below:

IWG SC GHG Discount Factor: 2.5%

IWG Annual SC GHG Cost per Metric Ton ($/mton [In 2020 $])

YEAR	CO2	CH4	N2O
2025	$83.00	$2,200.00	$30,000.00
2026	$84.00	$2,300.00	$30,000.00
2027	$86.00	$2,300.00	$31,000.00
2028 [SS Year]	$87.00	$2,400.00	$32,000.00
2029	$88.00	$2,500.00	$32,000.00
2030	$89.00	$2,500.00	$33,000.00
2031	$91.00	$2,600.00	$33,000.00
2032	$92.00	$2,600.00	$34,000.00
2033	$94.00	$2,700.00	$35,000.00
2034	$95.00	$2,800.00	$35,000.00
2035	$96.00	$2,800.00	$36,000.00
2036	$98.00	$2,900.00	$36,000.00
2037	$99.00	$3,000.00	$37,000.00
2038	$100.00	$3,000.00	$38,000.00

Action-related SC GHG were estimated by calendar-year for the projected action's lifecycle. Annual estimates were found by multiplying the annual emission for a given year by the corresponding IWG Annual SC GHG Emission value (see table above).

Action-Related Annual SC GHG ($K/yr [In 2020 $])

YEAR	CO2	CH4	N2O	GHG
2025	$76.32	$0.08	$0.23	$76.64
2026	$42.34	$0.05	$0.14	$42.53
2027	$15.58	$0.02	$0.05	$15.64

AIR CONFORMITY APPLICABILITY MODEL REPORT
GREENHOUSE GAS (GHG) EMISSIONS

YEAR	CO2	CH4	N2O	GHG
2028 [SS Year]	$18.24	$0.02	$0.05	$18.32
2029	$18.45	$0.02	$0.05	$18.53
2030	$18.66	$0.02	$0.06	$18.74
2031	$19.08	$0.02	$0.06	$19.16
2032	$19.29	$0.02	$0.06	$19.37
2033	$19.71	$0.02	$0.06	$19.79
2034	$19.92	$0.02	$0.06	$20.00
2035	$20.13	$0.02	$0.06	$20.22
2036	$20.55	$0.02	$0.06	$20.64
2037	$20.76	$0.03	$0.06	$20.85
2038	$20.97	$0.03	$0.06	$21.06

The following two tables summarize the U.S. and State's Annual SC GHG by calendar-year. The U.S. and State's Annual SC GHG are in 2020 dollars and were estimated by each year for the projected action lifecycle. Annual SC GHG estimates were found by multiplying the U.S. and State's annual five-year average GHG emissions for a given year by the corresponding IWG Annual SC GHG Cost per Metric Ton value.

State's Annual SC GHG ($K/yr [In 2020 $])

YEAR	CO2	CH4	N2O	GHG
2025	$2,633,283.80	$176,203.48	$20,942.11	$2,830,429.39
2026	$2,665,010.11	$184,212.73	$20,942.11	$2,870,164.95
2027	$2,728,462.73	$184,212.73	$21,640.18	$2,934,315.64
2028 [SS Year]	$2,760,189.04	$192,221.98	$22,338.26	$2,974,749.27
2029	$2,791,915.35	$200,231.23	$22,338.26	$3,014,484.83
2030	$2,823,641.66	$200,231.23	$23,036.33	$3,046,909.22
2031	$2,887,094.29	$208,240.47	$23,036.33	$3,118,371.09
2032	$2,918,820.60	$208,240.47	$23,734.40	$3,150,795.47
2033	$2,982,273.22	$216,249.72	$24,432.47	$3,222,955.41
2034	$3,013,999.53	$224,258.97	$24,432.47	$3,262,690.97
2035	$3,045,725.84	$224,258.97	$25,130.54	$3,295,115.35
2036	$3,109,178.46	$232,268.22	$25,130.54	$3,366,577.22
2037	$3,140,904.77	$240,277.47	$25,828.61	$3,407,010.85
2038	$3,172,631.08	$240,277.47	$26,526.68	$3,439,435.23

U.S. Annual SC GHG ($K/yr [In 2020 $])

YEAR	CO2	CH4	N2O	GHG
2025	$426,325,696.86	$56,379,205.70	$45,021,229.08	$527,726,131.63
2026	$431,462,151.04	$58,941,896.86	$45,021,229.08	$535,425,276.98
2027	$441,735,059.39	$58,941,896.86	$46,521,936.72	$547,198,892.97
2028 [SS Year]	$446,871,513.57	$61,504,588.03	$48,022,644.35	$556,398,745.96
2029	$452,007,967.75	$64,067,279.20	$48,022,644.35	$564,097,891.30
2030	$457,144,421.93	$64,067,279.20	$49,523,351.99	$570,735,053.12
2031	$467,417,330.29	$66,629,970.37	$49,523,351.99	$583,570,652.65
2032	$472,553,784.47	$66,629,970.37	$51,024,059.62	$590,207,814.46
2033	$482,826,692.83	$69,192,661.54	$52,524,767.26	$604,544,121.62
2034	$487,963,147.01	$71,755,352.70	$52,524,767.26	$612,243,266.97
2035	$493,099,601.18	$71,755,352.70	$54,025,474.90	$618,880,428.78
2036	$503,372,509.54	$74,318,043.87	$54,025,474.90	$631,716,028.31
2037	$508,508,963.72	$76,880,735.04	$55,526,182.53	$640,915,881.29
2038	$513,645,417.90	$76,880,735.04	$57,026,890.17	$647,553,043.11

AIR CONFORMITY APPLICABILITY MODEL REPORT
GREENHOUSE GAS (GHG) EMISSIONS

Relative Comparison of SC GHG:

To provide additional real-world context to the potential climate change impact associate with an action, a Relative Comparison of SC GHG Assessment is also performed. While the SC GHG estimates capture an indirect approximation of global climate damages, the Relative Comparison of SC GHG Assessment provides a better perspective from a regional and global scale.

The Relative Comparison of SC GHG Assessment uses the rule of reason and the concept of proportionality along with the consideration of the affected area (yGba.e., global, national, and regional) and the SC GHG as the degree (intensity) of the proposed action's effects. The Relative Comparison Assessment provides real-world context and allows for a reasoned choice among alternatives through a relative contrast analysis which weighs each alternative's SC GHG proportionally against (or relative to) existing global, national, and regional SC GHG. The below table provides a relative comparison between an action's SC GHG vs. state and U.S. projected SC GHG for the same time period:

Total SC-GHG ($K [In 2020 $])

Time Period	Totals	CO2	CH4	N2O	GHG
2025-2038	State Total	$40,673,130.50	$2,931,385.14	$329,489.26	$43,934,004.90
2025-2038	U.S. Total	$6,584,934,257.48	$937,944,967.49	$708,334,004.19	$8,231,213,229.16
2025-2038	Action	$350.01	$0.40	$1.07	$351.48
	Percent of State	0.00086055%	0.00001368%	0.00032350%	0.00080002%
	Percent of U.S.	0.00000532%	0.00000004%	0.00000015%	0.00000427%

From a global context, the action's total SC GHG percentage of total global SC GHG for the same time period is: 0.00000057%.*

* Global value based on the U.S. emits 13.4% of all global GHG annual emissions (2018 Emissions Data, Center for Climate and Energy Solutions, accessed 7-6-2023, https://www.c2es.org/content/international-emissions).

Caitlin Santinelli, Scientist — May 01 2024

Name, Title — **Date**

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APPENDIX C

Cultural Resources Survey Report

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Jacobs

Cultural Resources Survey Report

Revision: 1.00

U.S. Air Force

Joint Base Elmendorf-Richardson F-22 Fuel Dispensing System
September 17, 2024

Cultural Resources Survey Report

Client name: U.S. Air Force

Project name: Joint Base Elmendorf-Richardson F-22 Fuel Dispensing System

Revision: 1.00 **Project no:** D3436306

Date: September 17, 2024 **Prepared by:** Barbara Bundy

Document History and Status

Revision	Date	Description	Author	Checked	Reviewed	Approved
0.0	7/19/2024	Draft	B. Bundy	B. Brickner-Wood	S. Rider	
1.0	9/17/24	Final	B. Bundy	C. Beaty	S. Rider	

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Acronyms and Abbreviations

ALCOP	Alternate Command Post
APE	Area of Potential Effects
CFR	*Code of Federal Regulations*
DLA	Defense Logistics Agency
JBER	Joint Base Elmendorf-Richardson
NRHP	National Register of Historic Places
USAF	U.S. Air Force

1. Introduction

The U.S. Air Force (USAF) is evaluating the impacts of constructing and operating new fueling infrastructure necessary to support the fifth generation F-22 fighter aircraft at Joint Base Elmendorf-Richardson (JBER) (Figure 1-1). The project would meet the current 3rd Wing/Logistics Readiness Squadron's bulk fuel storage and fueling needs. The project would replace the current fueling system, which has exceeded its expected service life, requires out-of-service periods for maintenance, and fails to meet operational requirements under Unified Facilities Criteria 3-460-01, all of which could result in mission failure.

The project is located on USAF property, is funded by USAF, and is a federal undertaking that must comply with Section 106 of the National Historic Preservation Act. Section 106 requires federal agencies to take into account the effects of their undertakings on historic properties. This memorandum assists USAF in meeting the requirements of Section 106 by describing how historic properties have been inventoried and evaluated.

There are two previously recorded cultural resources within the Area of Potential Effects (APE) for the project: (1) ANC-0777, the Alternate Command Post (ALCOP) Train, and (2) ANC-03267, Building 15699 (a pump station). The ALCOP Train was determined as eligible for listing in the National Register of Historic Places (NRHP) but has been demolished. Pumphouse Building 15699 (ANC-03267) was determined not NRHP eligible in 2018 (Maggioni and Bowman 2018). One cultural resource was identified during the current project survey: a rail spur and associated features ANC-04873). It is recommended not NRHP eligible. It is recommended that the project will have no adverse effects on historic properties.

