Final Site-wide Programmatic Environmental Assessment

Fairbanks Command and Data Acquisition Station,
Fairbanks, Alaska

National Oceanic and Atmospheric Administration
National Environmental Satellite, Data, and Information Service

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SUMMARY

Background and Purpose

The National Oceanic and Atmospheric Administration (NOAA) National Environmental Satellite, Data, and Information Service (NESDIS) is a part of the United States (U.S.) Department of Commerce (DOC) and operates Geostationary Operational Environmental Satellites (GOES) and Polar-orbiting Operational Environmental Satellites (POES) which collect information on atmospheric, oceanic, and terrestrial environmental conditions. Data from these satellites are distributed to many government, industry, and private organizations throughout the world. Examples of information collected by NESDIS satellites include tracking the movement of storms, volcanic ash, and icebergs; measuring cloud cover; measuring temperature profiles in the atmosphere and the temperature of ocean surfaces; collecting infrared and visual information; and measuring atmospheric ozone levels. The data are used to prepare short-range and long-range meteorological forecasts, monitor important environmental parameters, provide information critical to aviation and maritime safety, aid search-and-rescue missions, and assist in national defense and security.

This Programmatic Environmental Assessment (PEA) has been prepared in compliance with the National Environmental Policy Act of 1969 (NEPA) and NOAA Administrative Order 216-6, Environmental Review Procedures for Implementing the National Environmental Policy Act. It addresses the potential effects, beneficial or adverse, associated with continuing existing NESDIS operations, expanding operations, and improving facilities at the Fairbanks Command and Data Acquisition Station (FCDAS), as outlined in a 2015 Facility Master Plan (FMP). This PEA provides analysis for the proposed projects outlined in the 2015 FCDAS FMP as they are currently scoped. Additional site-specific project review, would be conducted before project onset to ensure that future scope is in accordance with this PEA. If the project scope or environmental baseline changes, then this document lays the foundation for subsequent analyses and decision-making of individual tiered projects. It is intended to eliminate repetitive discussions of the same issues and focus on the key issues at each level of project review.

The FCDAS is located in a protected valley within an 8,855-acre federal land holding, which was withdrawn from public use to protect operation of the FCDAS. The withdrawal was established in 1965 when the Department of the Interior, Bureau of Land Management (BLM) issued Public Land Order (PLO) 3708 giving control of the withdrawal property to the National Aeronautics and Space Administration (NASA). In 1989, BLM issued PLO 6709, which transferred control of the FCDAS withdrawal from NASA to NOAA. In 2008, BLM issued PLO 7710, which extended NOAA control of the withdrawal from 2009 until 2029. The majority of the withdrawal property is hilly, undeveloped, forested land. This topographical attribute blocks external radio interference from penetrating the valley containing the FCDAS. This blockage results in very low background levels of radio noise greatly assisting NESDIS in accomplishing its vital missions.

The 2015 FCDAS FMP incorporates the latest NOAA/NESDIS assessment of developmental issues and the vision for the future. The FCDAS staff and NESDIS management engaged in determining future equipment and facility support needs. Planning was based on support for existing activities, known mission changes, improving station quality of life, and preparation for additional missions where practicable.

Under this PEA there are three alternatives analyzed: (1) the Proposed Action, (2) the FCDAS Decommission Alternative, and (3) the No Action Alternative. Alternative 2 has been included to assist NESDIS in planning purposes only, not as regarding any current or near-future land use plans of FCDAS, but as a consideration related to the end of the land withdrawal period in 2029.

Description of Proposed and Alternative Actions

NOAA/NESDIS proposes to implement the 2015 FCDAS FMP which outlines a suite of construction projects, thereby ensuring adequate facilities for existing operations, and for potentially expanding operations. The 2015 FCDAS FMP outlines both short- and long-term goals for the physical development of the station. It provides a durable framework that NOAA/NESDIS management can use over the next 5-10 years to help focus energy and future development into specific areas that support the long-term vision for the station.

The 2015 FCDAS FMP identified development objectives using the following factors:

- Maintain and improve existing facilities to support current and future NOAA missions;
- Additional space or new facility requirements for current programs;
- Prudent planning decisions now that will result in best use of the property into the future; and
- Need to consolidate activities and demolish deteriorated facilities.

The 2015 FCDAS FMP identified proposed projects comprised of a combination of new construction, renovation, and demolition at FCDAS (Table 1), as well as the Northern Latitude Development Plan (NLDP). The NLDP includes the potential for projects to be completed at either the Barrow, Alaska Observatory (BRW) or a yet-to-be specified site in Deadhorse, AK.

Under the Proposed Action, capital improvement projects would be implemented consistent with the FCDAS FMP vision. The Proposed Action would allow the FCDAS to realize the infrastructure improvements necessary to support the mission. The new construction proposed within the 2015 FCDAS FMP provide new space in certain areas where shortfalls have been identified. Facility renovation projects focus on improving the existing facility stock by making facilities more flexible, enhancing their appeal to potential partners, and performing period maintenance required to extend their lifespans. Demolition projects clear aging and deteriorated facilities and antennas that have exceeded their useful life. The identified facilities and antennas are not usable, and through demolition, NOAA can create new buildable areas, reduce safety concerns and maintenance costs on unusable facilities, and improve Station efficiency and aesthetics.

Table 1 – Summary of Proposed Projects

Number of Projects	Type of Work	Scope of Land Disturbance	
		Square Feet	Acres
9	Demolition	140,725	3.2
9	New Construction	357,320	8.2
3	Underground Electrical	351,225	8.1
2	Fencing	455,000	10.5
4	Roads and Paving	383,325	8.8
7	Surveys, Equipment, Interior Only	0	0.0
34		**1,687,595**	**38.8**

This PEA analysis indicates that no major adverse environmental impacts would result from implementing the Proposed Action. NOAA/NESDIS incorporated into this Final PEA comments received on the Draft PEA during the comment period. The comments received have been included in Appendix C. As a result, a determination has been made that a Finding of No Significant Impact (FONSI) for the Proposed Action is supported and appropriate, and that the preparation of an Environmental Impact Statement is not warranted.

Under the FCDAS Decommission Alternative, the FCDAS and the withdrawn land would be returned to the Bureau of Land Management (BLM) per Conditions of Acceptance regulations at 43 CFR Part 2370, Subpart 2374.2. While not anticipated to be required, the maximum effort scenario is used for analysis within this PEA. The maximum effort is defined as the demolition of all buildings, any substructures, antennas, roads, and infrastructure.

Under the No Action Alternative, the proposed capital improvements to the FCDAS would not be implemented and the operation at FCDAS would proceed in its present status, albeit at increasing rate of mission compromise due to unabated facility degradation. The No Action Alternative serves as a baseline against which the impacts of the Proposed Action are evaluated.

Environmental Consequences and Mitigation

It is important to note that the entire valley floor within the FCDAS has been previously disturbed by past mining activities. All of NOAA facilities within the valley were constructed on mine tailings that filled the valley. Additionally, the developed portion of FCDAS is subject to regular landscape maintenance activities. Combined, these factors suggest that there is little or no potential for any future project to impact resources such as locally important soils, native vegetation, wildlife habitat, or subsistence resources within the valley floor area of the FCDAS.

Implementation of the projects proposed in the 2015 FCDAS FMP would result in minor physical changes in the FCDAS environment. However, the amount of vehicle traffic, noise, and emissions of air pollutants resulting from implementation of the Proposed Action would be temporary and

minor. No long-term impacts to traffic, noise, or air quality would result from execution of the Proposed Action. Construction expenditures would represent a very modest beneficial impact to the local economy. There might be short-term and potentially long-term increases in employment at the FCDAS associated with the Proposed Action. The census tract containing the FCDAS has higher median household income, a lower unemployment rate, a lower percentage of persons living in poverty, and a lower percentage of minority persons than those in Fairbanks North Star Borough (FNSB) as a whole. No adverse or disproportionately high numbers of environmental effects on minority or low-income communities would result from implementation of the Proposed Action. Socioeconomic impacts would be beneficial, but minor.

Implementation of the Proposed Action would not significantly adversely affect ecological or natural resources. No adverse effects would occur to protected species and only minor impacts would occur to wildlife habitat, because most proposed projects would occur in already impacted areas. Minor impacts would result from direct loss of habitat and temporary displacement due to construction disturbance. The proposed construction activities would not occur in waters or wetlands subject to federal jurisdiction. There would be no adverse effects to wetlands or to the 100-year floodplain. Farmland and designated Wild and Scenic Rivers are not present at or near the FCDAS.

No prehistoric or historic archaeological sites were identified in the areas of the Proposed Action during surveys conducted between 1999 and 2011. There are no cultural resources listed on the National Register of Historic Places (NRHP) within the FCDAS. On May 15, 2002, the FCDAS was determined eligible for listing as a Historic District by the Alaska State Historic Preservation Officer (SHPO) and Department of the Environment. The site was deemed eligible for listing under the NRHP Criteria A (associated with significant events) and Criteria C (embodies distinctive characteristics). The Old Operations Building and the 9m and 12m antennas (to be demolished), as part of the Historic District, have been determined to be eligible for the NRHP. Subsequently, Memorandums of Agreement (MOAs) and mitigation actions were completed among NOAA/NESDIS, the Alaska State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP).

The FCDAS Decommission Alternative would deactivate the station and the withdrawn land would be returned to the BLM. BLM regulations at 43 Code of Federal Regulations (CFR) Part 2370, Subpart 2374.2, Conditions of Acceptance by BLM, stipulate requirements before BLM could accept accountability and responsibility for the former withdrawal land.

Selection of the FCDAS Decommission Alternative could result in long-term, significant impacts to cultural resources as the infrastructure at the FCDAS has been determined eligible as a Historic District. Under this alternative, the land would revert to the BLM. An inventory and assessment of cultural resources and historic properties located within the 8,855-acre NOAA boundary might be required. Consultation with the Alaska SHPO and other interested parties would be required under Section 106 of the NHPA. It is anticipated based on previous actions that an MOA could

mitigate impacts so that compliance with mitigation measures identified during the consultation process would avoid or minimize any potential effects on historic properties.

Under the No Action Alternative, the proposed capital improvements to the FCDAS would not be implemented. The proposed upgrades to the FCDAS facilities would not occur, and the expected benefits of modernization would not be achieved. The ability to continue NESDIS operations and expand operations, eventually, would be compromised. The benefits of enhancing and expanding the mission capabilities of NESDIS as well as of optimizing the functional efficiencies of the FCDAS would not be achieved. Similarly, the benefits of eliminating the FCDAS facility and infrastructure shortfalls would not occur. Under this alternative, the FCDAS would continue at its current levels of operation, but at an increasing risk of mission compromises due to continued facility degradation.

Implementation of the No action Alternative would not result in significant environmental effects as long as FCDAS continues to follow existing environmental practices.

Summary of Findings

No significant effects to the natural or human environment are expected from implementation of the Proposed Action, as defined in 40 CFR Section 1508.27 of the Council on Environmental Quality (CEQ's) Regulations for Implementing NEPA. Overall, implementing the Proposed Action would result in a substation improvement of the FCDAS facilities.

Effects of the Proposed Action can be grouped in two major categories: local effects and global effects. Local effects can be grouped into three categories:

- Beneficial impacts: Most of the proposed projects would have a beneficial impact to the socioeconomics of the Fairbanks area. Examples of projects with beneficial impact to strictly traditional environmental resources include: the Powerhouse Rehabilitation, demolishing multiple old, unused, and dilapidated facilities which would have a beneficial impact to energy consumption. The Powerhouse project will provide a beneficial impact to (improved) air quality.

- Little or no impact: More than half of the proposed projects would have little-to-no impact on the environment. Examples of these projects include: Road Repairs, Phase 4, Survey/As-built FCDAS Utilities, Install 3M Antenna on Facilities Building, Repair Roof of IRF, Install Water Meters, New Potable Water Well, FSOF Addition, and the project in the NLDP.

- Adverse impacts: Six of the proposed projects would have adverse impacts to the environment because they occur in locations currently undeveloped. However, these impacts would be minor in nature, not significant. These projects are the new Looped

Electrical Feed, Security Fencing (Phases 1 and 2), Government Road Extension and Improvement, Redundant Primary Electrical Feed, and the Future Antenna.

Global effects of enacting the Proposed Action are based on improvement of condition of facility and infrastructure at the FCDAS. Maintaining these elements in good condition ensures long term successful mission accomplishment. In turn, this ensures the high quality environmental data NOAA provides to its customers around the world as part of its science, service, and stewardship missions. Readily apparent examples of which are daily and emergency weather forecasting. These do benefit the human environment on a global scale.

ABBREVIATIONS & ACRONYMS

ACEP	Alaska Center for Energy and Power
ACHP	Advisory Council on Historic Preservation
ADEC	Alaska Department of Environmental Conservation
ADFG	Alaska Department of Fish and Game
ADNR	Alaska Department of Natural Resources
ADOT&PF	Alaska Department of Transportation and Public Facilities
ANILCA	Alaska National Interest Lands Conservation Act
BEO	Barrow Environmental Observatory
BLM	Bureau of Land Management
BMP	Best Management Practice
BRW	Barrow, Alaska Observatory
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CESQG	Conditionally Exempt Small Quantity Generator
CFR	Code of Federal Regulations
CMP	Coastal Management Program
CT 19	Census Tract 19
CWA	Clean Water Act
C3	Command, Control and Communications
dBA	A-weighted decibels
DOC	Department of Commerce
EO	Executive Order
FCDAS	Fairbanks Command and Data Acquisition Station
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
FMP	Facilities Master Plan
FONSI	Finding of No Significant Impact
FNSB	Fairbanks North Star Borough
FSMP	Federal Subsistence Management Program
FSOF	Fairbanks Satellite Operations Facility
GHG	Greenhouse Gas
GOES	Geostationary Operational Environmental Satellite(s)
HWMP	Hazardous Waste Management Plan
JPSS	Joint Polar Satellite System
LEED	Leadership in Energy and Environmental Design
Leq	Equivalent continuous sound levels
MOA	Memorandum of Agreement
MSL	mean sea level
NAAQS	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NESDIS	National Environmental Satellite, Data, and Information Service
NHPA	National Historic Preservation Act
NLDP	Northern Latitude Development Plan
NOAA	National Oceanic and Atmospheric Administration

NOI	Notice of Intent
NOT	Notice of Termination
NPR-A	National Petroleum Reserve - Alaska
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSB	North Slope Borough
OSD	Office of Systems Development
PCBs	Polychlorinated Biphenyls
PEA	Programmatic Environmental Assessment
PEL	Planning and Environmental Linkage study
PM	Particulate Matter
POES	Polar-orbiting Operational Environmental Satellite(s)
SHPO	State Historic Preservation Officer
SNPP	Suomi National Polar-orbiting Satellite Partnership
SPCCP	Spill Prevention, Control, and Countermeasure Plan
SWPPP	Storm Water Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey

1 INTRODUCTION

1.1 Purpose and Need of the Environmental Assessment

This Programmatic Environmental Assessment (PEA) addresses the potential effects, beneficial or adverse, associated with continuing existing National Environmental Satellite, Data, and Information Service (NESDIS) operations, expanding operations, and improving facilities at the Fairbanks Command and Data Acquisition Station (FCDAS) as outlined in the 2015 Facility Master Plan (FMP). The FCDAS is located in the Fairbanks North Star Borough (FNSB) Alaska (Figure 1). The 2015 FCDAS FMP contains a listing of future projects, which comprise a long-term roadmap for capital improvements at the FCDAS.