1.1 Project Description

The project is located in Section 2 of Township 13 North Range 3 West (Latitude 61.246993, Longitude -149.775655) and Section 34 of Township 14 North, Range 3 West (Latitude 61.258157, Longitude -149.779836). The project includes the following elements (Figure 1-2):

- Construction of an aboveground storage tank fuel farm (Tank Farm 6), including construction of the following:
  - Aboveground pipelines
  - Pump house
  - Two aboveground fuel storage tanks
  - Truck fillstand
  - Truck offload stand
  - Security fencing
  - Pipeline tie-in, including water (approximately 550 feet) and sanitary sewer (approximately 450 feet) utilities
  - Access roads and prepared surfaces
- Construction of a truck fill stand across Vandenberg Avenue from Tank Farm 6
- Demolition of the existing fuel storage facilities at Tank Farm 5

1.2 Regulatory Context

Under Section 106 and its implementing regulations at 36 *Code of Federal Regulation*s (CFR) 800, USAF is required to consider the effects of the project on historic properties. A historic property is "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National

Register of Historic Places" (36 CFR 800.16[l][1]). Traditional Cultural Properties may also be historic properties. Under the Section 106 process, USAF must consult with interested and affected Indian Tribes and the State Historic Preservation Officer on potential impacts to historic properties. To be eligible for inclusion in the NRHP, an historic property must have significance and retain integrity.

This report assists USAF in fulfilling the requirements of Section 106 and 36 CFR 800 by providing the following:

- Identification of the APE
- Identification of NRHP-eligible historic properties in the APE
- Recommendations about effects to historic properties

1.3 Area of Potential Effects

The APE is the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. Historic properties are prehistoric or historic districts, sites, buildings, structures, or objects eligible for inclusion in the NRHP.

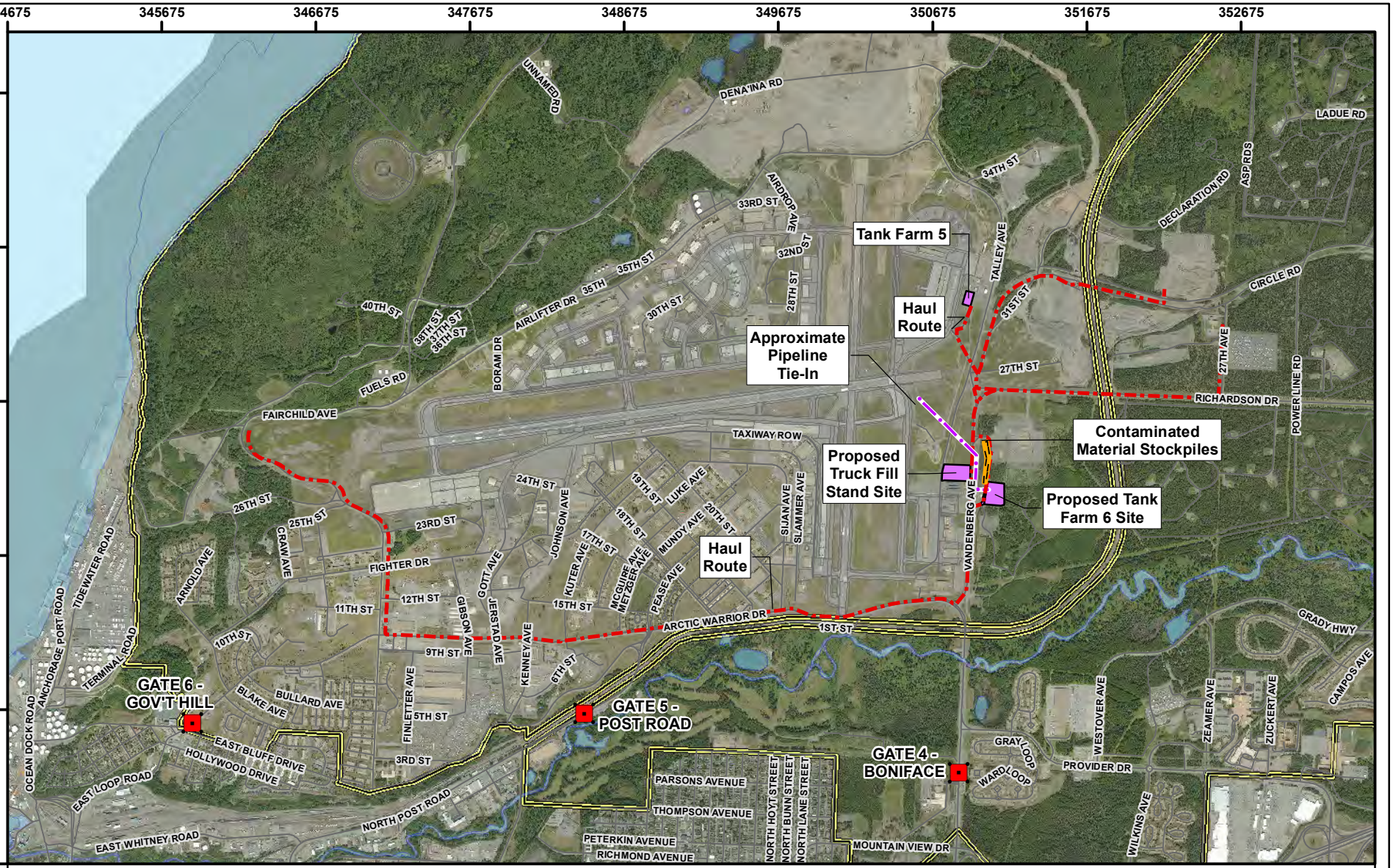
Four structures would be demolished for the project, all at the existing Tank Farm 5: two existing buildings, a pipeline complex, and pump station. The pump station (ANC-03267/Building 15699), which consists of a building that houses two tanks, was originally constructed in 1942. It was determined not NRHP-eligible in 2018. The other structures to be demolished were constructed in between 1996 and 2012 and are not potential historic properties. Therefore, there would be no demolition or modification of historic structures as part of the project.

Construction noise would not exceed the significant noise already occurring for airfield operations and daily heavy equipment transport in the project vicinity. The haul routes are all existing roadways currently in use for similar purposes. The purpose, setting, landscape, and feeling of the surrounding area—an active military airfield surrounded by supporting infrastructure—would not change. Therefore, no direct or indirect effects to built environment historic properties would be expected.

Demolition of Tank Farm 5 would include removal of the following: the Pumphouse, four underground storage tanks that are buried approximately 4 feet below grade; truck fillstands; canopies; above-grade piping and below grade to the truck fillstands; and concrete containment areas at the truck fillstands. The pipeline from Tank Farm 5 to the new tie-in point would be abandoned in place. Ground disturbance would occur across the Tank Farm 6 and truck fill stand areas, generally up to 2 feet below the surface for vegetation clearing, grubbing, and grading, and up to 10 feet below the surface at the location of constructed elements or new utilities.

Therefore, the APE consists of the existing Tank Farm 5 site, the proposed site for Tank Farm 6, the proposed site for the truck fill stand, and the proposed utility extensions (Figure 1-3).

Staging, and stockpiling would occur on prepared paved or gravel surfaces. The borrow site at Circle Road and clean materials disposal at 27th Avenue and Fairchild Avenue are existing permitted facilities. Staging, stockpiling, and disposal do not have the potential to affect historic properties. Any materials removed from the project area would be disposed of in existing, permitted facilities. If the project changes such that staging, stockpiling, or disposal would occur in unprepared areas, the APE would be amended.



Area of Detail

- JBER Entrance Gate
- Approximate Pipeline Tie-In
- Contaminated Material Stockpiles
- Haul Route
- Proposed Improvement Site
- Building
- Base Boundary

1 inch = 3,000 feet

0 1,500 3,000 4,500 6,000

Feet

WGS 1984 UTM Zone 6N

Sources
GIS Data:USAF GeoBase 2023
Imagery: JBER_19jun2023_wgs84_utm6_7.5cm

JBER Project Vicinity

Cultural Resources Survey Report
F-22 Fuel Dispensing System
Joint Base Elmendorf-Richardson, Alaska

DATE:	PROJECT MANAGER:	FIGURE NO:
17 JUL 2024	J. HESSE	1-1

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Figure 1-2. Sheet 1. Project Plan, Tank Farm 6 and Truck Fill Stand Construction