This PEA addresses the most reasonably foreseeable actions at the FCDAS within a 5-10 year planning horizon. The proposed projects will maintain, enhance, and expand mission capabilities at the station, reduce or eliminate facility and electrical infrastructure shortfalls, and optimize the functional efficiencies by providing additional antenna infrastructure, additional operational space, and redundancy of critical electrical, communication, and mechanical infrastructure. The purpose of the Proposed Action is to continue to meet these goals and to posture the ability of the FCDAS to meet its current mission and to support a potential for a growing mission base.

This document evaluates the elements of the Proposed Action in broad terms, on a programmatic level, and identifies potential changes in the natural, cultural, and human environments that could result from the implementation of the Proposed Action. This evaluation is fully described in Section 3.

This PEA complies with Federal legal requirements for implementing NEPA of 1969, the President's Council on Environmental Quality (CEQ) regulations set forth in Title 40 Code of Federal Regulations (CFR) Parts 1500–1508 and NOAA Administrative Order 216-6, Environmental Review Procedures for Implementing the National Environmental Policy Act. Based on the findings of this PEA, a decision has been made to issue a Finding of No Significant Impact (FONSI).

1.2 Background

NOAA/NESDIS is a part of the United States (U.S.) Department of Commerce (DOC) and operates Geostationary Operational Environmental Satellites (GOES) and Polar-orbiting Operational Environmental Satellites (POES) which collect information on atmospheric, oceanic, and terrestrial environmental conditions. Data from these satellites are distributed to many government, industry, and private organizations around the world. Examples of information collected by NESDIS satellites include tracking the movement of storms, volcanic ash, and icebergs; measuring cloud cover; measuring temperature profiles in the atmosphere, and the temperature of ocean surfaces; collecting infrared and visual information; and measuring

atmospheric ozone levels. The data are used to prepare short-range and long-range meteorological forecasts, monitor important environmental parameters, provide information critical to aviation and maritime safety, aid search-and-rescue missions, and assist in national defense and security.

Fairbanks Command and Data Acquisition Station

The FCDAS is situated on an approximate 8,855-acre federal land holding, which has been withdrawn from public use to protect operation of the FCDAS (NOAA, 2007). The majority of the withdrawal property is hilly, undeveloped, and forested, serving as a buffer against external radio interference (Figures 1 and 2).

Facilities at FCDAS support operations of GOES and POES satellites operated by NOAA and satellites of other organizations. FCDAS supports the GOES coverage over the western Pacific (GOES West satellite [GOES-9]), on behalf of the Japan Meteorological Agency. The GOES mission, fielded in 2003, provides a constant vigil for the atmospheric "triggers" for severe weather conditions such as tornadoes, flash floods, hailstorms, and hurricanes. GOES satellite imagery is also used to estimate rainfall during the thunderstorms and hurricanes for flash flood warnings, as well as estimate snowfall accumulations and overall extent of snow cover. Satellite sensors detect ice fields and map the movements of sea and lake ice. FCDAS provides backup GOES-W operations for the Wallops CDAS. Other programs operate on the station as well (see bullets below).

The FCDAS serves important command, control, and communication (C3) missions for NOAA's GOES, Joint Polar Satellite System (JPSS), and POES programs, and it supports scientific activities undertaken by U.S. and foreign scientific organizations. In this role, the FCDAS transmits radio messages containing operational instructions for the satellites and receives data on atmospheric, oceanic, and geophysical conditions throughout the world, which are collected by the satellites. It is expected that the FCDAS will also support other satellite systems in the future and will continue to be a focal point for NOAA satellite operations (FCDAS FMP, 2015). The station is an international cooperative scientific preserve contributing to national and international interests. As noted, the station's primary purpose is to provide operations support of the NOAA polar-orbiting, meteorological spacecraft missions and to distribute the spacecraft-derived environmental products to users. The array of worldwide users ranges from local private, commercial, and research interests to the National Weather Service, Department of Defense, and other federal agencies, that include:

- Polar-orbiting Operational Environmental Satellite Program (POES);
- Defense Meteorological Satellite Program (DMSP);
- Joint Polar Satellite System (JPSS);
- European Organization for the Exploitation of Meteorological Satellites (EUMETSAT);
- Coriolis mission carries Navy's WindSat microwave polarimetric radiometer and Air Force's Solar Mass Ejection Imager;

- Ocean Surface Topography Mission/Jason-2 – this mission is a joint effort by NOAA, National Aeronautics and Space Administration (NASA), EUMETSAT, and France's Centre National d'Etudes Spatiales (CNES);
- Barrow Station Remote Operations;
- Constellation Observing System for Meteorology, Ionosphere, and Climate (COSMIC);
- NASA Earth Observing System (EOS) Program;
- Landsat Data Continuity Mission (LDCM);
- Geostationary-orbiting Operational Environmental Satellite Program (GOES);
- Search and Rescue Satellite Aided Tracking System (SARSAT); and
- Geographic Information Network of Alaska (GINA) for the University of Alaska Fairbanks (UAF).

Barrow Support Station (Remote Facility)

In 2001, the NESDIS Office of Systems Development (OSD) Ground Systems Division installed a proof of concept POES system (3-meter Sea Space antenna) earth station on the grounds of the NOAA-operated Barrow Observatory (BRW) at Barrow, Alaska (located at 71.323N latitude and approximately 500 miles northwest of FCDAS). The installation was intended to explore the capability of a new earth station for supporting the POES program. The experimental antenna was installed to clarify the ability to obtain superior look angles to the existing POES satellite constellations from Barrow. The 2001 project was part of a long-range plan to improve the polar satellite ground systems command and data downlink capabilities. To date, the experimental system in Barrow is proving to be a reliable stream of scientific and operational data for POES spacecraft in low earth orbits not previously visible from FCDAS, and itadds significantly to National Weather Service observations and forecasting. The POES satellites are currently downloading data to the Barrow experimental antenna in L and S bands. Uplink and the highest data rate telemetry capability are not incorporated into the Sea Space system at this time. A 4-meter command and uplink antenna is also installed at the Barrow test site. An upgrade project to install a 5-meter Datron antenna with transmit/receive capability was completed in 2010.

The high-latitude location of FCDAS and the BRW make it an ideal choice for support of polar-orbiting spacecraft, since stations at lower latitudes cannot access as many passes during a 24-hour day cycle as a station at high latitude (FCDAS FMP, 2015).

Figure 3 shows the approximate BRW location with respect to Barrow and Deadhorse, Alaska. Figure 4 shows a detailed map of the BRW.