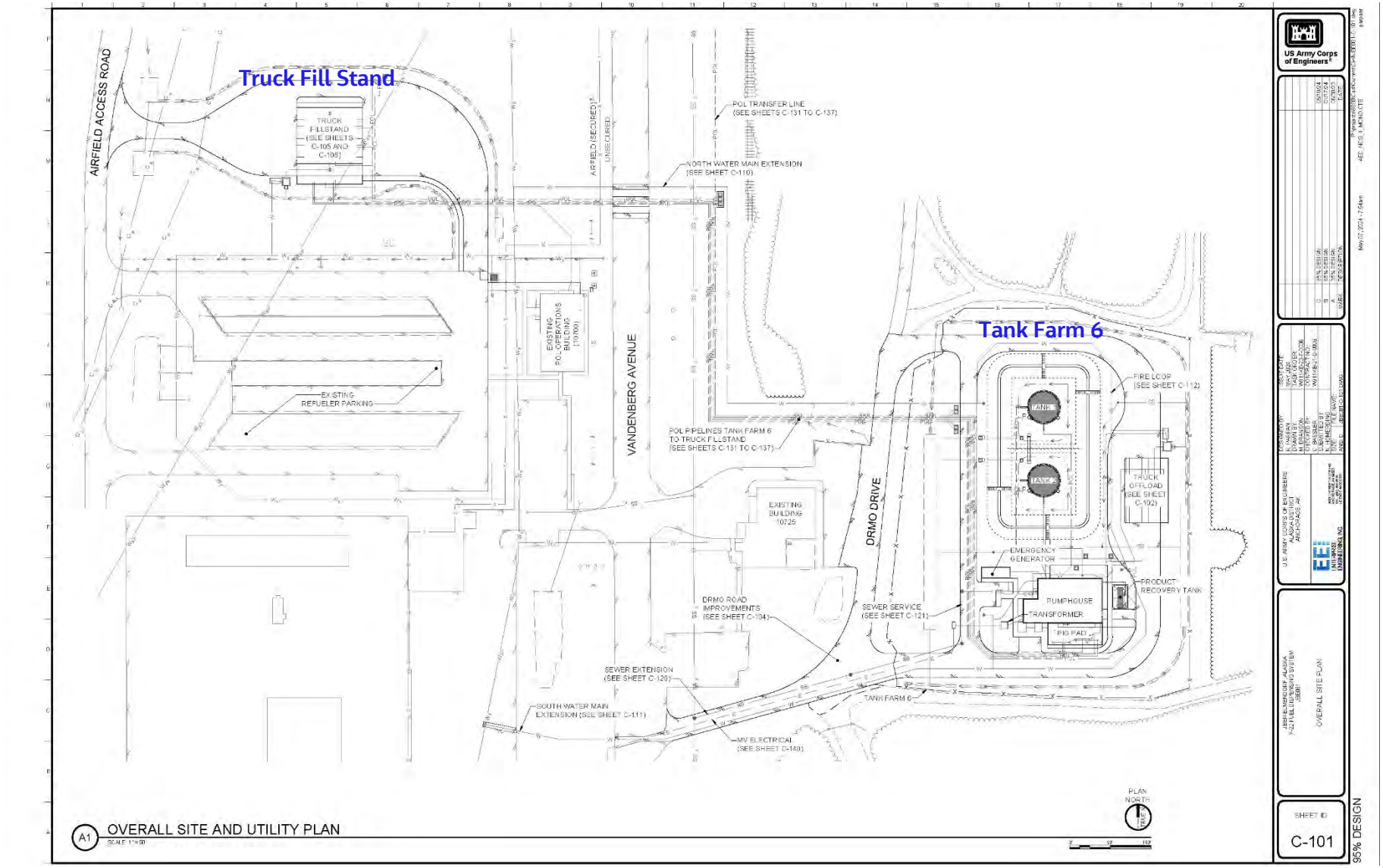
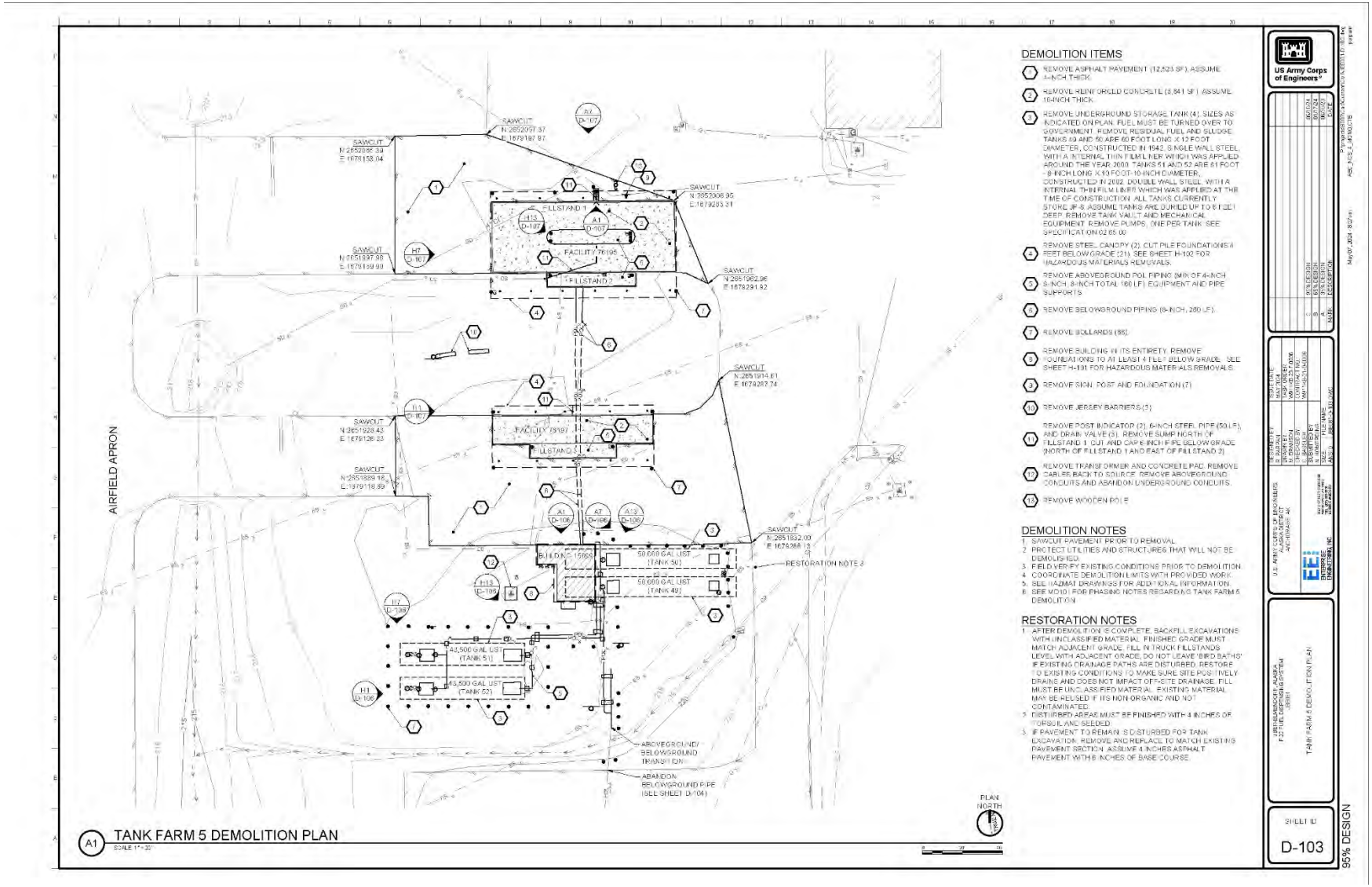
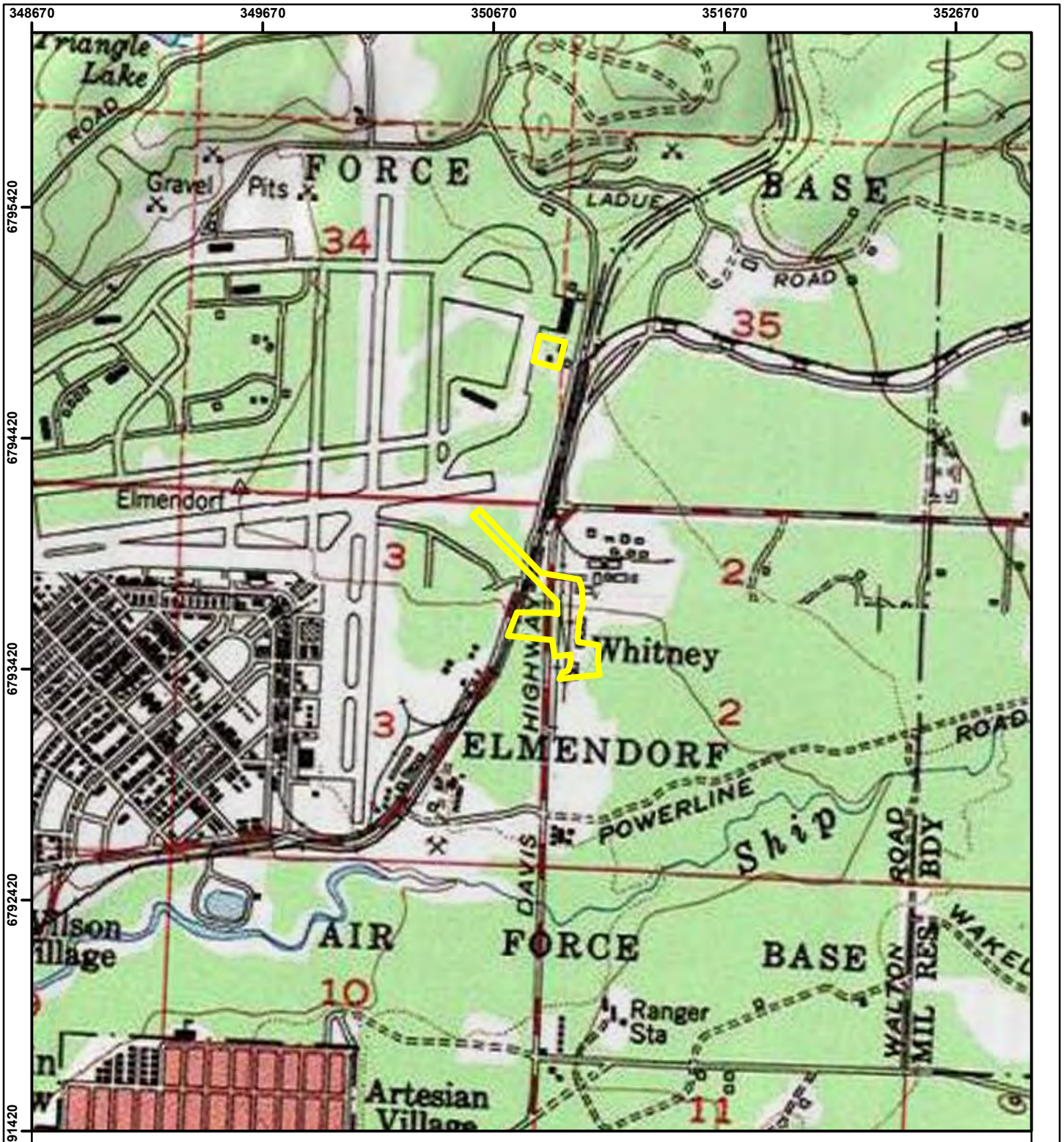
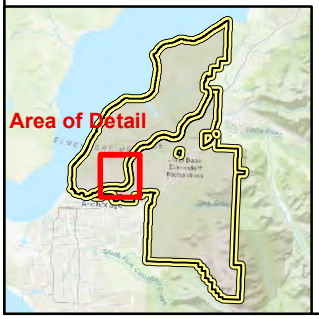


Figure 1-3. Sheet 2. Project Plan, Tank Farm 5 Demolition







Area of Potential Effect

1 inch = 2,000 feet

0 1,000 2,000 3,000 4,000

Feet

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community Copyright:© 2013 National Geographic Society, i-cubed

WGS 1984 UTM Zone 6N

Area of Potential Effects
Cultural Resources Survey Report
F-22 Fuel Dispensing System
Joint Base Elmendorf-Richardson, Alaska

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DATE:	PROJECT MANAGER:	FIGURE NO:
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2. Environmental and Cultural Context

2.1 Environmental Context

The project area lies within the Anchorage lowland, a roughly triangular area bounded by Turnagain Arm and Knik Arm of Cook Inlet and the Chugach Mountains. The lowland is "dominated by deposits of glacier retreats that followed repeated advances" during the Pleistocene and earlier (Schmoll et al. 1999). A prominent feature of this glacial history is the Elmendorf Moraine, which formed the most recent Pleistocene advance of the Matanuska-Knik Glacier about 16,500 years ago (Kopczynski et al. 2017). The moraine is mapped in the project vicinity.

Soils in the project area reflect this history. Other than urban lands and landfill, the mapped soil complex is the Kashwitna-Kichatna complex, a thin soil (6 to 18 inches deep) formed in silty loess over gravelly glacial outwash (NRCS 2019; Miller and Dobrovolny 1959).

The project is in the Ship Creek watershed and within the Lowland Interior Forest Zone. Vegetation communities in this zone are dominated by mixed birch-spruce forest, the oldest of which date to after major fires in the mid-1700s. Many of the forest communities are more recent, having developed after early 20th century fires, or clearing related to military activities (USAF 2020).