Figure 1 – FCDAS Location Map

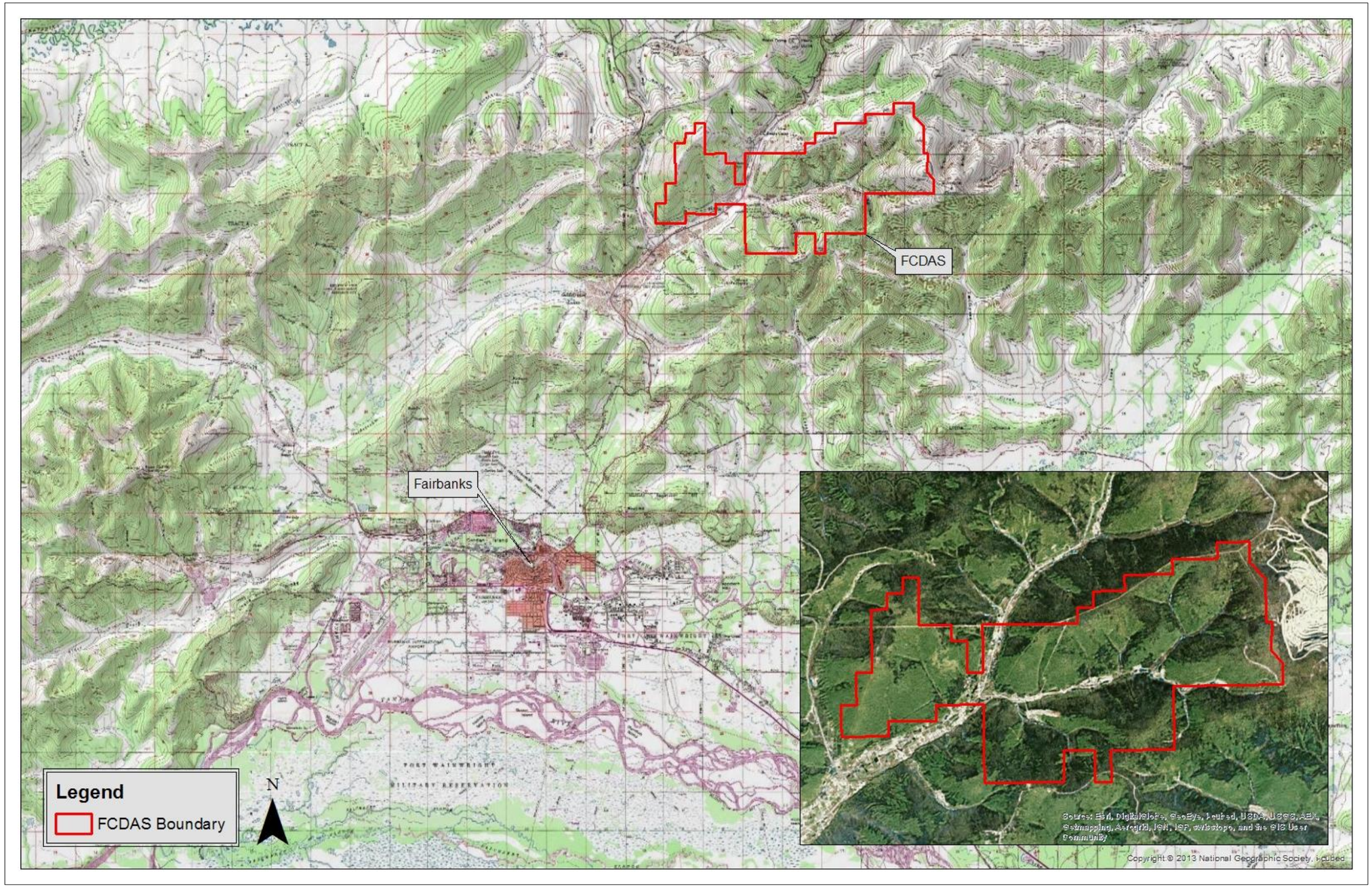


Figure 2 – FCDAS Detail Map

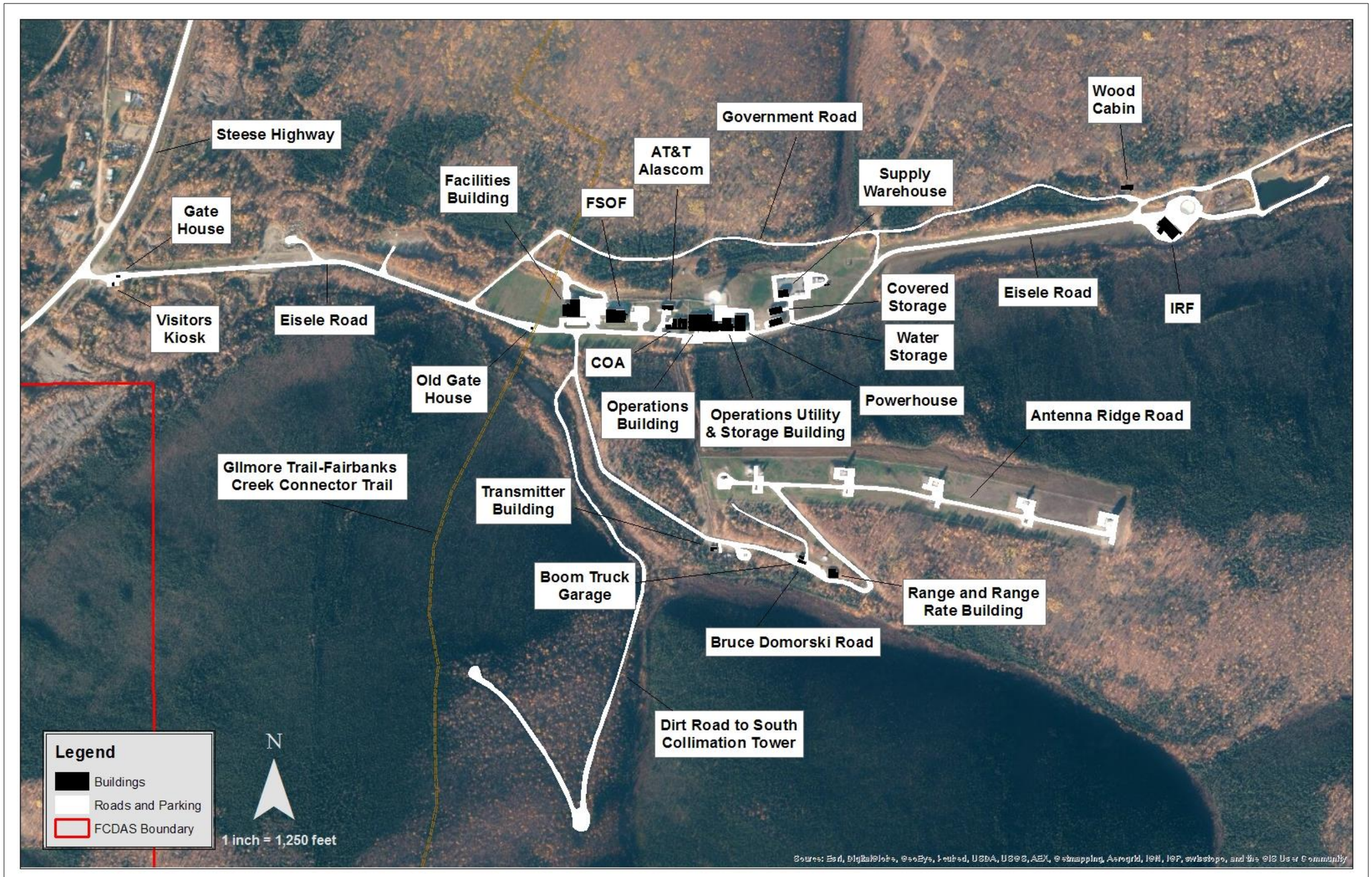
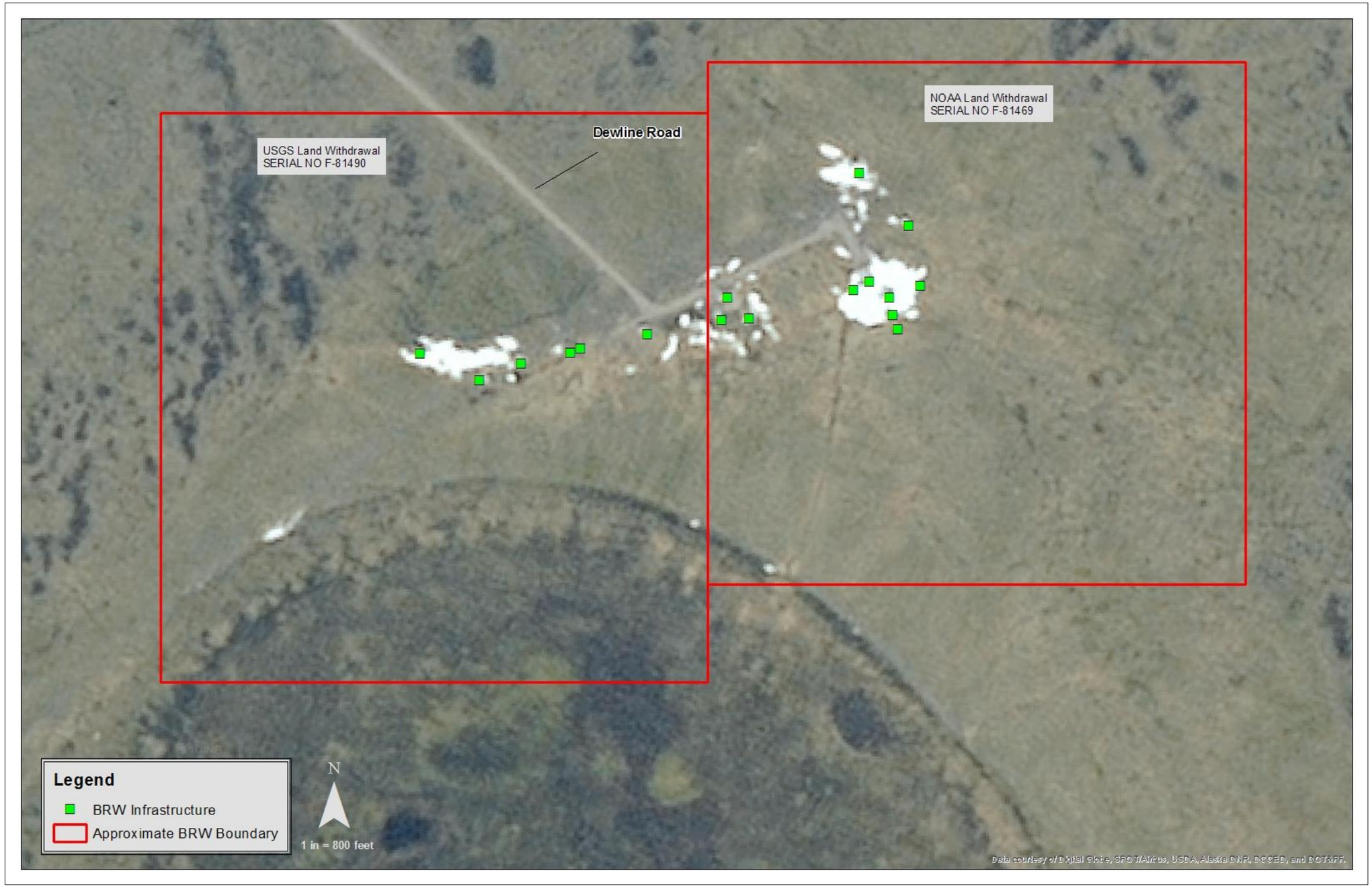


Figure 3 – NLDP Location Map

Figure 4 – BRW Detail Map



2 SCOPE, DEFINITIONS, ASSUMPTIONS

2.1 Legal Framework

This PEA provides an assessment of the potential impacts on the human environment, including physical, cultural, biological, and socioeconomic impacts associated with the implementation of the Proposed Action.

NEPA requires documented, formal consideration of major federal actions, as well as analyses of potential impacts associated with the actions and of reasonable alternatives, before a federal agency approves or implements policies, programs, plans, and projects. Programmatic NEPA analyses and subsequent tiered analyses can reduce or eliminate redundant and duplicative analyses and effectively address cumulative effects. Programmatic NEPA documents can be used to address the impacts of actions, or project types that are similar in nature or broad in scope, including cases where cumulative impacts are of concern. For consideration of potential impacts from specific actions and/or individual projects, tiering (developing focused, more narrowly scoped supplemental NEPA analyses to address specific issues) allows an agency to rely largely on the analysis of the programmatic NEPA document to address the majority of impacts (Canter, 1996).

The following definitions are used to characterize the nature of the various impacts evaluated within this PEA:

• ***Adverse or beneficial impacts*** - An adverse impact is one having adverse, unfavorable, or undesirable outcomes on the man-made or natural environment. A beneficial impact is one having positive outcomes on the man-made or natural environment. A single act might result in adverse impacts on one environmental resource and beneficial impacts on another resource.

• ***Cumulative impacts*** - CEQ regulations implementing NEPA define cumulative impacts as the "impacts on the environment, which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time within a geographic area.

• ***Direct or indirect impacts*** - A direct impact occurs concurrently at or near the location and time of the action. An indirect impact is caused by a proposed action and might occur later in time or is farther removed in distance but still be a reasonably foreseeable outcome of the action.

• ***Minor, moderate, or significant impacts*** - These relative terms are used to characterize the magnitude of an impact in their context.

- Minor impacts are generally those that might be perceptible but, in their context, are not amenable to measurement because of their relatively low magnitude character.

- Moderate impacts are those that are more perceptible than minor impacts and, typically, more amenable to quantification or measurement.

- Significant impacts are those that, in their context and due to their intensity (severity), have the potential to meet the thresholds for significance set forth in CEQ regulations (40 CFR 1508.27) and, thus, warrant heightened attention and examination for potential means for mitigation to fulfill the requirements of NEPA.

• ***Short-term or long-term impacts*** - These characteristics are determined on a case-by-case basis and do not refer to any rigid time period. In general, short-term impacts are those that would occur only with respect to a particular activity or for a finite period. Long-term impacts are those that are more likely to be persistent and chronic.

2.2 Scope of Analysis

As outlined in the CEQ publication "Effective Use of Programmatic NEPA Reviews" (2014), PEAs provide a broad overview to support planning-level decisions for an agency. In this light, this PEA analyzes potential environmental impacts from maintenance, repair, and improvement projects identified in the 2015 FCDAS FMP Capital Improvement Plan. These projects are described in Chapter 5 of the 2015 FCDAS FMP and in Table 3 in Section 3.1 of this PEA.

It is important to note that the 2015 FCDAS FMP is a planning tool that identifies short-term and long-term potential projects. Detailed construction drawings do not yet exist for most projects, but adequate information is available to conduct NEPA review on these projects now. If project scope changes occur, or something in the affected environment is altered, either to a significant degree from what is described in this PEA, then additional analysis would be required through the completion of supplemental or tiered NEPA analysis. New activities or projects that are proposed, but were not included in the evaluation by this PEA, will need analysis in a separate NEPA review.

A decision whether to proceed with any activity addressed in this PEA rests on numerous factors such as mission requirements, schedule, safety, and environmental considerations. In addressing environmental considerations, relevant statutes and their implementing regulations, and Executive Orders (EOs) that establish standards and provide guidance on environmental and natural resources management and planning are taken into account. These include, but are not limited to, the following: (See Table 2, next page)

Table 2 – Environmental Statutes, Regulations, and Executive Orders

Legal Reference	Short Title	Implementing Federal Agency
NOAA Administrative Order 216-6	Environmental Review Procedures for Implementing NEPA	National Oceanic and Atmospheric Administration
15 United States Code (USC) § 2601	Toxic Substances Control Act	Environmental Protection Agency
16 USC § 470aa-mm	Archaeological Resources Protection Act	Department of Interior
16 USC § 703	Migratory Bird Treaty Act	U.S. Fish and Wildlife Service
16 USC § 1531	Endangered Species Act	U.S. Fish and Wildlife Service/National Oceanic and Atmospheric Administration
16 USC § 1431	National Marine Sanctuaries Act	National Oceanic and Atmospheric Administration
16 USC § 1361	Marine Mammal Protection Act	National Oceanic and Atmospheric Administration
16 USC § 1801	Magnuson-Stevens Fishery Conservation and Management Act	National Oceanic and Atmospheric Administration
33 USC § 1251	Clean Water Act	Environmental Protection Agency/ U.S. Army Corps of Engineers
42 USC § 4901	Noise Control Act	Environmental Protection Agency
42 USC § 6901	Resource Conservation and Recovery Act	Environmental Protection Agency
42 USC § 7401	Clean Air Act	Environmental Protection Agency
Public Law 110-140	Energy Independence and Security Act, Section 438	Department of Energy
Public Law 89-665	National Historic Preservation Act	Advisory Council on Historic Preservation
EO 11990	Protection of Wetlands	See Note Below
EO 11988	Floodplain Management	
EO 12088	Federal Compliance with Pollution Control Standards	

Legal Reference	Short Title	Implementing Federal Agency
EO 12372	Intergovernmental Review of Federal Programs	
EO 12580	Superfund Implementation	
EO 12898	Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	
EO 13007	Indian Sacred Sites	
EO 13045	Protection of Children from Environmental Health Risks and Safety Risks	
EO 13175	Consultation and Coordination with Indian Tribal Governments	
EO 13186	Responsibilities of Federal Agencies to Protect Migratory Birds	
EO 13423	Strengthening Federal Environmental, Energy, and Transportation Management	
EO 13514	Federal Leadership in Environmental, Energy, and Economic Performance	

Note: EOs are directives to agency heads, who are each responsible for their implementation.

Other guidelines available for this analysis include: The National Oceanic and Atmospheric Administration National (NOAA) Environmental Policy Act Handbook; and NEPA and NHPA: A Handbook for Integrating NEPA and Section 106, Council on Environmental Quality, Executive Office of the President and Advisory Council on Historic Preservation.

2.3 Assumptions and Limitations

This PEA has inherent assumptions and limitations that are characteristic of long-term planning efforts. Analyzing potential environmental impacts of the 2015 FCDAS FMP is based on stated needs in the FMP. While these needs may be altered with time, every effort was made to determine the full potential scope of the Proposed Action and Alternatives. Some of the more significant assumptions and limitations are listed below.

- Proposed actions discussed in this PEA are based on the scope presented in the 2015 FCDAS FMP. These proposed actions are at different stages of conceptual maturity. Some have been known and identified for quite some time to allow fairly thorough understanding of the need. Some were identified during the activities associated with updating the FCDAS FMP. A couple, specifically those proposed actions in the NLDP, are quite nascent. Nevertheless, all of the actions discussed in this PEA were scoped to the point to allow adequate NEPA analysis.

- Recognizing that project scopes change, preparers of this PEA assume that future design and construction project managers understand, and will follow through with, the requirements to compare future project scopes with such scopes described in this PEA (See Section 6.1 for additional information regarding project execution).

- If scope changes are significant enough to warrant additional NEPA review, the new project scope(s) should be assessed against this PEA in order to determine the nature and extent of further NEPA review, consultation, or permitting requirements. Documents of such future review should, or may, be prepared in relation to this PEA. This is commonly known as "tiering" (40 CFR 1508.28). Following this process should ensure that each project, and NESDIS, is fully compliant with NEPA, and that all required actions under the legal framework of this document are completed.

- Actions required in order to decommission the FCDAS and return the property to BLM would not be determined unless/until a decision would be made by NOAA to implement such an alternative. Therefore, the maximum effort scenario is incorporated into this PEA to insure that the analysis captures the full extent of possible impacts to the FCDAS that could result from this alternative. Any redistribution of FCDAS personnel and resulting new facilities would be analyzed in the NEPA review for the mission change that decommissions FCDAS. This PEA analyzes only the local facility actions/impacts of decommission.

- Analysis accomplished during this PEA focused on activities occurring during normal periods in the region. Typical conditions provide the baseline for each environmental component.

- Quantities stated for construction and demolition projects were taken from the 2015 FCDAS FMP. Acreages of future projects are based on best estimates of professional engineers and architects made with guidance from NOAA Headquarters and the FCDAS facility manager. Where insufficient for NEPA analysis, additional research or assumptions were made. For example:

- Demolition debris volume was determined by the FMP Planning Team to be approximately 475,000 cubic yards. However, actions, such as construction traffic volume, was estimated by the preparers of this PEA. For example:
    - The soil disturbance of the proposed 10' X 10' building at the BRW was calculated at a minimum of four, two-foot diameter piles placed 20 feet deep to equal nine cubic yards (CY) of soil. The maximum was calculated at four, three-foot diameter piles placed 30 feet deep to equal 31 CY of soil. Crushed rock soil disturbance would be 18.5 CY with rock placed five feet deep across the 10' X 10' area.
    - For the decommission alternative, the total infrastructure volume of 475,000 CY would be removed using trucks with 20 CY side dump trailers in a three axle configuration (USACE, 2015). The range of 23,000 to 24,000 trips resulted from 475,000/20=23,750. Construction and demolition debris in weight was calculated by 475,000 CY x 0.24 tons/CY = 114,000 or approximately 115,000 tons (FDEP, undated).

- The mitigation measures outlined in this PEA would adequately mitigate impacts to the environment as a result of any action discussed in this PEA undertaken at the FCDAS or NLDP location. It is assumed mitigation measures would be included as contractual requirements for any work done by contractors.

Mitigation measures can prevent or eliminate damage to the human environment. By avoiding or lessening potentially significant environmental effects of proposed actions, mitigation can result in an EA and a FONSI thereby eliminating the need for actions to be analyzed in an EIS. CEQ guidance on mitigation and monitoring requires federal agencies to identify mitigation if it is being used to reduce impacts. The guidance also highlights the need for federal agencies to establish implementation plans to monitor the mitigation actions outlined in the NEPA document.

In accordance with Section 6.1, future Project Managers will consult this PEA to ensure proposed future projects outlined in the 2015 FCDAS FMP are fully compliant with NEPA and that all required actions under the legal framework of this document are completed. Analysis focuses on activities occurring during normal periods in the region.

3 PROPOSED ACTION AND ALTERNATIVES

3.1 Proposed Action

NOAA/NESDIS proposes to implement the 2015 FCDAS FMP, thereby ensuring adequate facilities for existing operations, and for potentially expanding operations. The 2015 FCDAS FMP, hereby incorporated by reference, outlines both short- and long-term goals for the physical development of the station. It provides a durable framework that NOAA/NESDIS management can use over the next 5-10 years to help focus energy and future development into specific areas that support the long-term vision for the station.

Development objectives proposed in the 2015 FCDAS FMP were identified using the following factors:

- Maintain and improve the existing facilities to support current and future NOAA missions;
- Additional space or new facility requirements for current programs;
- Prudent planning decisions now that will result in the best use of the property into the future;
- Need to consolidate activities and demolish deteriorated facilities.

The 2015 FCDAS FMP was developed by identifying proposed projects comprised of a combination of new construction, renovation, and demolition at FCDAS. It includes a very small effort within the NLDP, which includes the potential for projects to be completed at either the BRW or in Deadhorse, AK. The new construction proposed within the 2015 FCDAS FMP provide new space in certain areas where shortfalls have been identified. Facility renovation projects focus on improving the existing facility stock by making facilities more flexible, enhancing their appeal to potential partners, and performing period maintenance required to extend their lifespans. While increased operations at FCDAS are possible, there would not be a significant increase in personnel as adequate existing staff are in place for site maintenance and operations. The NLDP would not cause an increase in personnel. Proposed demolition projects will clear aging and deteriorated facilities and antennas that have exceeded their useful life. The identified facilities and antennas are not usable, and through demolition, NOAA can create new buildable areas, reduce safety concerns and maintenance costs on unusable facilities, and improve Station aesthetic appeal.

The proposed projects are presented in Table 3 along with anticipated FY for project completion, existing project numbers, and estimated acres. The specific location of each proposed project can be viewed in Figures 5 through 9.

Table 3 – FCDAS Proposed Projects

ID #	Project Title and Description	Fiscal Year	Approximate Project Land Disturbance
1	**Powerhouse Rehabilitation** *Adds mechanical, electrical, and storage room on the east side of the building. Improvements necessary for the Powerhouse to operate independently from the Old Operations Building.*	2015	16,900 sf (0.39 ac)
2	**Road Repairs Phase 4 (Eisele and Domorski)** *General repairs to road and parking lot leading to the Independent Research Facility, and chip-seal and repair road on Domorski Road up to Antenna Ridge Road.*	2015	240,100 sf (5.5 ac)
3	**Demolish Range and Rate Building** *Required as the building is condemned and a prerequisite for New Ridgeline Boom Truck Garage (ID #22).*	2016	10,000 sf (0.23 ac)
4	**Demolish Transmitter Shelter and 9M Antenna** *Required as the building is in poor condition and the antenna is obsolete and not used.*	2016	14,450 sf (0.34 ac)
5	**Install 3M Antenna on Facilities Building** *Required for additional operations.*	2016	0 sf (Existing Footprint)

Figure 5 – Proposed Projects 1-5

ID #	Project Title and Description	Fiscal Year	Approximate Project Land Disturbance
6	**Survey/As-built FCDAS Utilities** *Study to create electronic as-built drawings and dataset for existing buried infrastructure.*	2017	0 sf (survey only)
7	**Demolish Old Operations Building** *Facilities are in poor condition and their function have been replaced by the FSOF.*	2017	40,000 sf (0.92 ac)
8	**Install Water Meters** *Install individual water meters on all FCDAS facilities connected to the domestic water system.*	2017	0 sf (Existing Footprint)
9	**New Potable Water Well** *Provides a new well to replace the well serving the FSOF and Facilities Building.*	2017	4,900 sf (0.11 ac)
10	**Repair FSOF East Parking Lot** *This parking lot is in poor condition and requires repair.*	2017	27,225 sf (0.63 ac)
11	**Repair Roof, Independent Research Facility** *Roof repair necessary in order to halt building deterioration.*	2017	0 sf (Existing Footprint)
12	**New Station Entrance Safety Lane** *Construct a deceleration lane on the east side of Steese Highway at the station entrance to improve staff and visitor safety.*	2018	20,000 sf (0.46 ac)
13	**Install Electrical Meters** *Install individual electrical meters on all FCDAS facilities.*	2018	0 sf (Existing Footprint)
14	**Replace IRF Substation #5 and Underground Cable** *Required to replace the poorly performing substation and cables that have deteriorated.*	2018	6,225 sf (0.15 ac)
15	**New Vehicle Maintenance and Storage Facility** *Consolidates maintenance, office, and vehicle storage spaces currently located in the Facilities Building and other locations at the FCDAS. Prerequisite for renovation of the Facilities Building (ID #31).*	2019	62,500 sf (1.43 ac)

ID #	Project Title and Description	Fiscal Year	Approximate Project Land Disturbance
16	**Demolish Satellite Automatic Tracking Antenna and SCAMP Antenna** *Required because the antennas are obsolete and are no longer functional.*	2019	12,125 sf (0.28 ac)
17	**Install Lightning Protection Systems** *Lightning protection would be installed for the cable tray, powerhouse, and 26 meter antenna.*	2019	0 sf (Existing Footprint)
18	**New Looped Electrical Feed** *Installation of a new electrical line to Antenna Ridge to provide service redundancy.*	2019	270,000 sf (6.2 ac)
19	**Replace Facilities Building Water Equipment** *Requires replacement to provide quality drinking water to occupants.*	2019	13,225 sf (0.3 ac)
20	**Security Fencing, Phase 1** *Installs security fencing around core administrative area.*	2019	180,000 sf (4.13 ac)
21	**New Government Road Extension and Improvement** *Provides the extension and improvement of Government Road from Highway 6 to the Independent Research Facility.*	2020	96,100 sf (2.21 ac)
22	**New Ridgeline Boom Truck Garage** *Provides heated storage for a maintenance vehicle near the antennas.*	2020	10,000 sf (0.23 ac)
23	**New West Collimation Tower Equipment Shed** *Small shed with power to store equipment.*	2020	3,600 sf (0.1 ac)

Figure 6 – Proposed Projects 6-23

Figure 7 – Detail of Proposed Project 12

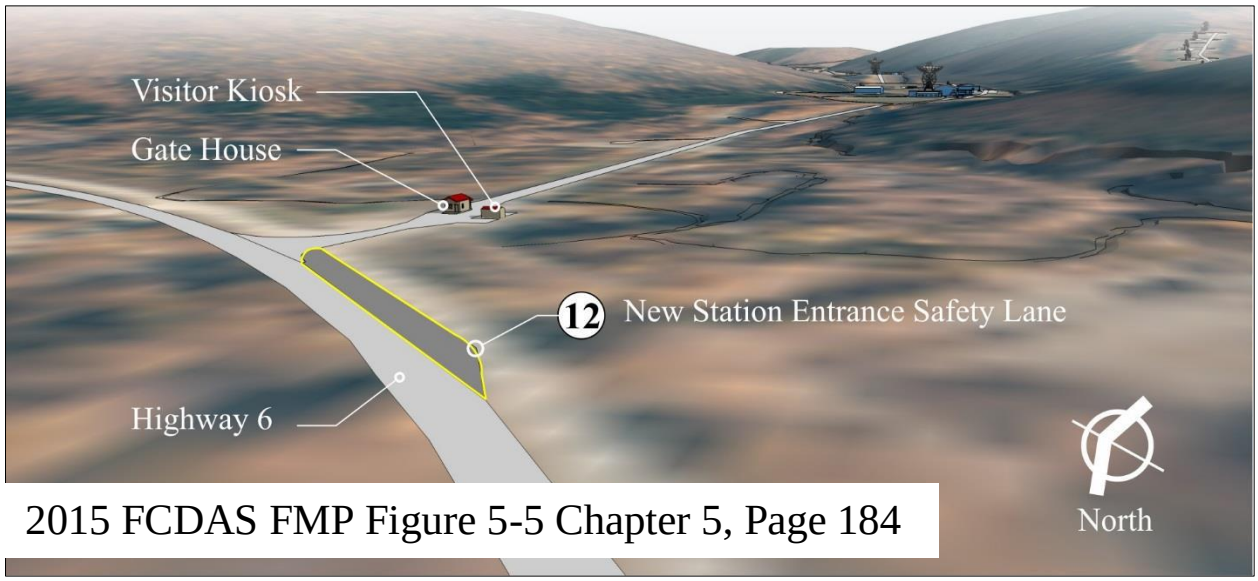
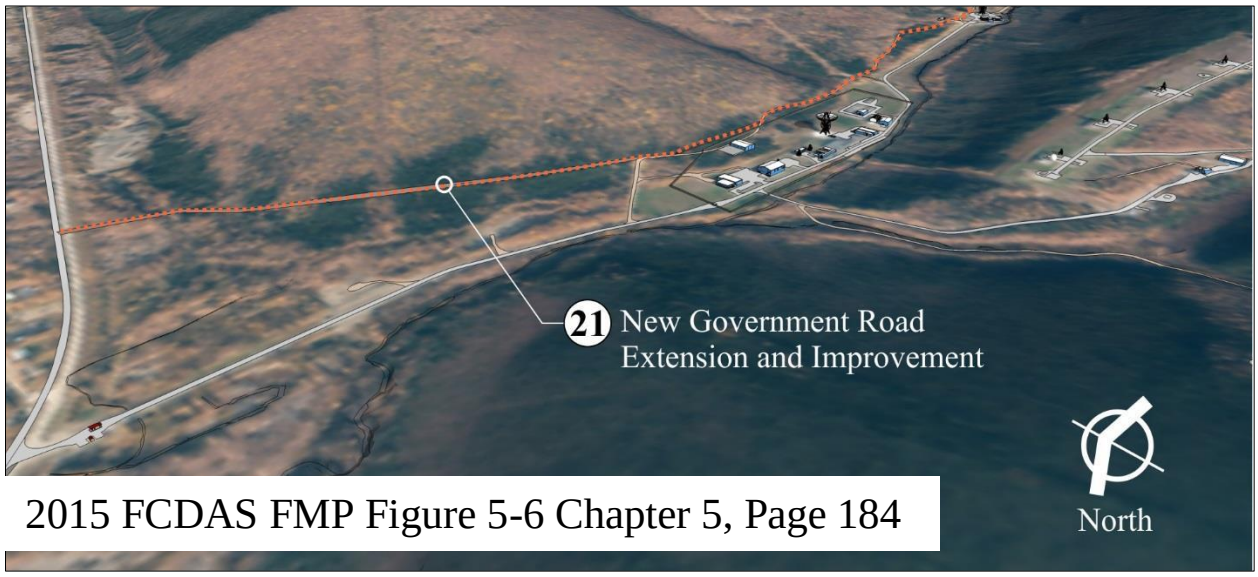


Figure 8 – Detail of Proposed Project 21



ID #	Project Title and Description	Fiscal Year	Approximate Project Land Disturbance
24	**FSOF Building Addition** *Creates more operations space and enables PMEL to move into the building. Also includes the missing loading/staging dock function.*	2021	18,400 sf (0.43 ac)
25	**New Redundant Primary Electrical Feed** *Install a second commercial electrical feed to the FCDAS.*	2021	75,000 sf (1.72 ac)
26	**Demolish 26M Antenna** *This antenna is obsolete and non-functional.*	2021	13,225 sf (0.3 ac)
27	**Demolish Independent Research Facility** *Rehabilitation of the IRF is not cost-effective.*	2022	24,025 sf (0.55 ac)
28	**Security Fencing, Phase 2** *Installs security fencing along the south side of Government Road.*	2022	225,000 sf (5.17 ac)
29	**Remove COA Trailers** *Trailers are underutilized and were intended to provide temporary operations space.*	2022	16,900 sf (0.39 ac)
30	**Replace Uninterruptable Power Supply (UPS)** *Equipment refresh of existing UPS in the Powerhouse.*	2022	0 sf (Existing Footprint)
31	**Renovation or Replacement of Facilities Building** *Renovates Facilities Building to serve as the Supply Warehouse. Prerequisite for demolition of the Supply Warehouse (ID #32).*	2023	22,500 sf (0.52 ac)
32	**Demolish Supply Warehouse** *Supply Warehouse is poorly insulated and near the end of its usable life.*	2023	10,000 sf (0.23 ac)
33	**Future Antenna** *Installs a new concrete pad for a future antenna and expands the antenna ridge to the north.*	2025	348,480 sf (8 ac)
34	**Secondary Power Plant** *Provides back-up Power Plant located on Domorski Road.*	2025	22,500 sf (0.52 ac)

Figure 9 – Proposed Projects 24-34

Northern Latitude Development Plan (NLDP)

As previously mentioned (Section 1.2: Barrow Support Station), the higher, northern latitude sites allow more visibility for polar satellites. This is becoming a larger issue as satellites are delivering more and more data. A longer pass means that the antenna can download more information and has a larger effective bandwidth. At present, current assets do not support all "visible" passes. A high latitude Arctic antenna would achieve 98% visibility.