Before non-Indigenous modifications, the project area would have hosted a wide variety of resources. Salmon and other fish species would have been available in Ship Creek about 0.5 mile south. Mammals such as bears, moose, wolves, coyotes, lynx, beavers, and a variety of small species would have been present, as would have resident and migratory bird species. Marine mammal species such as beluga whales, harbor seals, and harbor porpoises are present in Knik Arm about 3 miles west of the project area (USAF 2020).

2.2 Cultural Context

The cultural history of the project area is described in detail in the *U.S. Air Force Integrated Cultural Resources Management Plan, Joint Base Elmendorf-Richardson 2023-2027* (USAF 2023) and is summarized here directly from that document.

The Cook Inlet area would have been available for settlement after glacial retreat about 12,400 years ago. The earliest sites in the Cook Inlet date to about 11,000 to 7,000 years ago, and include the Beluga Point site (ANC-00054; about 17 miles south of the APE) and the Long Lake Wayside site (ANC-00017; about 65 miles northwest of the APE). These sites are characterized by lithic assemblages including microblades and wedge-shaped cores, bifaces, and scrapers.

Between about 7,000 and 3,000 years ago, during the mid-Holocene, variation in lithic technologies has been interpreted as resulting from shifting cultural affiliations. Northern Archaic tradition assemblages in the Cook Inlet area are more closely associated with interior Alaska and the Yukon, while Ocean Bay and Arctic Small Tool tradition assemblages are found mostly in the Kodiak Archipelago and the Alaska Peninsula. A component of the Beluga Point site dates to this time period.

The association with cultures to the southwest continued in the beginning of the late Holocene, from about 3,000 to 1,500 years ago. Sometime after 2,000 years ago, Dene peoples moved into the Cook Inlet area. Sites from this time period are characterized by large villages, intensive salmon harvesting and storage, sea mammal hunting, and resource gathering camps. Artifacts associated with this time period include ground slate and groundstone, arrow and dart points, and copper items. The Training Area 406

Archaeological District (ANC-04610; approximately 5 miles northeast of the APE) and the Cottonwood Creek Village site (ANC-00035; approximately 20 miles northeast of the APE) are associated with this period. Travel and trade occurred throughout the region, by foot, watercraft, or dog traction. Ethnographically described Dena'ina cultural correlate with late Holocene archaeological sites.

Several Dena'ina placenames have been recorded in the area, including the following:

- *Dgheyaytnu* or *Dgheyay Leht* for Ship Creek, about 0.65 mile south of the APE
- *Ch'akdinlen Bena* for a lake that may be what is now called Green Lake, approximately 2.8 miles northwest of the APE
- *Ch'ak'dinłenghet* for a stream flowing into Cook Inlet (historic and modern changes to lakes and streams have obscured which stream this may have been, but archaeological site ANC-00443—located approximately 3 miles northwest of the APE—is associated with the placename)
- *Tak'at* for a large fish camp about 3.4 miles west of the APE
- *T'usq'a* for a small creek near where it enters the Eagle River Flats about 5 miles northeast of the APE

Native Alaskan communities were heavily impacted by non-Indigenous contact, which began with Russian fur-hunters in 1741. Introduced diseases as well as warfare and hostage-taking by Russians decimated populations, though upper Cook Inlet peoples were less affected than those to the southwest. Dena'ina people persevered and still occupy their homelands.

After the 1741 Bering Expedition brought Russian hunters and traders, other non-Indigenous explorers to Alaska. Captain Cook claimed Cook Inlet for England in 1778, but by 1799 the Alaska Territory was under Russian control via the Russian-American Company. The U.S. purchased Alaska in 1867, and the Alaska Commercial Company effectively took over Russian American Company assets. The Alaska Commercial Company established stores in Cook Inlet, including one at Knik about 18 miles northeast of the APE.

A brief gold rush in the late 1880s in Girdwood and the Kenai Peninsula spurred travel and trade between Knik and points south, which may have crossed the JBER area. In particular, the Iditarod Trail that ran from Seward to Knik (over Crow Pass east of Anchorage) and points north served as a major overland transportation route. It included a spur or side trail between Anchorage and Eagle River that is said to have passed by Otter Lake on JBER. This side trail may have become a wagon road used before the Alaska Railroad was constructed.

The Alaska Railroad was constructed between 1915 and 1924, with the portion running through what is now JBER constructed in 1915 (Hegener 2018). Rail construction brought jobseekers to a tent city on Ship Creek, which became the town of Anchorage during rail construction. With construction of the railroad, homesteading increased in the area. On what is now JBER, 79 homestead applications were filed between 1914 and 1939.

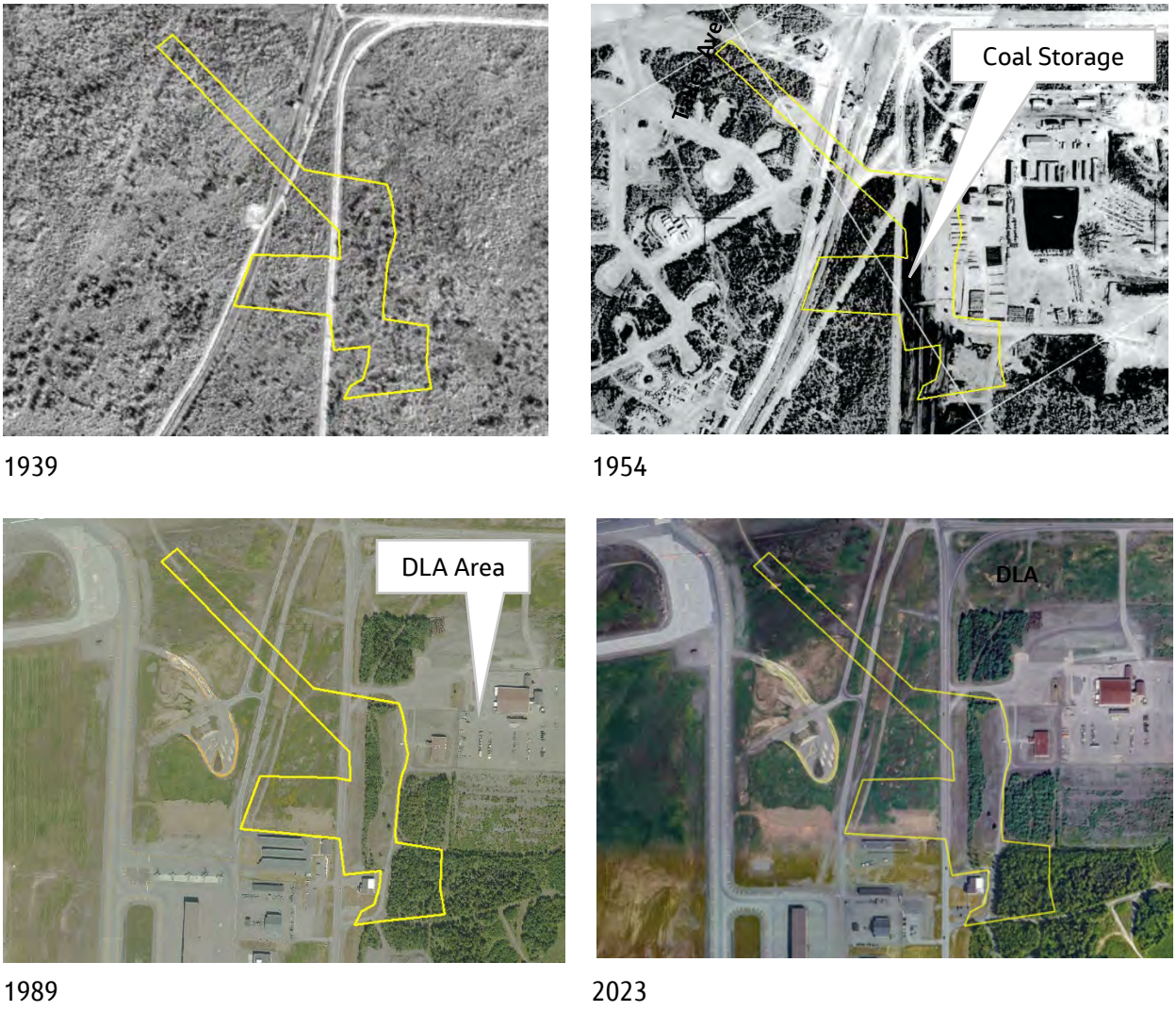
By the late 1930s, the geopolitical conflicts that lead to World War II were growing, and Alaska's strategic importance in the Pacific was recognized. In 1939, the U.S. withdrew land from the public domain to establish Fort Richardson and Elmendorf Airfield. The location was selected due to its level terrain and proximity to the Alaska Railroad. Homesteads within the withdrawn lands were condemned and purchased from the owners. Some of the structures on the homesteads remained and were used by the military. In the vicinity of the APE, immediate construction included Vandenberg Avenue and Talley Avenue (Figure 2-1).

With the attack on Pearl Harbor in 1941, construction of additional facilities and housing accelerated. Three clusters of buildings constructed during the war are now National Historic Districts: the Alaska Air

Depot Historic District (ANC-02765), the Flightline Historic District (ANC-02766), and the General's Quad Residential Historic District (ANC-02766). In the vicinity of the APE, construction in this timeframe included a roadway between Talley Avenue and Vandenberg Avenue (now gone), a rail line to a coal storage facility and rail connection thereto, and what appears to be a staging or stockpiling area in what is now the Defense Logistics Agency (DLA) area. The Tank Farm 6 location was heavily disturbed and appears to be in use as a materials source (refer to Figure 2-1).

After the war, the USAF became an independent branch of the military and the base split into Elmendorf Air Force Base and Fort Richardson. Early post-war priorities included the construction of ground defenses such as foxholes and bunkers. A group of what appear to be ammunition bunkers was constructed where the pipeline tie-in will occur for the project. As the Cold War intensified, priorities shifted to detection and

Figure 2-1. Historical Aerial Photographs of the Tank Farm 6 and Truck Fillstand Areas



1939

1954

1989

2023

= APE

Aerial Photographs Provided by Joint Base Elmendorf-Richardson

air defense. Alaska's proximity to the Soviet Union became a vulnerability, and Fort Richardson emerged as a command and administrative center for its defense.