The highest US latitudes possible are at Barrow - 71° N and Deadhorse - 70° N

These two high latitude polar site candidates are advantageous due to their flat Arctic tundra (no blockage); they allow acquisition of satellites at low elevation angles. They are secure, remote US locations, and there is a low risk for Radio Frequency interference or noise. FCDAS is a back-up site for, and currently contracts with Svalbard (at 81° N), a Norwegian private site run by K-SAT, to get access to NOAA satellites for some passes. The arrangement is expensive, and a new northern latitude site could be justified based on the cost savings.

The proposed NLDP would consist of placing a state-of-the-art 3 to 5 meter antenna and all necessary supporting equipment at either BRW or at an existing facility (still to be identified) in Deadhorse, Alaska.

If BRW is selected, the proposed action would consist of:

- Installation of a new antenna on an existing antenna pad or tower; and
- Placement of a 10' x 10' equipment building with a pile or crushed rock foundation, within the existing footprint of the station to store 4, 2x4 server racks.

If a Deadhorse location is selected, the proposed action would consist of:

- Installation of a new antenna on a tower with a 9'-10' squared slab base adjacent to an existing building in a previously disturbed area of Deadhorse; and
- Placement of support equipment within the existing building or in the base of the antenna. Equipment not suitable for the building would not be covered by this PEA.

In either of these locations, power and communication lines would already be on-site. For the Deadhorse option, it is anticipated the communication line would be a leased arrangement.

3.2 FCDAS Decommission Alternative

This Proposed Alternative would deactivate the FCDAS and the withdrawn land would be returned to the Bureau of Land Management (BLM). BLM regulations at 43 CFR Part 2370, Subpart 2374.2, Conditions of Acceptance by BLM, stipulate the following requirements before BLM could accept accountability and responsibility for the former withdrawal land:

"Agencies will not be discharged of their accountability and responsibility under this section unless and until:

a) The lands have been decontaminated of all dangerous materials[1] and have been restored to suitable condition, or if it is uneconomical to decontaminate or restore them, the holding agency posts them and installs protective devices and agrees to maintain the notices and devices.

b) To the extent deemed necessary by the authorized officer of the Bureau of Land Management, the holding agency has undertaken or agrees to undertake or to have undertaken appropriate land treatment measures correcting, arresting, or preventing deterioration of the land and resources thereof which has resulted or may result from the agency's use or possession of the lands.

c) The holding agency, in respect to improvements which are of no value, has exhausted General Services Administration's procedures for their disposal and certifies that they are of no value.

d) The holding agency has resolved, through a final grant or denial, all commitments to third parties relative to rights and privileges in and to the lands or interests therein.

e) The holding agency has submitted to the appropriate office mentioned in paragraph (a) of §2372.1 a copy of, or the case file on, easements, leases, or other encumbrances with which the holding agency or its predecessors have burdened the lands or interests therein."

The extent to which NOAA would remove the existing improvements and restore the land would not be explored unless/until a decision is made (by NOAA) to decommission the FCDAS. For the purpose of this PEA, the maximum effort scenario will be used. Maximum effort is defined as the demolition of all buildings, any substructures, antennas, roads, and infrastructure. The approximate volume of structures and roads on the FCDAS is 475,000 cubic yards. By using the maximum effort approach, this analysis would be legally sufficient for any action taken under this alternative that would require lesser effort.

[1] No dangerous materials are currently known to exist at the FCDAS.

3.3 No Action Alternative

Under the No Action Alternative, the proposed capital improvements to the FCDAS would not be implemented. Proposed upgrades to the FCDAS facilities would not occur, and the expected benefits of modernization would not be achieved. The ability to continue NESDIS operations at current levels would degrade, if not compromised at some point in time. Benefits of enhancing and expanding NOAA mission capabilities at FCDAS, as well as of optimizing the functional efficiencies of the FCDAS would not be achieved. Similarly, the benefits of eliminating the FCDAS facility and infrastructure shortfalls would not occur. Under this alternative, the FCDAS would continue at its current levels of operation, but at an increasing rise of mission compromise due to continued facility degradation.

4 AFFECTED ENVIRONMENT AND CONSEQUENCES

This PEA addresses the environmental, social, and economic impacts of continuing NESDIS operations, expanding operations, and improving facilities at the FCDAS. Projected facility improvements are recommendations presented in the 2015 FCDAS FMP. Evaluating potential environmental impacts must begin with understanding existing conditions in the affected environment. For this reason, the impact analysis process involves two steps. First, this PEA provides an understanding of the existing environmental setting and conditions through a discussion of the existing resources, or the "affected environment". Second, the PEA incorporates details of the alternatives described in Chapter 3 to enable assessment of the impacts on the existing environment, thus yielding the "environmental consequences". In accordance with NEPA procedures and NOAA Administrative Order 216-6, Environmental Review Procedures for Implementing the National Environmental Policy Act, this PEA addresses impacts associated with the No Action Alternative as well as two action alternatives.

Sufficient data exists to support environmental impact analysis in this PEA for proposed projects at the FCDAS, Barrow, and Deadhorse. As outlined in CEQ programmatic NEPA guidance (CEQ, 2014), even with uncertainty as to timing, location, and environmental impacts of subsequent actions, programmatic NEPA can be used to support planning-level decisions. While a specific location in Deadhorse has not been identified, the community is homogeneous. It was developed as the oil industry began drilling operations in the arctic region. The buildings are industrial in nature; composed of modular, prefabricated structures built to support the facilities and workers of the oil field. As a result, any potential impacts for actions undertaken at Deadhorse can be analyzed in this PEA because the effects are consistent throughout the geographically bounded area of Deadhorse.

It is important to note, here, that the entire valley floor within the FCDAS has been previously disturbed by past mining activities. All of NOAA facilities within the valley were constructed on mine tailings that filled the valley. Additionally, the developed portion of FCDAS is subject to regular landscape maintenance activities. Combined, these factors suggest that there is little or no potential for projects identified within this PEA to impact resources such as locally important soils, native vegetation, wildlife habitat, or subsistence resources in the area of the FCDAS.

4.1 Land Use and Zoning

Land use comprises the natural condition or human-modified activities occurring at a particular location. Land uses are frequently regulated by management plans, policies, ordinances, and regulations that determine the types of land uses that are allowable or provide protection for specially designated or environmentally sensitive areas. Municipalities utilize urban planning and zoning to regulate development and land use. Zoning is used to segregate incompatible land uses and to assist in future development.

4.1.1 Affected Environment

FCDAS

The FCDAS is located in a rural portion of FNSB, approximately 13 miles northeast of Fairbanks, Alaska. There are developed and undeveloped areas within the FCDAS boundaries. The primary developed area is used for administrative, operational, maintenance, industrial, and storage purposes. A second developed area consists of the antenna installations. Most of the 8,855-acre FCDAS property is undeveloped and serves as a buffer to ensure that background levels of electromagnetic emissions remain as low as possible which is beneficial to FCDAS operations. Buffer lands also assist in providing security against trespassing and unauthorized uses that may potentially interfere with vital station operations.

The FNSB Department of Community Planning zones the FCDAS as GU-1, General Use District (FNSB, undated). Areas zoned as GU-1 are intended to be located in rural areas where community and water systems are unavailable as described in FNSB Code Chapter 18.44.

The Fort Knox Mine is an active open-pit gold mine located adjacent to the eastern boundary of the withdrawal. The land uses of other properties surrounding the FCDAS are residential and undeveloped.

NLDP

The BRW is located approximately five miles northeast of the Village of Barrow in North Slope Borough (NSB). The property is located adjacent to other federal leased landholdings: United States Air Force (USAF) and United States Geologic Survey (USGS), to the north and west; and the Barrow Environmental Observatory (BEO) to the south and east (UMIAQ, LLC, 2013). According to the Borough Zoning District Figure in the NSB Comprehensive Plan (NSB, 2005), the BRW is located in the Conservation District. The Conservation District encompasses undeveloped areas of the NSB and is intended to conserve the natural ecosystem as described in NSB Code Chapter 19.40.070. This designation allows for resource exploration and development on a limited scale, however major projects would have to apply for rezoning.

Deadhorse, AK is also located in the NSB, 10 miles from Prudhoe Bay, AK. The town consists mainly of facilities for the workers and companies that operate at the nearby Prudhoe Bay oil fields. Companies with facilities in Deadhorse service Prudhoe Bay, nearby oil fields, and the Trans-Alaska Pipeline System (TAPS), which brings oil from Prudhoe Bay to Valdez on the south-central Alaska coast (ADEC, 2011). It lies within the Resource Development District, which is intended to accommodate large-scale resource extraction, balanced with protecting subsistence resources and coordinating with other Borough policies. Rezoning from Conservation to Resource Development requires preparation of a Master Development Plan, and approval by both the Planning Commission and the Assembly (NSB, 2005).

4.1.2 Environmental Consequences—Proposed Action

FCDAS

Minor impacts to land use would occur from the Proposed Action at the FCDAS. However, no adverse impacts to zoning would occur from the Proposed Action. The proposed projects would occur entirely on the FCDAS or at one of the NLDP locations, BRW or Deadhorse.

As a result of the Proposed Action, modifications at the FCDAS would change the land use from undeveloped to developed on approximately 28 acres. These project include:

- ID 18 New Looped Electrical Feed
- ID 20 Security Fencing, Phase 1
- ID 21 New Government Road Extension and Improvement
- ID 25 New Redundant Primary Electrical Feed
- ID 28 Security Fencing, Phase 2
- ID 33 Future Antenna

The remaining projects would have no impact on the current land uses within the facility boundaries. The proposed new construction, renovation, and demolition projects outlined in the 2015 FCDAS FMP are consistent with current land use and would not change the function of the FCDAS. The proposed new construction projects are similar in nature to existing structures and their uses. The 2015 FCDAS FMP sites the proposed projects within the core area of the FCDAS to preserve the compact development pattern and prevent potential RF/electromagnetic interference. The Proposed Action would not result in a large fluctuation of individuals (staff) and, therefore, not impact the surrounding land use from an increase of personnel. There would be no need to rezone from GU-1 as proposed projects would not alter the current community systems of the surrounding rural area.

NLDP

There would be no impact to land use or zoning at the NLDP locations from implementation of the Proposed Action. There would be no need to rezone at either NLDP location as the proposed projects would occur in developed areas and are not associated with resource extraction. With the addition of an antenna and support building, there would be no change in the nature or type of activities at BRW or surrounding properties. If the Deadhorse location is selected, placing an antenna within an existing developed area would be consistent with the current infrastructure of Deadhorse and would not impact land use or zoning.

4.1.3 Environmental Consequences—FCDAS Decommission Alternative

FCDAS

No adverse impacts to land use or zoning would be expected from the FCDAS Decommission Alternative. NOAA would be responsible for condition of the withdrawal land to the satisfaction

of BLM. The GU-1 zoning assignment would remain unaffected, as the withdrawal is rural. There are mostly residences and undeveloped land in the adjacent areas, with the exception of the Fort Knox Gold Mine to the east of the property. Returning the 8,855-acre FCDAS back to undeveloped status within a much larger undeveloped region would result in a minor beneficial impact to land use from the demolition of the FCDAS and return of the property to BLM control.

NLDP

There would be no action taken, and therefore, no impact to the NLDP locations of the BRW or Deadhorse from implementation of this alternative.

4.1.4 Environmental Consequences—No Action Alternative

FCDAS

Under the No Action Alternative, there would be no impacts to land use or zoning, because the infrastructure and operation of the FCDAS would not change from the status quo. The FCDAS would remain zoned as GU-1.

NLDP

Under the No Action Alternative, there would be no impacts to land use or zoning at the NLDP locations. Infrastructure and operations at the BRW would remain the same and there would be no action taken at Deadhorse. The BRW would remain part of the Conservation District, and Deadhorse would remain part of the Resource Development District.

4.1.5 Mitigation

No mitigation would be required for impacts to land use or zoning under the Proposed Action or the No Action Alternatives, as there are no impacts.

Mitigation under the FCDAS Decommission Alternative would be determined by the BLM prior to the land reverting back to that agency.

4.2 Farmlands

The Farmland Protection Policy Act of 1981 requires federal agencies to consider the impact of any activity that would convert prime or unique farmlands to non-agricultural uses. Regulations at 7 CFR 658.2(a) exclude those lands already in urban use or committed to urban development from the definition as farmland. The NRCS regulates compliance with the law.

4.2.1 Affected Environment

The FCDAS, NLDP locations, and surrounding areas are not in agricultural use, have not been used for agricultural production in the past, and are not suited for agriculture. No prime farmland designations occur in Alaska due to the soil temperatures not meeting congressional thresholds

(NRCS, undated). No unique farmlands or farmlands of statewide importance have been designated in Alaska.

The Fairbanks Soil and Water Conservation District have adopted criteria for Farmlands of Local Importance for lands within their jurisdictional boundaries. The soil map of the FCDAS from Web Soil Survey identified one soil type listed as a Soil of Local Importance in the Greater Fairbanks Soil Survey Area. Fairbanks silt loam, 3 to 7 percent slopes, occurs in several locations within the FCDAS.

4.2.2 Environmental Consequences—Proposed Action

Implementation of the Proposed Action would have no effect on agricultural production. No land would be removed from existing agricultural use. No impacts to farmlands would result. Through consultation with the local NRCS office (NRCS, 2014), there would be no impacts to the Soil of Local Importance with the current project locations at the FCDAS. If locations are altered, further consultation would be necessary.

4.2.3 Environmental Consequences—FCDAS Decommission Alternative

There are no prime farmland designations in Alaska. No adverse impacts on farmlands would be expected from facility demolition or site cleanup.

4.2.4 Environmental Consequences—No Action Alternative

Under the No Action Alternative, there would be no impacts to farmlands as current operations would remain the same.

4.2.5 Mitigation

No mitigation would be required for prime farmland since there are no prime farmlands in Alaska.

4.3 Geology and Soils

Geological resources consist of materials of the Earth's surface and subsurface. Most commonly, these resources are described in terms of topography, geology, soils, and where applicable, geologic hazards and paleontology. Geology is the study of the origin, history, and structure of the Earth. An important component of geology is the study of how Earth's materials, structures, processes, and organisms have changed over time.

4.3.1 Affected Environment

FCDAS

The Fairbanks metropolitan area is located in the Yukon-Tanana terrain. Bedrock of the area consists of Precambrian time (greater than 570 million years old) and Paleozoic era (570 to 250 million years old) metamorphic rocks. Several bodies of granitic material intruded the metamorphic bedrock during late Cretaceous to middle Tertiary periods (100 million to 30 million

years ago) (FCDAS FMP, 2015). Gold-bearing bedrock of the area is associated with the granitic intrusives or placer deposits weathered from the intrusives.

Bedrock of the Gilmore Valley is Birch Creek schist, which is composed of pelitic schist and micaceous quartzite metamorphosed during the period of granitic intrusions. Bedrock occurs near the ground surface on the hills to the north and south of the valley, at elevations greater than about 1,000 feet mean sea level (MSL). At lower elevations are the Ready Bullion formation, a massive aeolian silt, and the Fox gravel formation, a poorly sorted cover bedrock, a perennially frozen sandy and gravelly alluvial deposit. The Ready Bullion formation contains large amounts of organic matter and ice lenses, is 3 to 30 feet thick, and occurs in thin stripes along lower hillsides at the northern and southern edges of the valley. The Fox gravel formation occurs in the center of the valley and is up to 100 feet thick (Péwé, 1958; Péwé et al., 1966; Péwé and Bell, 1975a and 1975b). Hillsides of the Gilmore Valley are subject to solifluction, the slow downhill movement of saturated soils. Soils formed from the Ready Bullion formation on lower hillsides north and south of the valley floor are most susceptible to solifluction.

The floor of the Gilmore Valley was extensively worked during the first half of the 20th century by placer and dredge miners, which resulted in lowered elevations by up to 100 feet (Cacy and Stein, 2000). As mentioned in Section 4.1, all FCDAS facilities on the floor of the Gilmore Valley are located in the areas that were subject to gold mining. The Fox gravel formation originally occurring in the valley were extensively reworked by the miners using hydraulic and dredge equipment, then re-deposited. As a result, the current topography and silt soil of the area are artificial. Permafrost occurs at depths beneath the valley floor but not in shallow soils due to the thawing caused by removal of vegetation and excavation of the soil during mining. Discontinuous ice seams and lenses are present in the valley deposits.

Acid Rock Drainage (ARD) is a natural chemical reaction which can occur when minerals are exposed to air and water. ARD occurs naturally and as a result of land disturbing activities; an example applicable to the Fairbanks area is mining activities (historically referred to as acid mine drainage, or AMD). Acidic discharge can dissolve metals which are then released to the environment. Water quality impairment often results from metals and acidic discharge of ARD (Jennings, Neuman, and Blicker, 2008). In 1999, a soil test did find concentrations within mine tailings of barium, cadmium, copper, lead, mercury, silver, and zinc that exceeded background levels in the surrounding, undisturbed natural soils (NOAA, 1999).

The FCDAS varies in elevation from about 950’ MSL at the mouth of the Gilmore Valley to about 2,400’ MSL at the ridge crest at the east end of the station (Péwé and Bell, 1975a and 1975b).

The Natural Resources Conservation Service (NRCS) of the U.S. Department of Agriculture mapped soils of the Fox area. Soils on north-facing slopes consist of Ester and Saulich peats, which are poorly drained with shallow depth to permafrost. Soils on the south-facing slopes consist of well drained Steese and Gilmore silt loams (NRCS, 1995).

NLDP

Within the Barrow quadrangle, unconsolidated deposits of marine origin from the Shublik formation overlay bedrock of the early to late Cretaceous age. The median depth of bedrock measured in the Barrow quadrangle is approximately 72 feet. Some measurements taken near the Naval Arctic Research Laboratory area (within 1 mile of the Barrow Observatory) indicate bedrock may be 40 to 100 feet below ground surface. Unconsolidated deposits in the BRW area include thaw-lake deposits consisting of medium to fine sand and sandy silt with high organic content. This area may also have marine beach deposits consisting of coarse to fine sand, gravelly and sandy granules, and pebble gravel (UMIAQ, LLC, 2013).

Soils in the Deadhorse area are classified as loamy, nearly level to rolling pergelic cryaquolls and histic pergelic cryaqueps. These soils are found over thick permafrost and exhibit strongly patterned frost features. They are poorly drained and consist of loamy, nonacid, and calcareous sediment (USGS, 1995).

4.3.2 Environmental Consequences—Proposed Action

FCDAS

Under the Proposed Action, there would be no activities that could impact geological conditions at the FCDAS. The following projects would disturb a total of approximately 32 acres of soil at the FCDAS:

- ID 1 Powerhouse Rehabilitation
- ID 2 Road Repairs Phase 4 (Eisele and Domorski)
- ID 3 Demolish Range and Rate Building
- ID 4 Demolish Transmitter Shelter and 9M Antenna
- ID 7 Demolish Old Operations Building
- ID 9 New Potable Water Well
- ID 10 Repair FSOF East Parking Lot
- ID 12 New Station Entrance Safety Lane
- ID 14 Replace IRF Substation #5 and Underground Cable
- ID 15 New Vehicle Maintenance and Storage Facility
- ID 16 Demolish Satellite Automatic Tracking Antenna and SCAMP Antenna
- ID 18 New Looped Electrical Feed
- ID 19 Replace Facilities Building Water Equipment
- ID 20 Security Fencing, Phase 1
- ID 21 New Government Road Extension and Improvement
- ID 22 New Ridgeline Boom Truck Garage
- ID 23 West Collimation Tower Equipment Shed
- ID 24 FSOF Building Addition
- ID 25 New Redundant Primary Electrical Feed

- ID 26 Demolish 26M Antenna
- ID 27 Demolish Independent Research Facility
- ID 28 Security Fencing, Phase 2
- ID 29 Remove COA Trailers
- ID 31 Renovation or Replacement of Facilities Building
- ID 32 Demolish Supply Warehouse
- ID 33 Future Antenna
- ID 34 Secondary Power Plant

Clearing and grubbing activities associated with the proposed new construction would cause direct impacts to topsoils only. During demolition and removal of existing buildings, antennas, and support infrastructure, exposed soil could be covered to reduce the level of erosion and potential impacts from ARD. Construction and demolition activities would result in short-term, minor impacts to soils which would be mitigated with BMPs.

Excavations would be required to remove foundations and underground utility lines, but would be back filled. Based on the nature and extent of identified projects, overall topography would remain the same.

NLDP

The area of soil that would be disturbed at the NLDP location under the Proposed Action could range to approximately 100 square feet. At the BRW, the use of an existing antenna pad or tower and placement of a 10’ X 10’ building and at Deadhorse, the 9’-10’ squared antenna tower pad would both be installed in accordance with local requirements, practices, and customs for each project. Typically, these foundations range in nature from placed or driven piles or crushed rock foundation, depending on soil conditions at the site, plus other natural and construction factors. In any event, design and construction used will disturb as little of the natural ground as possible resulting in negligible direct impacts. See Section 2.3 for more detailed calculations.

4.3.3 Environmental Consequences—FCDAS Decommission Alternative

Demolition and removal of all existing buildings, antennas, and support infrastructure would be expected to result in minimal topographic alteration as most FCDAS structures are built on level ground. FCDAS structures, antennas, and infrastructure are largely built in areas of altered topography, given the dredging and mining that moved up the valley. Excavations would be required to remove foundations and underground utility lines, but these would be back filled. Topographic alterations would be minimal as each work area would be graded to match the surrounding terrain. A large area of soil would be disturbed under this alternative resulting in the potential for ARD. However, use of BMPs during demolition activities and with proper soil stabilization upon completion of demolition, there would be an overall beneficial impacts to soils with the removal of infrastructure and the return to an undeveloped site.

4.3.4 Environmental Consequences—No Action Alternative

Under the No Action Alternative, operational activities would continue at each location and there would be no impacts to geology, topography, or soils.

4.3.5 Mitigation

Construction or demolition over an area of one-acre or more requires implementation of a Storm Water Pollution Prevention Plan (SWPPP) which would include erosion control measures (ADEC, 2011). Compliance with USEPA and ADEC regulations for discharge of stormwater from construction sites also would be required. A Notice of Intent (NOI) would be submitted to EPA Region 10 prior to start of construction and a Notice of Termination (NOT) at the completion of construction. Copies of the NOI and NOT would be submitted to ADEC.

A SWPPP describing BMPs to be implemented during the construction period would be prepared in conformance with recommendations of the *Alaska Storm Water Guide* (ADOT&PF, 2005). Typical BMPs include grading of areas to prevent flow of runoff down steep slopes or embankments, placement of temporary silt fences or hay bales at the boundaries of cleared areas to retain soil, periodic sprinkling of bare soil with water to reduce dust entrainment, and prompt planting or hydro seeding of bare areas after construction is complete to establish vegetative cover. FCDAS and its construction contractors would inspect the erosion control devices and structures at the construction site at least once every two weeks and within 24 hours of storm events. There are various methods for mitigating ARD from mine tailings by isolating (e.g., covering) the tailings from oxidizing conditions. In such cases, NOAA, in consult with the land owner, BLM, would follow methods regularly used by the Alaska USACE construction offices, and/or adhere to proper soil backfill, storage, and/or removal procedures identified by ADEC and EPA Region 10. All these measures apply to the Proposed Action as well as the FCDAS Decommission Alternative.

No mitigation would be required for the No Action Alternative as there would be no impacts to geology, topography, or soils.

4.4 Biological Resources

Biological resources include plants and animals and the habitats in which they live. Vegetation discusses the plants and their geographic characteristics. Fish and wildlife discusses the animals and their habitats that occur within the region. Endangered and threatened species identifies any federally or state listed species in or around the FCDAS.

Federal agencies proposing project development are required to determine the project's potential impacts to environmental resources protected by Federal statutes.

EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, directs agencies to take certain actions to further implement the migratory bird conventions, the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and other pertinent statutes.

The National Marine Sanctuaries Act (NMSA) (16 USC, Chapter 32 §§ 1431–1445c-1), administered by the NOAA Office of National Marine Sanctuaries, authorizes the Secretary of Commerce to designate and protect areas of the marine environment with special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archeological, educational, or aesthetic qualities as national marine sanctuaries.

The Marine Mammal Protection Act (MMPA) (16 USC, Chapter 31 §§ 1361-1423h), administered by the NOAA National Marine Fisheries Service, prohibits, with certain exceptions, the take of marine mammals in United States waters and by United States citizens on the high seas, and the importation of marine mammals and marine mammal products into the United States.

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 USC, Chapter 38 §§ 1801-1891d), administered by the NOAA National Marine Fisheries Service, mandates the use of annual catch limits and accountability measures to end overfishing, provides for widespread market-based fishery management through limited access privilege programs, and calls for increased international cooperation.

Section 7 of the Endangered Species Act, as amended (16 USC, Chapter 35 §§ 1531-1544), requires federal agencies evaluate the efforts of the Proposed Actions on protected plant and animal species and their habitats and take appropriate measures to conserve and protect these species. Special-status species are defined as plants and animals listed as sensitive, threatened, or endangered by the USFWS, as well as those that are candidates or proposed for listing as threatened or endangered. The ADFG is responsible for determining and maintaining a list of endangered species in Alaska.

4.4.1 Vegetation

4.4.1.1 Affected Environment

FCDAS

The FCDAS is located within the Yukon-Tanana Uplands eco-region, which spans over 25 million acres of Alaska and Yukon Territory (ADFG, 2006). The vegetation of this ecoregion varies with topography. North-facing slopes are dominated by black spruce (*Picea mariana*). White spruce (*Picea glauca*), paper birch (*Betula papyrifera*), and quacking aspen (*Populus tremuloides*) favor south-facing slopes. Within floodplains and wetlands, white spruce, balsam poplar (*Populus balsamifera*), alder (*Alnus* sp.), and willows (*Salix* sp.) grow. The main area of the FCDAS are vegetated primarily with spruce-dominated forest on valley bottoms and north-facing hillsides, aspen/birch-dominated forest at higher elevations, and maintained grass within developed areas.

NLDP

The Barrow and Deadhorse NLDP locations are located within the Beaufort Coastal Plain ecoregion, which spans over 15 million acres of Alaska and Yukon Territory (ADFG, 2006). The vegetation of this ecoregion is dominated by low growing herbaceous ground cover. Wet sedge

tundra can be found in floodplains, swales, and other similar moist habitat. Tussock tundra and sedge tundra grow on gentle ridges. Low, shrubby thickets dominated by willows grow in well-drained riverine habitats.

4.4.1.2 Environmental Consequences—Proposed Action

FCDAS

Except for the projects listed below, all projects would occur within the existing developed area of the FCDAS and there would be no impacts to vegetation, as the projects would occur in non-vegetated existing footprints.