In 1959, three Nike missile batteries were constructed, one on Fort Richardson (Site Summit). Air defense systems continued to be modernized through the 1970s and 1980s. A mobile command unit made of surplus 1950s-vintage Alaska Railroad cars was put in to service in 1982. This ALCOP was often tied down on the rail tracks that once served the coal storage facility (Allen 1993; Combs 2018). In the vicinity of the APE, construction in this timeframe included the DLA buildings and surrounding lot. By 1989, earlier infrastructure such as the road that cut through the truck fill stand location and the materials source in the Tank Farm 6 location were in disuse and growing over (refer to Figure 2-1). In the late 1990s, the Alaska Railroad main line was rerouted from within the APE to east of it.

In recent years, the truck fill stand location has been heavily graded, and a fill prism constructed, apparently connected to the construction of the F-22 Raptor facility circa 2020. The Tank Farm 6 location has continued to grow over.

2.3 Previous Research

According to the *U.S. Air Force Integrated Cultural Resources Management Plan, Joint Base Elmendorf-Richardson 2023-2027* (USAF 2023), there have been no previous archaeological surveys in the APE. There are no previously recorded archaeological sites in the APE.

There are two previously recorded built environment sites in the APE, the current Tank Farm 5 Pump Station (ANC-03267) and the ALCOP Train (ANC-00777). The ALCOP Train was a collection of surplus Alaska Railroad cars re-fitted by the military into a mobile command post. The ALCOP Train was often stored in what is now the materials stockpiling portion of the APE, so the site location is recorded there. The cars were demolished in 1997; the site is no longer extant. The Pump Station has been previously determined not NRHP eligible by USAF (Maggioni and Bowman 2018).

The Alaska Railroad formerly passed through the APE. The Alaska Railroad has not been recorded or evaluated for NRHP-eligibility in its entirety, though sections have been evaluated. The section through JBER has not been evaluated. The Alaska Railroad is assumed NRHP-eligible in its entirety. The portion of the Alaska Railroad currently nearest the APE is approximately 0.45-mile to the east.Within a 0.5-mile radius of the APE, there are 21 recorded resources (Table 2-1, Figure 2-2). All recorded resources in or within 0.5 mile of the APE are related to historic military use.

A rail spur known as the Richardson Rail Spur formerly connected to the main line about 0.7-mile north of the APE. Part of the Richardson Rail Spur has been recorded as ANC-04402, but the portion recorded is about 1.9-miles northwest of the APE (Stantec 2018). It has been determined not NRHP-eligible.

In addition to archaeological research, geotechnical testing has recently been completed in the truck fill stand (6 borings) and Tank Farm 6 (11 borings) portions of the APE for project design. At the truck fill stand, borings revealed 1 to 7 feet of silty sand with gravels over gravels to the depth of the borings (16 to 27 feet below surface).

At Tank Farm 6, borings revealed a similar profile. Silty sand with gravel was absent in some borings, but where present, was 0.5- to 8.5-feet thick. Underneath was gravels to the depth of the borings. One boring logged approximately 20 inches of coal just below the surface.

These results are interpreted as fill and disturbed and redeposited sediments over glacial outwash.

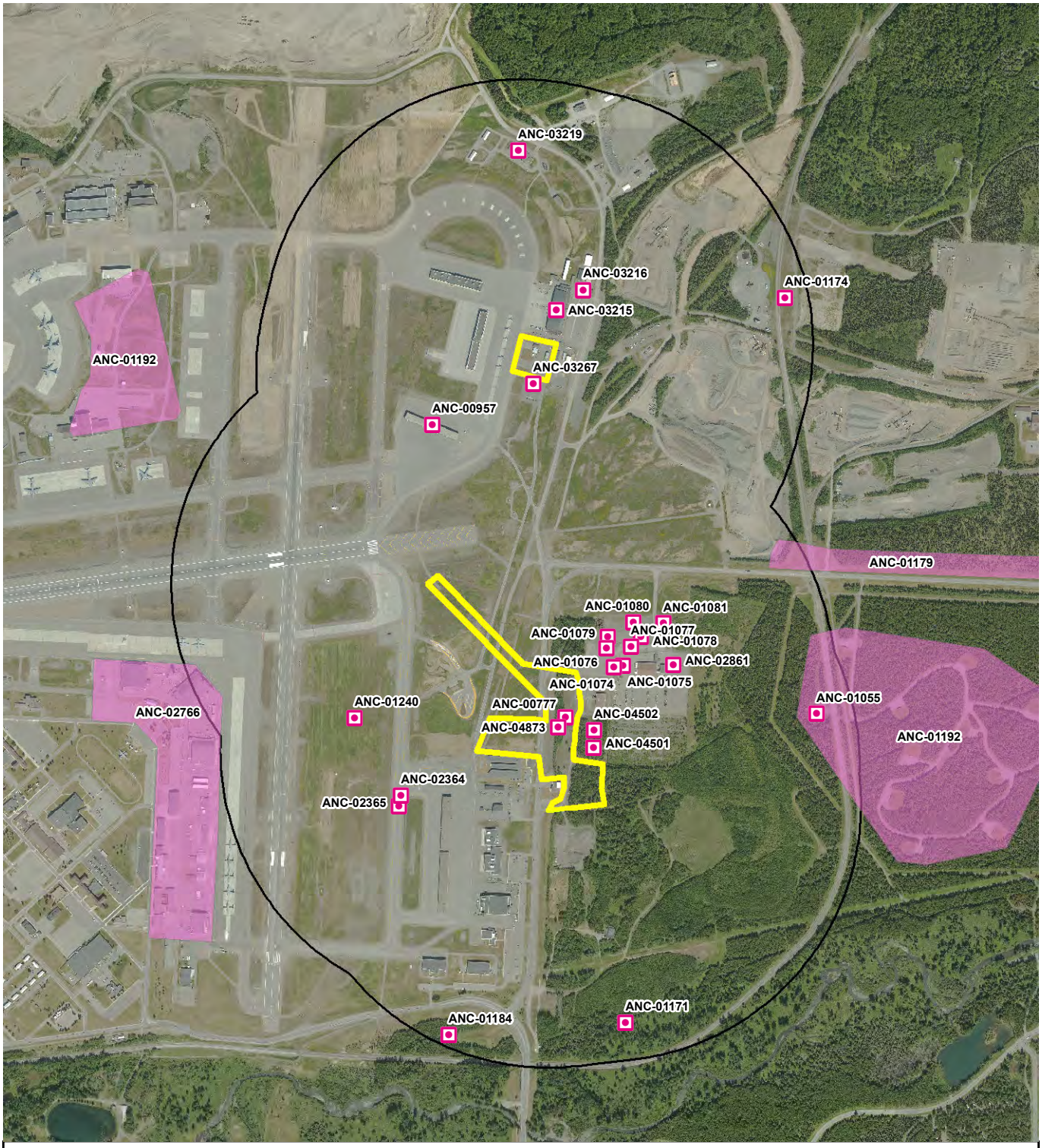
Table 2-1. Previously Recorded Resources within 0.5-Mile

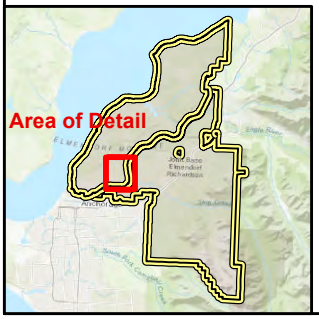
AHRS No.	Name	Description	Distance from APE	NRHP Status
ANC-00777	ALCOP Train	Alternate command post train cars	Within APE	Eligible Demolished
ANC-03267	Building 15699	Pump station	Within APE	Not eligible
ANC-04502	Stockpile of Lumber	Pile of lumber that could be a collapsed structure	300 feet east	Not eligible
ANC-04501	Structural Remains	Lumber and other structural remains	400 feet southeast	Not eligible
ANC-01074 to ANC-01081	World War II Structures	Eight buildings at what is now the DLA location	500 feet north	Each individually evaluated and determined not eligible Demolished
ANC-03215	Building 16716	Aircraft maintenance	775 feet north	Eligible
ANC-02364	Ammunition Storage Igloo	Building that stored ammunition	775 feet west	Not eligible Demolished
ANC-02365	Sentry Gate House	Building used in controlling access to former ammunition storage building	825 feet west	Not eligible Demolished
ANC-03216	Building 16718	Weapons maintenance	1,000 feet northeast	Eligible
ANC-02861	Railroad Pump House	Building that served as a fuel station for railroad maintenance	1,000 feet east	Not eligible
ANC-00957	Building 15658/43-250	Hangar 16/Alert Hangar	1,125 feet southwest	Eligible
ANC-01240	Building 11634	Weather Station	1,500 feet southwest	Not eligible Demolished
ANC-01192	Ammo Bunker B	17 ammo bunkers with a safety zone and perimeter fencing	2,000 feet east	Not eligible
ANC-01179	Highway Foxholes	Potential foxholes and small bunkers	2,275 feet northeast	Not eligible
ANC-02766	Flightline Historic District	Hangars, runway aprons, and associated maintenance structures	2,445 feet west	Eligible
ANC-01174	Knob Site	Former bunkers	2,600 feet northeast	Not eligible Demolished

Notes:

ARHS = Alaska Heritage Resources Survey

no. = number





AHRS Point Location
AHRS Area
Area of Potential Effect (APE)
APE Buffer (1/2 mile)

1 inch = 1,500 feet

0 0.1 0.2 0.3 0.4 0.5

Miles

Imagery: GeoBase, June 19, 2023
WGS 1984 UTM Zone 6N

AHRS Sites

Cultural Resources Survey Report
F-22 Fuel Dispensing System
Joint Base Elmendorf-Richardson, Alaska

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DATE:	PROJECT MANAGER:	FIGURE NO:
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2.4 Archaeological Potential

The JBER area is likely to have hosted the following types of sites:

- Precontact residential sites (for example, campsites and villages)
- Resource gathering sites (for example, fish camps, traps, weirs, sea mammal hunting stations, and plant processing locations)
- Lithic sources, quarries, and scatters
- Resource storage sites (for example, caches and pits)
- Trails and markers (precontact and historic)
- Culturally modified trees (precontact and historic)
- Homesteads
- Military infrastructure
- Military training features
- Military use related scatters and debris

All of these site types have been identified on JBER, with the dominant site type being military infrastructure. The APE may have contained some of these types of resources. However, boring logs and historic photographs indicates extensive disturbance, reducing the archaeological potential. Fieldwork was designed to assess whether any undisturbed Holocene deposits that might contain precontact archaeological materials are present, and to identify any historic archaeological materials.