A few of the proposed projects would occur in undeveloped areas of the FCDAS and would involve minor adverse impacts to vegetation. These include:

- ID 18 New Looped Electrical Feed
- ID 20 Security Fencing, Phase 1
- ID 21 New Government Road Extension and Improvement
- ID 25 New Redundant Primary Electrical Feed
- ID 28 Security Fencing, Phase 2
- ID 33 Future Antenna

These proposed project sites have the potential to impact up to approximately 28 acres of land, which is a small percentage of the overall areas of native vegetation at the FCDAS. Implementation of these proposed projects would result in a minor, long-term adverse impact to vegetation at the FCDAS.

NLDP

Depending on the construction method used, implementation of the NLDP part of the Proposed Action would result minor, adverse impacts to vegetation with the loss of up to approximately 400 square feet of vegetation at the placement site of the equipment building at the BRW or the antenna pad tower at Deadhorse.

4.4.1.3 Environmental Consequences—FCDAS Decommission Alternative

Under this alternative NOAA would be responsible for the restoration of the property to the satisfaction of BLM. This is expected to have a long-term beneficial impact to vegetation with the removal of infrastructure and return to a vegetated area.

4.4.1.4 Environmental Consequences—No Action Alternative

Under the No Action Alternative, there would be no additional impacts to vegetation as current operations would remain the same.

4.4.1.5 Mitigation

Mitigation measures for both the Proposed Action and Decommission Alternative could include, among other possible actions, replanting and reseeding with native vegetation in areas that were disturbed during project construction/demolition.

4.4.2 Fish and Wildlife

4.4.2.1 Affected Environment

FCDAS

The vast majority of the 8,855 acres of the FCDAS property is undeveloped, mixed deciduous-conifer forest. Wildlife species that occur within the FCDAS are those typical to the Yukon-Tanana Uplands (ADFG, 2006). Birds such as common raven (*Corvus corax*), boreal chickadee (*Poecile hudsonicus*), bohemian waxwing (*Bombycilla garrulus*), common redpoll (*Acanthis flammea*), boreal owl (*Aegolius funereus*), American three-toed woodpecker (*Picoides dorsalis*), and hairy woodpecker (*P. villosus*) are found throughout the area as are mammals including moose (*Alces alces*), black bear (*Ursus americanus*), wolf (*Canis lupus*), red fox (*Vulpes vulpes*), woodchuck (*Marmota monax*), hoary marmot (*M. caligata*), and porcupine (*Erethizon dorsatum*). Few amphibians occur within Alaska; the wood frog (*Rana sylvatica*) is the only known species to inhabit the inland, central region.

There are no known fisheries resources in Gilmore Creek and its tributary Rose Creek. To the west of the FCDAS, Goldstream Creek is known to contain Arctic grayling (*Thymallus arcticus*), slimy sculpin (*Cottus cognatus*), and potentially round whitefish (*Prosopium cylindraceum*). Current rehabilitation efforts on Goldstream Creek by Alaska Department of Fish and Game (ADFG) could improve future access for fish to Gilmore and Rose Creeks (ADFG, 2014). Reassessment of fisheries resources should be conducted once rehabilitation efforts are complete.

Developed portions of the FCDAS consist of buildings, antennas, roads, and other man-made infrastructure with maintained, vegetated areas. These areas do not provide habitat to support fish and wildlife species on a large scale. Some small animals, for example, foxes, have adapted and found places on FCDAS where they have built dens.

NLDP

In the NLDP area, the Beaufort Coastal Plain ecoregion provides important breeding habitat for many bird species, including greater white-fronted geese (*Anser albifrons*), snow geese (*Chen caerulescens*), tundra swans (*Cygnus columbianus*), brant (*Branta bernicla*), eiders (*Polysticta* and *Somateria* sp.), yellow-billed loons (*Gavia adamsii*), glaucous gulls (*Larus hyperboreus*), black guillemots (*Cepphus grylle*), ptarmigans (*Lagopus* sp.), long-tailed jaegers (*Stercorarius longicaudus*), long-billed dowitcher (*Limnodromus scolopaceus*), dunlin (*Calidris alpina*), and other sandpipers (*Calidris* sp.). The coastal area is used as a staging area for many bird species prior to migration to other locations around the world. Two of the 31 caribou (*Rangifer tarandus granti*) herds in Alaska occur in the BRW area, the Western Arctic and Teshekpuk herds.

Deadhorse is part of the Central Arctic herd's home range. Other mammals include northern collared lemmings (*Dicrostonyx groenlandicus*), arctic ground squirrels (*Spermophilus parryii*), arctic foxes (*Alopex lagopus*), polar bears (*Ursus maritimus*), grey wolves, and brown bears (*Ursus arctos*). Marine mammals found in the near shore area include walruses, as well as several whale (minke, beluga, gray, and bowhead) and seal (bearded, spotted, and ringed) species. There are no known marine mammals that occur within the BRW or Deadhorse.

There are no known fisheries resources at the NLDP locations. Within the Beaufort Coastal Plain ecoregion arctic cisco (*Coregonus autumnalis*), broad whitefish (*C. nasus*), least cisco (*C. sardinella*), and Dolly Varden (*Salvelinus malma*) overwinter in the larger rivers that do not freeze completely (ADFG, 2006).

4.4.2.2 Environmental Consequences—Proposed Action

FCDAS

Except for the projects listed below, all projects would occur within the existing developed portion of the FCDAS. Those proposed projects would occur in already impacted areas that have no vegetation and do not sustain appropriate habitats for fish and wildlife. Thus, there would be no impacts to fish or wildlife in those particular project areas.

The proposed projects that occur within undeveloped areas of the FCDAS would have minor adverse impacts to wildlife, analyzed below, from construction activities resulting in direct loss of approximately 28 acres of habitat. These proposed projects include:

- ID 18 New Looped Electrical Feed
- ID 20 Security Fencing, Phase 1
- ID 21 New Government Road Extension and Improvement
- ID 25 New Redundant Primary Electrical Feed
- ID 28 Security Fencing, Phase 2
- ID 33 Future Antenna

While most species are mobile and would relocate into adjacent areas, some species (especially those that are small and slow moving, such as the wood frog) might incur mortality from construction activities and loss of habitat. Impacts from the projects in undeveloped areas at the FCDAS would include temporary displacement of wildlife due to construction disturbance in these or partially undeveloped areas. However, there is more than an ample amount of similar habitat in the area which will be able to absorb the increased density of wildlife species, including migratory birds and wildlife that have adapted to human activities and currently frequents the FCDAS.

Due to the interior location of the FCDAS, there is a negligible potential of impacts from the proposed projects to marine resources protected by the NMSA, MMPA, MSA, and the ESA as long as established environmental protection practices are maintained.

NLDP

While the NLDP locations are in coastal areas, the proposed projects at the BRW and Deadhorse would occur approximately one mile and twelve miles, respectively, from marine waters and therefore would have negligible potential to directly impact marine resources. There would be no impacts to fish and wildlife as a result of the NLDP, because proposed projects at the BRW or Deadhorse would occur on existing infrastructure or pre-disturbed sites. Impacts to threatened and endangered species at the NLDP locations are noted in Section 4.4.3.2 (See below).

4.4.2.3 Environmental Consequences—FCDAS Decommission Alternative

Under this alternative the FCDAS would cease operation and all facilities and infrastructure would be demolished. During demolition activities, there would be short-term adverse impacts to wildlife due to noise, movement of materials, and human activity. Restoration of the property to its former state would have a minor, long-term beneficial impact to fish and wildlife as a result of the increased amount of habitat as well as the removal of human disturbance associated with the FCDAS.

4.4.2.4 Environmental Consequences—No Action Alternative

Under the No Action Alternative, there would be no change in existing impacts to fish and wildlife as current operations would remain the same.

4.4.2.5 Mitigation

FCDAS

In order to comply with the Migratory Bird Treaty Act, mitigation measures would avoid vegetation clearing, grubbing, and other site preparations and construction activities during the nest timing window as described by the United States Fish and Wildlife Service (USFWS) (2009). For the FCDAS, the timing window is May 1-July 15.

NLDP

For the NLDP locations, the timing window is June 1-July 31. Some species may nest earlier or later. Therefore nest surveys would be conducted prior to any disturbance activities. Any active nests found would be protected until nesting is complete. A list of species protected by the Migratory Bird Treaty Act can be found at the following website:

http://www.fws.gov/migratorybirds/regulationspolicies/mbta/MBTANDX.HTML.

4.4.3 Endangered and Threatened Species

4.4.3.1 Affected Environment

FCDAS

The USFWS Information for Planning and Conservation (IPaC) is a planning tool for environmental reviews. IPaC Trust Reports identify natural resources, such as threatened or

endangered species, which may be impacted during a proposed project. An IPaC Trust Resource Report was generated for the FCDAS withdrawal as part of this PEA review. There were no plant or animal (terrestrial or aquatic) species listed as threatened or endangered under the Endangered Species Act, designated critical habitat, or wildlife refuges within the FCDAS boundaries. Creamer's Field Migratory Waterfowl Refuge consists of 1,800 acres the closest of which is approximately 8 miles to the southwest (ADFG, 2010). According to the State of Alaska Special Status Species Website, no state listed species occur in the Fairbanks area (ADFG, undated).

Due to the interior location of the FCDAS, there is a negligible potential of impacts from the proposed projects to marine resources protected by the NMSA, MMPA, MSA, and the ESA.

NLDP

IPaC Trust Resource Reports were generated for the approximate BRW withdrawal boundary and the approximate developed limits of Deadhorse. Within the approximate boundaries, the USFWS identified three listed species as federally threatened: polar bear (*Ursus americanus*), Steller's eider (*Polysticta stelleri*), and spectacled eider (*Somateria fischeri*). While the IPac Reports identified final critical habitats designated for the two eider species, none occur in the BRW or Deadhorse locations. There were no national wildlife refuges in the vicinity of the BRW or Deadhorse.

Polar Bear

Polar bears are found throughout the northern polar region. They hunt seals and other prey from pack ice until it melts during the summer. Females excavate their dens from accumulated snow where they give birth. The population was in decline as a result of overhunting. Now a reduction in sea ice affecting food availability and displacement from oil activities are the current threats to this species.

Steller's Eider

Steller's eiders occur in coastal marine waters of southern Alaska migrating to the northern coast during the breeding season. Females nest on islands or peninsulas in tundra lakes and ponds. They have a varied diet ranging from insect larvae and fish to clams and aquatic vegetation. Threats include contaminants, such as oil spills, predation, and cyclical changes in the marine environment.

Spectacled Eider

Spectacled eiders spend a majority of time far out in the Bering Sea migrating inland to the northern and western coasts during the breeding season. Females nest on islands or peninsulas in lakes. They feed on aquatic insects, mollusks, crustaceans, and vegetation. Threats include predation, reduced prey availability, and catastrophic events.

In addition to the species identified in the IPaC Trust Reports, the following table identifies protected species that occur in the marine environment near Barrow and Deadhorse. However, due to the interior location of the proposed NLDP there is a negligible potential of impacts to these species.

Table 4 – Protected Marine Species near the NLDP Locations

Species	Status	Managing Agency
Pacific walrus (*Odobenus rosemarus divergens*)*	MMPA	USFWS
Harbor Porpoise (*Phocoena phocoena*)*	MMPA	NMFS
Bearded Seal (*Erignathus barbatus*)	Threatened/ESA	NMFS
Arctic Ringed Seal (*Phoca hispida hispida*)	Threatened/ESA	NMFS
Ribbon Seal (*Histriophoca fasciata*)*	Species of Concern/MMPA	NMFS
Spotted Seal (*Phoca largha*)	MMPA	NMFS
Beluga Whale (*Delphinapterus leucas*)	MMPA	NMFS
Bowhead Whale (*Balaena mysticetus*)	Threatened/ESA	NMFS
Gray Whale (*Eschrichtius robustus*)	MMPA	NMFS
Humpback Whale (*Megaptera novaeangeliae*)*	Endangered/ESA	NMFS
Killer Whale (*Orcinus orca*)	MMPA	NMFS
Narwhal (*Monodon monoceros*)	MMPA	NMFS

*These species only occur in the vicinity of the BRW.
Sources: NMFS Endangered Species Interactive Map (http://alaskafisheries.noaa.gov/mapping/esa/)
USFWS ECOS (http://ecos.fws.gov/tess_public/reports/species-listed-by-state-report?state=AK&status=listed)

4.4.3.2 Environmental Consequences—Proposed Action

FCDAS

No adverse impacts to federally protected species or state-listed species of concern would be expected from the Proposed Action at the FCDAS since no listed species occur in the vicinity per the IPaC Trust Report and the USFWS Fairbanks Field Office (USFWS, 2014).

NLDP

Proposed projects are not likely to adversely affect the polar bear, Steller's eider, or spectacled eider as antenna installation at the BRW would occur on existing structures and the support building at the BRW and antenna tower pad at Deadhorse would be located adjacent to existing infrastructure. Also, the actions are one-time, with small footprint on the ground. Individual animals that may visit existing NLDP locations would be already habituated to human disturbance. Insignificant changes to existing activities, such as noise, would occur during the

installation of the antenna and support building (at BRW only). Informal Section 7 consultation occurred during the draft PEA release for comment. NOAA/NESDIS did not receive comments regarding listed species from the USFWS. If any polar bear, Stellar's eider, or spectacled eider are observed in the project area work will stop and the USFWS will be contacted.

4.4.3.3 Environmental Consequences—FCDAS Decommission Alternative

Under this alternative NOAA would be responsible for the restoration of the property to the satisfaction of BLM. There are no known federally protected or state-listed species in or near the FCDAS; therefore, there would be no impacts to these resources under this alternative.

4.4.3.4 Environmental Consequences—No Action Alternative

Under the No Action Alternative, as with current operations, there would be no impacts to endangered and threatened species.

4.4.3.5 Mitigation

FCDAS

No mitigation would be required for the Proposed Action at the FCDAS, because there are no endangered or threatened species.

NLDP

Though comment was requested, NOAA/NESDIS did not receive any comments or mitigation measures from the USFWS for the Proposed Action at the NLDP location.