3. Methods, Results, and Recommendations

3.1 Methods

Archaeological fieldwork occurred between July 1 to 3 and was led by Secretary of Interior-qualified archaeologist Barbara Bundy, assisted by geologist Greta Freeman. Fieldwork was conducted as described in a Cultural Resources Work Plan which was submitted to SHPO for review in accordance with the *Programmatic Agreement Among 673d Air Base Wing, The Alaska State Historic Preservation Officer, and The Advisory Council on Historic Preservation Regarding the Operation, Maintenance, and Development Activities at Joint Base Elmendorf-Richardson and Associated Training Lands, Alaska*.

The archaeological fieldwork intended to verify the disturbance shown on aerial photographs and document the extent of any intact Holocene sediments. The fieldwork consisted of pedestrian survey augmented by subsurface tests. All survey locations were recorded using a handheld global positioning system device (Trimble R-1 with differential correction antenna).

Pedestrian transects were spaced at 15 meters in grassy areas, 10 meters in forest areas with minimal understory, and 7 meters in forest areas with heavy undergrowth. A metal detector was not used due to the presence of modern debris across the APE, and extensive utilities in portions of it.

Subsurface tests included excavation of 50-centimeter by 50-centimeter shovel probes, planned to a depth of approximately 1 meter, to Pleistocene-aged sediments, or to dense gravel deposits of obstructing rocks, whichever was encountered first. Sediment from the shovel probes was screened through a 1/8-inch mesh screen. Pedestrian surveys revealed steep cuts in some areas, which offered the opportunity to clear profiles with better visibility of stratigraphy. These profiles were cleared, recorded in notes, and photographed. All subsurface tests were backfilled upon completion.

Building 15699 Pump Station (ANC-03267) was visited during a preliminary site visit in 2023 with Jacobs and USAF staff. Photographs were taken by USAF personnel on account of the secure location of the site. A DOE was conducted on the site in 2018 (Maggioni and Bowman 2018) and recommended that it was not eligible for the NRHP, so no additional research was done in conjunction with this effort.

3.2 Results

3.2.1 Pedestrian Survey

Pedestrian survey occurred across the entire APE, with the following two exceptions:

- Transects were not walked at the proposed utility extensions, which were across a taxiway in active use by aircraft at the time of the survey. The area contained ammunition bunkers from the 1940s to the 1990s, and extensive disturbance from construction of the bunkers and adjacent runway is evident (see Figure 2-1).
- The Tank Farm 5 portion of the APE was not surveyed because it is paved with existing below-ground infrastructure in place(precluding subsurface investigation), and has minimal potential for archaeological resources. .

3.2.1.1 Tank Farm 6

Pedestrian survey in the Tank Farm 6 portion of the APE was conducted using 10-meter intervals. It confirmed the extensive disturbance indicated by aerial photographs. The forested area was observed to have an understory dominated by plant species associated with disturbed areas, including horsetails and non-native species such as dandelions and bird vetch. The ground surface across the landform was compact and lacked the distinctive duff layer found in undisturbed forested areas. In the northern and eastern portions of the Tank Farm 6 area (approximately 70% of the area), deep depressions and piles of gravel were observed. These are consistent with use as a materials source, as seen in the 1954 aerial photograph in Figure 2-1.

Several modern and nondiagnostic items were encountered during the pedestrian survey, as follows:

- Plastic food wrappers
- Modern beverage cans and plastic bottles
- Two metal fuel cans (jerry cans) with plastic or vinyl exterior wrap
- Seven irregularly shaped concrete post bases, one with a portion of a U-channel steel post still visible
- A portion of wire rope
- A section of rail approximately 8 meters long
- An iron rod approximately 2 meters long
- A brown glass “stubby” style bottle with the Anheuser-Busch logo on the neck, with a date code of 2016 on the base

None of the observed items were clustered, except for the concrete post bases that were generally in a line following the northern extent of the deep depression. None of the observed items were diagnostic to the historic period.

Recent tree-cutting was evident, generally of larger trees. This could be related to flight safety corridor maintenance.

3.2.1.2 Truck Fill Stand

Pedestrian survey in the truck fill stand area confirmed the presence of the fill prism constructed circa 2020, as well as the presence of buried water and power utilities.

3.2.1.3 Materials Staging Area

A pedestrian survey was also conducted in the materials staging area in between the truck fill stand and Tank Farm 6 locations. No ground disturbance is expected in this area, but items on the surface could be disturbed.

The location consists of mowed grassy areas to the east and west, with a heavily forested strip running north to south down the center of the area. The grassy areas revealed extensive evidence of buried utilities, particularly on the west side which is signed as a buried utilities corridor. In the grassy area on the east side, signage for a buried deicing fluid tank was observed, as well as two deep storm drains. There were several piles of nondiagnostic debris, primarily concrete chunks of various sizes and metal debris such as pipe segments. None of the observed items were diagnostic to the historic period.

In the central forested section of the location, remnants of the railroad that served the coal facility (and later occasionally housed the ALCOP Train) were observed. These include the following:

- A section of track that includes the rail and ties on the northern end; the rail is removed in some portions, but the ties are in place
- A siding that includes rail and ties
- A switch controlling movement to the siding from the main track, which includes a plastic switch signal
- An isolated tie
- A pile of rail-related debris including ties and sections of rail
- Two bumper stops, one on the track section and one on the siding
  - The bumper stops are bolt-on pyramidal design, of cast iron, painted yellow. They bear the stamps "Patent No. 1815917" and "Wasco Supply Co Chicago." The patent was granted in 1931; Wasco Supply Company appears to have operated in the 1950s (Keebler 1931; Dick 1955).
- Two rail trucks on the siding
  - Trucks are the assemblies that hold the wheel sets of a rail vehicle; the car sits atop a set of trucks. The trucks in the APE bear the stamped code "Barber S-2." This is a 70-ton self-centering rail truck introduced in the late 1950s and still in use today (Kadee n.d.).

There is also an electrical access box that appears to be 1980s or 1990s vintage, which may be connected to rail operation. Photographs are provided in Appendix A. Figure 3-1 presents a map of the rail features. The rail features have been recorded on an Alaska Heritage Resources Survey Site Form and assigned site number ANC-04873 (Appendix B).

The rail spur connected directly to the Alaska Railroad main line, which at the time was located west of the rail spur. The main line has been relocated and the abandoned portion that once passed through the APE and connected to the rail spur has been removed.

The rail spur is older than 50 years, though some of the associated artifacts and features are likely younger. The following analysis evaluates the rail spur under the four NRHP criteria for significance, then describes the property's integrity.

NRHP Criterion A describes properties that are eligible for their significant association with important events or broad patterns of history. The rail spur and associated equipment are associated with both the 1940s coal storage facility and the 1982 ALCOP Train.

Aerial photography shows that the coal facility was in place by 1947 and was no longer in use for that purpose by 1989 (see Figure 2-1). The rail spur is likely associated with the wartime buildup of the base, use of the existing Alaska Railroad in military development, and development of energy infrastructure to serve the base. However, research has not revealed that the construction of the rail spur or the provisioning of coal from the location was important in any of those historic themes.

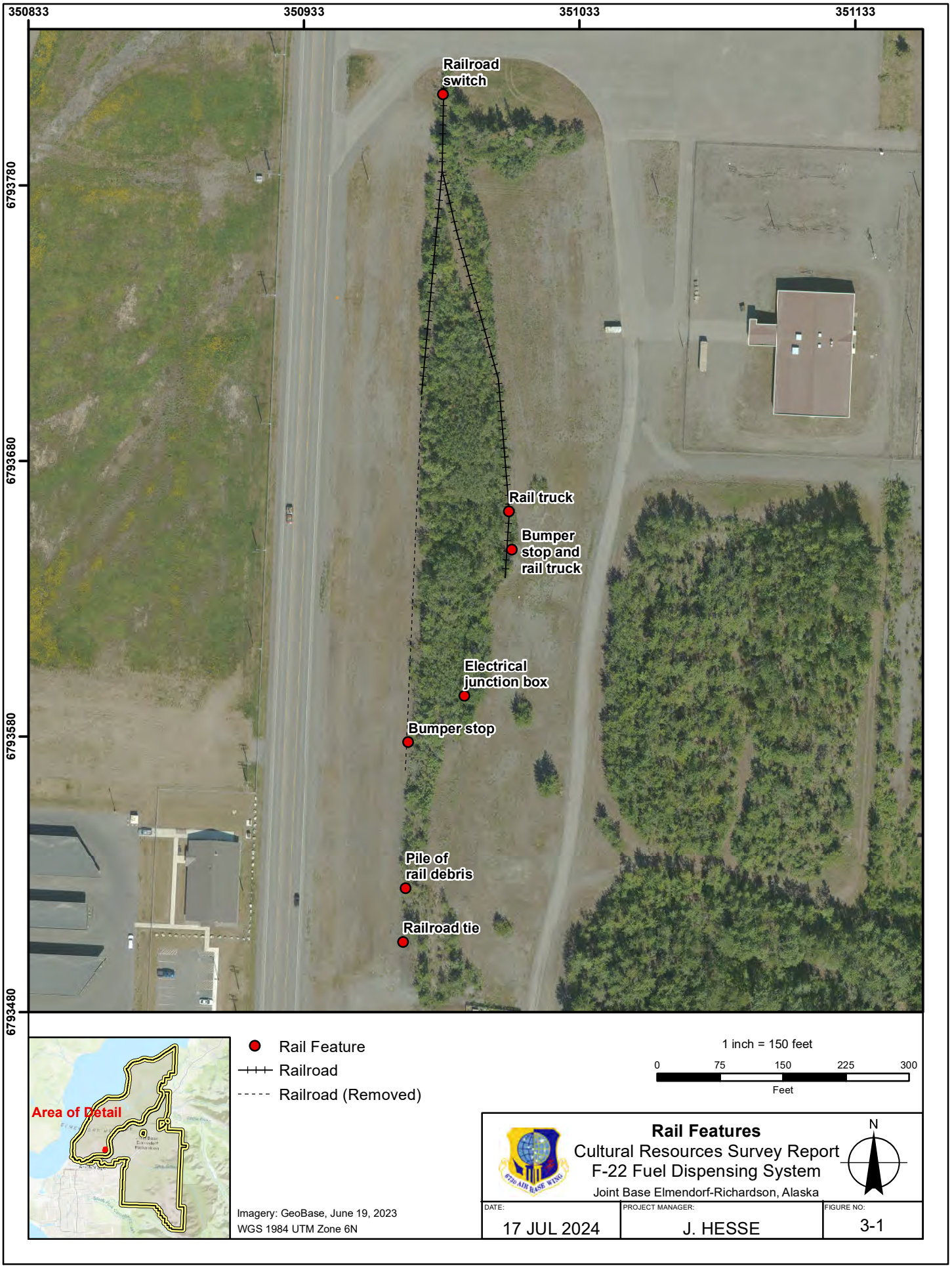
The ALCOP Train was used between 1982 and 1993 as an alternate location for the Alaska Command if Elmendorf were lost during a war. The ALCOP Train was historically significant before its demolition, as evidenced by its NRHP-eligibility. Contemporaneous accounts indicate that it was based at the "rail yard in Elmendorf" (Combs 2018), which is likely the rail spur location. However, it is no longer at the location. The rail spur appears to have been in active use before and after the removal of the ALCOP Train, so the two trucks, bumper stops, and electrical box are not likely significantly associated with it. Therefore, the

rail spur does not retain a strong association with the train. The rail spur is recommended not eligible under Criterion A.

NRHP Criterion B describes properties that are eligible for their association with important individuals and the significant events associated with them. Although several high-ranking military officers were involved with conceiving and funding the development of Elmendorf Airfield during World War II, as well as the later development of the ALCOP Train, research did not reveal any direct association between any important individuals and the construction or use of the rail spur. Therefore, the rail spur is recommended not eligible under Criterion B.

NRHP Criterion C describes properties eligible for their high artistic value, as the work of a master, or as the embodiment of the distinctive characteristics of a type, period, or method of construction. The rail spur and associated artifacts and features are of very common and unremarkable construction. Most of the elements are still in use today and can be found across the country. Therefore, the rail spur is recommended not eligible under Criterion C.

NRHP Criterion D describes properties that could yield information important in history or prehistory. The features of the site are on the surface and are common rail-associated items. The site lacks the ability to offer new information that could answer research questions about the construction of the base, the ALCOP Train, or other historic contexts. Therefore, the rail spur is recommended not eligible under Criterion D.



Rail Features
Cultural Resources Survey Report
F-22 Fuel Dispensing System
Joint Base Elmendorf-Richardson, Alaska

DATE:	PROJECT MANAGER:	FIGURE NO:
17 JUL 2024	J. HESSE	3-1

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The rail spur (ANC-04873) is still in its original location, on the base, so it retains integrity of location. The elements that compose the rail spur (ties, tracks, and switch) are still mostly in their original organization, though partially dismantled in one area, so it **retains a moderate level of integrity of design, materials, and workmanship**. The relation of the property to surrounding features and functions has changed. The rail spur no longer connects to the Alaska Railroad main line, which has relocated, and the forested surroundings have changed to military buildings and roadways. It is still a part of the military installation, so it **retains a moderate level of integrity of setting**. The rail spur was constructed of ballast, ties, rail, and appurtenances such as switches. Because the rail spur is disconnected from the Alaska Railroad, no longer serves as a rail yard, and does not serve military functions or host the ALCOP Train, it **does not retain integrity of feeling and association**. Overall, the property retains a moderate level of integrity.

Despite retaining a moderate level of integrity, the rail spur site (ANC-04873) lacks historical significance. It is recommended not NRHP-eligible.

3.2.2 Subsurface Testing

Subsurface testing was planned in the following portions of the APE:

- The Tank Farm 6 location
- The truck fill stand
- The pipeline tie-in

Subsurface testing was not planned at the Tank Farm 5 location (subsurface testing is precluded by existing infrastructure) and the materials staging area (no ground disturbance isproposed)..

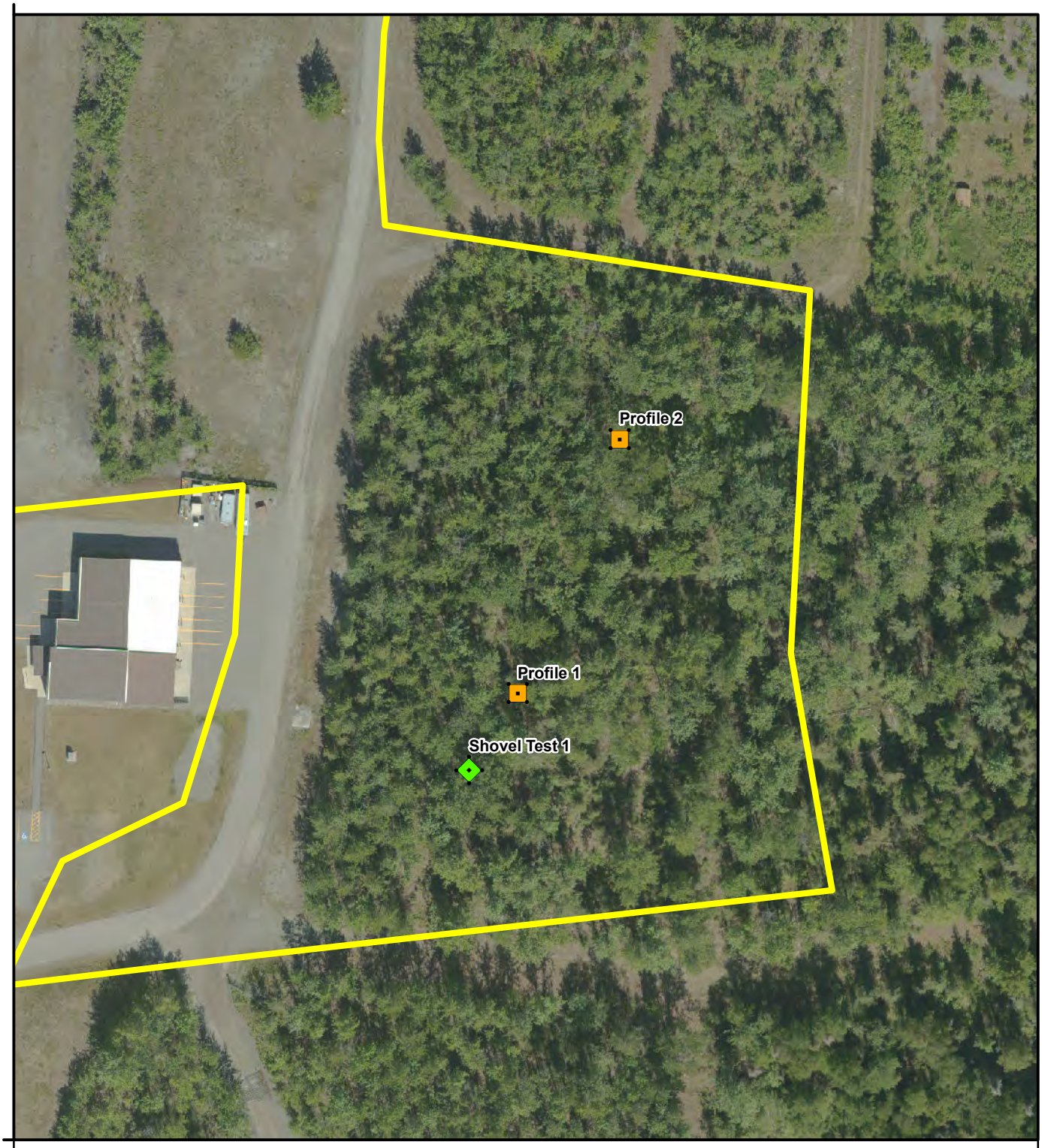
Based on the results of the pedestrian survey, together with evidence from aerial photographs and geotechnical borings, subsurface testing was not conducted at the pipeline tie-in and truck fill stand areas. These areas are extensively disturbed and have minimal archaeological potential.

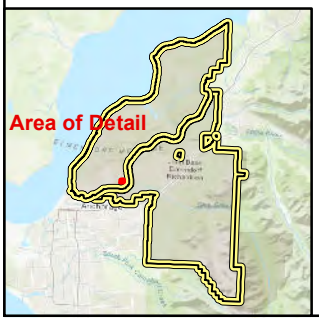
Subsurface testing was conducted at the Tank Farm 6 location, primarily to verify observations from aerial photographs, borings, and pedestrian survey, all of which indicated extensive disturbance from use as a materials source. Results are shown on Figures 3-2 and 3-3. One 50-centimeter by 50-centimeter shovel probe was excavated (SP1), which revealed an organic ground surface over a compacted, impenetrable deposit of chunks of coal. Other than the coal, no cultural materials were observed in the probe.

Given the compactness of the surface in SP1 and the landform in general, additional shovel probing seemed unlikely to reach deeper sediments, so profiles were cleared at two locations. The first was a tree throw where roots had exposed deeper sediments, and the second was a steep cut at the deep depression in the north part of the site.

At the tree throw, profile PR1 revealed a thin organic ground surface over 35 centimeters of yellowish-brown sandy loam with gravels and cobbles, lacking in soil development. This is interpreted as fill or redeposited disturbed sediments. Under the fill 23 centimeters of silty sand mixed blackened by coal fragments. At the steep cut, profile PR2 revealed 6 centimeters of organic ground surface over yellowish-brown sandy loam with gravels and cobbles. No soil development was evident, and this is interpreted to be fill or redeposited disturbed sediments.

Subsurface testing at the Tank Farm 6 location confirmed that the area is extensively disturbed and has little to no potential for significant archaeological materials.





Profile Location

Shovel Test

Area of Potential Effect

1 inch = 100 feet

0 50 100 150 200

Feet

N

Imagery: GeoBase, June 19, 2023
WGS 1984 UTM Zone 6N

Subsurface Test Locations
Cultural Resources Survey Report
F-22 Fuel Dispensing System
Joint Base Elmendorf-Richardson, Alaska

DATE:	PROJECT MANAGER:	FIGURE NO:
17 JUL 2024	J. HESSE	3-2

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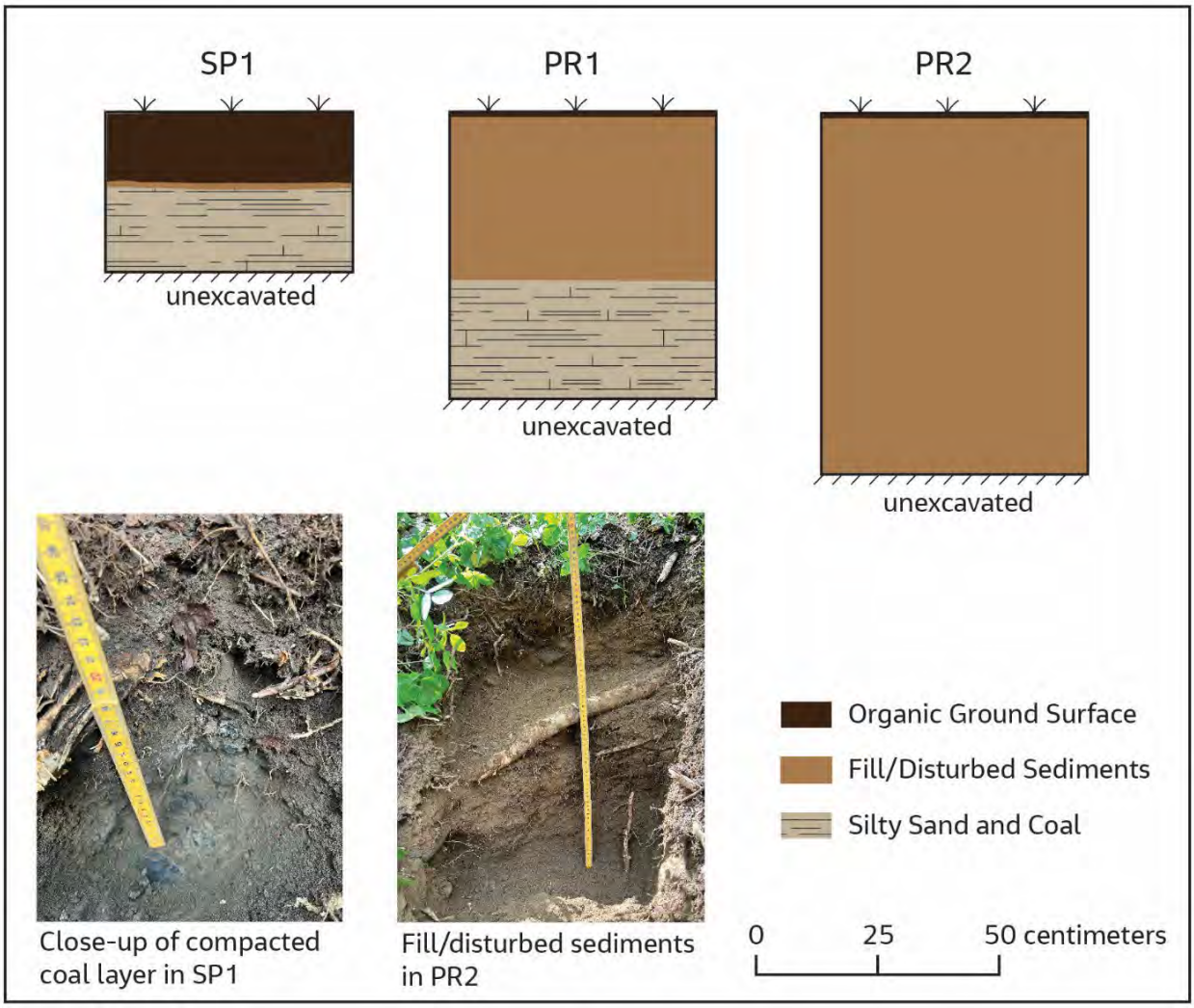
Figure 3-3. Subsurface Test Profiles



3.3 Recommendations

Background research and an archaeological field survey revealed one potential historic property in the APE: the rail spur site (ANC-04873). The site is recommended not NRHP-eligible. It is recommended that USAF determine that no historic properties will be affected by the project.

A post-review discovery plan should be kept onsite during any ground disturbance to guide actions in the event of an unanticipated discovery.

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Appendix A
Photographs

A.1 Tank Farm 6 Location

Photograph 1. Conditions at the Tank Farm 6 location. Facing east.

Photograph 2. Conditions at the Tank Farm 6 location. Facing west.

Photograph 3. Metal jerry can with plastic/vinyl wrapping.

Photograph 4. Cast iron rod.

A.2 Materials Storage Location

Photograph 5. Conditions at the materials storage location. Facing north.

Photograph 6. Debris pile at the materials storage location. Facing south.

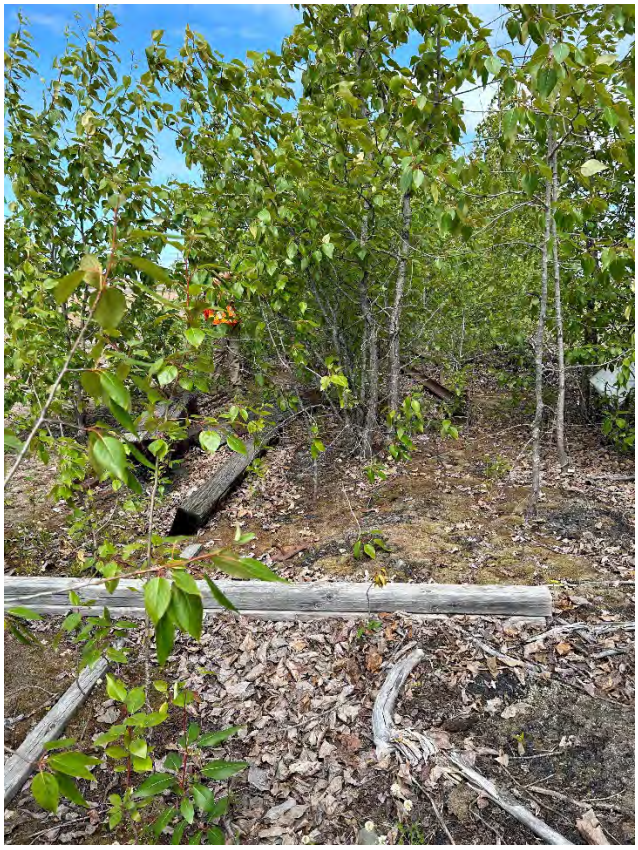
A.3 Rail Spur Site at the Materials Storage Location

Photograph 7. Northern extent of the rail spur site. Facing north.

Photograph 8. Convergence of main rail (left) and siding (right). Facing north.

Photograph 9. Portion of rail spur with rail removed. Facing south.

Photograph 10. Rail switch. Facing southeast.



Photograph 11. Pile of rail debris (ties, rail segment). Facing north.

Photograph 12. Bumper stop and second (southern) truck on rail siding. Facing west.

Photograph 13. Manufacturer's stamp on second (southern) truck on rail siding. Facing west.

Photograph 14. Manufacturer's stamp on bumper stop on rail siding. Facing west.

Photograph 15. First (northern) truck on rail siding. Facing west.

Photograph 16. Electrical access box. Facing southwest.

A.4 Truck Fill Stand Location

Photograph 17. Conditions at the truck fill stand location. Facing east.

Photograph 18. Conditions at the truck fill stand location. Facing north.

Appendix B
Site Form

Alaska Heritage Resources Survey Site Form

Date Received:07/19/2024

Alaska Department of Natural Resources, Office of History and Archaeology
550 W. 7th Ave., Suite 1310 Anchorage, AK 99501-3565
Phone: (907) 269-8718; Fax (907) 269-8908
http://www.dnr.state.ak.us/parks/oha/index.htm

1. **Type of Form**: New

2. **AHRS Number**: ANC-04873

3. **Site Name**: JBER Rail Spur

4. **Description**: The site includes remnants of a railroad spur that served a coal storage facility constructed sometime between 1939 and 1947. It is located in what is otherwise a vacant lot west of Vandenberg Avenue (about 300 meters south of the intersection with the Davis Highway). The site is approximately 250m x 30m, and is located in a forested area of the lot. Site contents include the following: section of track that includes the rail and ties on the northern end (the rail is removed on the southern end but the ties are in place); a siding that includes rail and ties; a switch controlling movement to the siding from the main track; an isolated tie; a pile of rail-related debris including ties; two bumper stops, one on the track section and one on the siding; and two rail trucks on the siding (one is at the southern extent next to a bumper stop, the other is north of it). There is also an electrical access box that appears to be 1980s or 1990s vintage, that may be connected to rail operation.

5. **Cultural Significance**: The site is likely associated with the initial phase of development of the military base during World War II, when it served a coal storage facility. It was also occasionally used as a tie-down location for the Alternate Command Operations Train (ALCOP; AHRS Number ANC-00777). The coal storage facility and ALCOP Train are no longer extant, and the Alaska Railroad line that the spur connected to has been relocated.

6. **Associations**: Joint Base Elmendorf-Richardson

7. **Location Information**: From the Boniface Road Gate, continue north. Take a left on Vandenberg Avenue. Continue north approximately 800 meters. The southern end of the site is across Vandenberg Avenue from the F-22 Raptor fuel truck fill stand.

8. **Location Reliability**: Location Exact and Site Existence Verified (1)

9. **AHRS Resource Nature**: Site

10. **Resource Nature Subtype**:

11. **Resource Keywords**: railroad, rail spur, rail siding, train

12. **Site Area (Acres):** 1.5

13. **Period Codes**: Historic

14. **Associated Dates**: 1940s-1990s

15. **Cultures**: Euroamerican

16. **Prehistoric/Historic Function**: Military rail; coal transport and train tie-down

17. **Current Function**: Abandoned

18. **Condition Code**: Normal state of weathering and investigated (AC)

19. **Destruct Codes**:

20. **Destruct Year**:

21. **Owner Info**: Department of Defense

22. **Source Reliability**: Professional Reports, Records, and Field Studies (A)

23. **Form Author**: Barbara E. Bundy

24. **Date Completed**: 7/15/2024

25. **Record Status**: Complete

26. **Other Number(s)**:

27. **Artifact Repository**:

28. **Attachments** (File Name):

Alaska Department of Natural Resources, Office of History and Archaeology
550 W. 7th Ave., Suite 1310 Anchorage, AK 99501-3565
Phone: (907) 269-8718; Fax (907) 269-8908
http://www.dnr.state.ak.us/parks/oha/index.htm

29. **Location Information** (Decimal Degrees, NAD 83 Datum):
Latitude: 61.248517 Longitude: 149.777433

30. **Attach a portion of appropriate Aerial Photograph and U.S.G.S Quad Map** or detailed sketch map showing the location of the site relative to surrounding natural landforms, water bodies and/or city or town landmarks. (Either include it in the space provided or attach in a separate file).

Caption: USGS 1:25,000 Topographic Map, Anchorage B-8 and A-8

Caption: Click or tap here to enter text.

31. **Summary Artifact Tables** (Insert table that notes artifact type, material, count, and any notes, including associated date ranges, if appropriate). Replace representative table if appropriate.

Artifact Type	Artifact Material	Number of Artifacts	Notes

32. **Representative Site Photos** (Caption photos, note direction taken, add as many as necessary)

Caption: Main rail spur, facing north

Caption: Convergence of main rail spur and siding, facing north

Caption: Rail switch, facing southeast

Caption: Bumper stop and southern rail truck

Caption: Northern rail truck, facing south

Caption: Concentration of rail-related debris, facing north