4.5 Drainage and Water Quality

Surface and groundwater resources are protected by federal and state laws and regulations, including the Clean Water Act (CWA) [Sections 401, 402, and 303(d)], the Safe Drinking Water Act, Section 438 of the Energy Independence and Security Act, and the USEPA's National Pollutant Discharge Elimination System, administered by ADEC.

The objective of the CWA is to maintain and restore the chemical, physical, and biological integrity of the waters of the United States. Section 404 of the CWA authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits for the discharge of dredged or fill material into waters of the U.S., including deep water habitats, special aquatic sites, and wetlands.

Stormwater runoff in urban and developing areas is one of the leading sources of water pollution in the United States. In recognition of this issue, Congress enacted Section 438 of the Energy Independence and Security Act of 2007 to require federal agencies to reduce stormwater runoff from federal development projects. Guidance published by the USEPA (EPA-841-B-09-001) provides a step-by-step framework to help federal agencies maintain pre-development site

hydrology by retaining rainfall on-site through infiltration, evaporation/transpiration, and re-use to the same extent as occurred prior to development.

The ADEC administers the USEPA National Pollutant Discharge Elimination System Stormwater Program for the state. The Alaska Pollutant Discharge Elimination System General Permit for Storm Water Discharges from Construction Activity, Permit Number AKR100000, also referred to as the Construction General Permit (CGP), was issued by the USEPA with an effective date of July 1, 2011 (ADEC, 2011). The CGP authorizes discharge of stormwater from large and small construction projects in Alaska that result in a total land disturbance of equal to or greater than one acre.

4.5.1 Affected Environment

FCDAS

Gilmore Creek flows from east to west through the Gilmore Valley, in a channel south of, and parallel to Eisele Road near the old Operations Building. Gilmore Creek flows into Pedro Creek to the southwest of the FCDAS. Pedro Creek flows into Goldstream Creek about four miles southwest of the FCDAS. Like Gilmore Creek, dredging and sedimentation due to mining modified the channels of Pedro and Goldstream Creeks. Goldstream Creek empties into the Tanana River about 30 miles west of Fairbanks. The Tanana River is a tributary of the Yukon River, which empties into the Bering Sea at the Yukon Delta.

The FCDAS is within the watershed of Fish Creek, which flows eastward into the Little Chena River. The Little Chena River is a tributary of the Chena, Tanana, and Yukon Rivers. Surface water quality data is not available for Gilmore Creek or the Tanana River Basin, and no portion of the Tanana River Basin has been listed as impaired on the Alaska 303(d) list of impaired water bodies. Less than 0.2 percent of all rivers within the State of Alaska have been assessed for surface water quality (USEPA, 2014).

The FCDAS obtains water from three groundwater wells located near the Facilities and Operations buildings and the VLBI building. These wells draw from aquifers within bedrock. Most of Alaska's aquifers consist of unconsolidated materials derived from glaciers, rivers, and streams. Producing aquifers are typically unconfined (i.e., not protected by a layer of clay or silt), and the depth to groundwater ranges from a few feet to over 400 feet statewide. Although water quality data is sparse, most of the state's groundwater is suitable for domestic, agriculture, aquaculture, commercial, and industrial uses with moderate or minimal treatment. Naturally occurring iron, manganese, and arsenic are the most common treatment problems in groundwater systems. Storage and spills of fuel, along with wastewater disposal, primarily from onsite (septic) systems, are common threats to groundwater quality (ADEC, 2005).

NLDP

The BRW is within the Northwest Coast Watershed. There are no water bodies listed as impaired within this watershed. The BRW is approximately 0.3 miles south of North Salt Lagoon and approximately 0.75 miles southeast of Imikpuk Lake, which are the closest water bodies. The BRW is approximately 1.1 miles west of Elson Lagoon, which opens to the Beaufort Sea, and approximately 1.25 miles east of the Chukchi Sea.

Surface water is abundant in the Deadhorse area. Numerous shallow lakes, a major river and extensive seasonal wetlands surround Deadhorse. The Sagavanirktok River is the second largest river on the North Slope and flows within 0.3 miles of the Deadhorse Airport, which is located in the heart of the area used for industrial purposes. Groundwater flow is controlled by permafrost and is frozen for most of the year except for a brief summer thaw period where near-surface groundwater may be able to move. The permafrost acts as a confining layer, restricting downward movement of water. Deep groundwater may be present below the permafrost and in deep rock layers (USGS, 1995).

4.5.2 Environmental Consequences—Proposed Action

FCDAS

No direct impacts to the groundwater supply at FCDAS are anticipated from implementation of the Proposed Action due to the great depth to groundwater. The Facilities Building well has an intake depth of approximately 270 feet below ground surface, and the VLBI Building well has an intake depth of approximately 180 feet below ground surface. The proposed new potable water well (ID #9) will replace the current Facilities Building well, therefore it is anticipated the overall groundwater extraction would remain at its current level. No impact to drainage would result from implementation of the Proposed Action. Gilmore Creek, a jurisdictional water of the U.S., would not be impacted by dredge or fill material from any of the proposed projects; therefore, no permit would be required from the USACE Regulatory Branch.

All of the projects included in the 2015 FCDAS FMP have the potential to impact surface water quality through soil disturbing activities and use of heavy equipment. Sediments from the exposed soil and accidental spills of fuel or other chemicals could contaminate stormwater runoff from maintenance, construction, or demolition activities related to the Proposed Action. Without proper controls, stormwater runoff could flow into Gilmore Creek and other downstream water bodies at the FCDAS. Through BMPs typically used in the local area , stormwater runoff would be minimized. Short-term, direct impacts to surface water could result from implementation of the Proposed Action. These impacts would be intermittent as individual projects are carried out, but would be minor in nature with the use of BMPs which have historically been adequate protection for the proposed level of work.

In accordance with EO 13514 and the Energy Independence and Security Act, site planning, design, construction, and maintenance plans would incorporate a drainage system that would

closely replicate the predevelopment hydrology of the site to preserve the water resources both on-site and downstream of the proposed project area. This would result in no significant long-term impact to surface water or drainage from performance of the Proposed Action.

NLDP

The amount of soils disturbed from operation of medium equipment during implementation of the NLDP portion of the Proposed Action installation at either the BRW or Deadhorse would be small. It might result in, at most, short-term, minor impacts to surface water quality, but use of BMPs would minimize these impacts to a level of insignificance. No direct impacts to water bodies near the NLDP locations would be expected from the Proposed Action.

4.5.3 Environmental Consequences—FCDAS Decommission Alternative

NOAA would be responsible for restoring the FCDAS in conformance with BLM regulations. Restoration would not change drainage patterns of the Gilmore Valley. The process of demolishing and removing all structures and infrastructures could release pollutants to the environment and adversely affect surface water quality. However, with use of BMPs during demolition activities these risks would be mitigated. At action completion, there would be an overall beneficial impact to drainage and water quality with the removal of the impervious surfaces and the return to an essentially undeveloped site.

Actions to remove culverts or bridges from Gilmore Creek would be coordinated with the USACE Alaska District Regulatory Branch, and would be permitted under Nationwide Permit 14: Linear Transportation Projects.

4.5.4 Environmental Consequences—No Action Alternative

Under the No Action Alternative, FCDAS would continue to operate as currently, with BMPs in place to prevent impacts. There would be no significant changes to impacts to drainage and water quality at the FCDAS -- unless due to other factors not related to project construction, for example, glaciation -- and none in the NLDP.

4.5.5 Mitigation

Any project that disturbs over one acre of land would require implementation of a SWPPP, which would include erosion control measures. During any construction and demolition activity at the FCDAS or NLDP locations, BMPs including erosion control measures would be implemented to prevent degradation of water quality.

Mitigation requirements for the Proposed Action and the FCDAS Decommission Alternative would be the same as those described for soil erosion in Section 4.3.5. With the use of BMPs during demolition activities the impacts to drainage and water quality would be short-term and minor. Coordination with the USACE Regulatory Office would be undertaken for the removal of culverts or bridges under the FCDAS Decommission Alternative.

Under the No Action Alternative, there would be no mitigation required as there are no changes to impacts to drainage or water quality.

4.6 Wetlands

EO 11990, *Protection of Wetlands*, directs federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands, and to avoid direct or indirect support of new construction in wetlands whenever there is a practicable alternative. Under Section 404 of the CWA, the USACE is responsible for delineating federal jurisdictional wetlands and issuing permits for construction in wetlands. The USACE defines federal jurisdictional wetlands as those areas with a suitable hydrology regime and hydric soils that support (or could support) hydrophilic vegetation.

4.6.1 Affected Environment

FCDAS

Two wetland delineations have been conducted at the FCDAS (see Figure 10, Page 51). Two small wetlands were delineated on the north side of the valley floor, connected by a seasonal/intermittent stream that drains the south-facing slope. The wetland above the north collimation road holds spring runoff from snow melt and rainwater before it passes under the road through a culvert. In addition, a small wetland north of the existing FSOF floods as the slope levels and the stream traverses through maintained grounds. The stream that traverses the maintained ground supports the growth of hydrophytic scrub-shrub vegetation and was delineated as a palustrine scrub-shrub wetland.

In addition to the wetlands that have been identified through delineation, all north-facing slopes within the FCDAS are considered wetlands. North-facing slopes have a shallow depth to permafrost and contain hydric soils (NRCS, 2000). The dominant vegetation is black spruce, which grows predominantly in wetlands. USFWS National Wetland Inventory mapped large areas of wetlands on these north-facing slopes (USFWS, 2012).

Based on wetland delineations, soils maps, and the National Wetland Inventory, wetland characteristics are consistent through the FCDAS property. North-facing slopes and areas dominated by black spruce are considered wetlands. South-facing slopes contain more uplands (i.e., non-wetlands), but contain scattered, relatively small wetland areas that collect snowmelt and rainwater. These wetlands drain to the valley and typically discharge water to an intermittent or perennial stream.

NLDP

Wetlands cover approximately 82% of the Beaufort Coastal Plain ecoregion (ADFG, 2006). Wetlands are plentiful, but are seasonal since the majority of the year the area remains frozen.

USFWS National Wetland Inventory maps identified the entire BRW property and the undeveloped portions of Deadhorse as freshwater emergent wetland (USFWS, 2012).

4.6.2 Environmental Consequences—Proposed Action

FCDAS

No significant impacts to wetlands would be expected from the Proposed Action at the FCDAS. It is NOAA policy to site projects outside of wetlands. For specific project development, wetlands would be delineated during the design process, if necessary, so as to be avoided during construction, thus during specific project development compliance with EO 11990, *Protection of Wetlands,* would be met.

NLDP

Implementation of the Proposed Action at the NLDP locations would result in no significant impacts to wetlands. Proposed projects at the BRW would use an existing antenna pad or tower for the installation of a new antenna. A 10’ x 10’ equipment building would be constructed with a pile foundation which would remove approximately 31 cubic yards of soil, as calculated in Section 2.3. At Deadhorse, the antenna tower pad would be placed within a previously disturbed area, but would require alterations to the soil. There is potential during the placement of the building or antenna tower pad to impact approximately 400 square feet of wetlands. These actions would qualify for a Section 404 Nationwide Permit #5, Scientific Measuring Devices, from the USACE. Use of this permit does not require notification of the USACE or further action. This permit allows for devises whose purpose is to measure and record scientific data.

4.6.3 Environmental Consequences—FCDAS Decommission Alternative

Under this alternative the FCDAS would cease operation and all facilities and infrastructure would be demolished. There would be no impact to wetlands as a result of this alternative because none of the facilities are located in wetlands.

4.6.4 Environmental Consequences—No Action Alternative

Under the No Action Alternative, there would be no impacts to wetlands, as current operations would remain at status quo.

4.6.5 Mitigation

No mitigation would be necessary for the Proposed Action at the FCDAS due to NOAA’s policy of avoiding wetlands and because current proposed project sites are located outside wetlands.

No mitigation would be necessary at the NLDP locations since there would be no significant impacts to wetlands. Projects would occur on previously developed sites or not in wetlands at all.

No mitigation would be necessary with the FCDAS Decommission Alternative, as current infrastructure is not located in wetland areas.

While there would likely be no direct impact to wetlands from any proposed projects, BMPs would be utilized during construction or demolition activities to protect any wetlands from stormwater effects, sediment loading, or incidental hazardous material spills.

4.7 Floodplains

EO 11988, *Floodplain Management*, requires federal agencies to determine whether a proposed action would occur within a floodplain and consider alternatives to avoid adverse effects and incompatible development in floodplains. EO 11988 directs federal agencies to avoid floodplains unless the agency determines that there is no practicable alternative. The Federal Emergency Management Agency (FEMA) oversees and regulates floodplain management. Regulatory floodplains are delineated in FEMA Flood Insurance Rate Maps (FIRM).

4.7.1 Affected Environment

FCDAS

Gilmore Creek flows west through a channel on the south side of Eisele Road within the FCDAS. Hill, Tom, and Rose Creeks feed Gilmore Creek before merging with Pedro Creek near the Steese Highway. Pedro Creek flows into Goldstream Creek. The ADNR Tanana Basin Area Plan includes a 100' buffer as a regionally recognized standard for recreational stream which is reflected in Figure 10. These streams are not recognized recreational streams, however, as a BMP NOAA will use it as a guidance.

According to the FEMA FIRM (2014), FCDAS is located in Zone X—minimal risk areas outside the 1-percent, 100-year floodplain. No base flood elevations or base flood depths are shown within these zones (FEMA, undated).

There are no stream-gage stations on any creeks that flow through the FCDAS according to the USGS National Water Information System Mapper (USGS, undated). The nearest gage station is at Fish Creek below Solo Creek, approximately six miles east of the FCDAS boundary, where data indicate peak flows typically occur from May through September (USGS, 2013). During winter months, aufeis creates flooding potential in the Gilmore Creek Valley. Aufeis is formed when water flows over the ice, then ponds and freezes. It can continue to build up in the creek channel until flooding occurs. Build-up is dependent on weather conditions, and is therefore, difficult to predict or gauge. To date, FCDAS personnel using steam tools and equipment have controlled aufeis build-up. These control measures have limited problems from aufeis flooding.

NLDP

FEMA has not assessed FIRMs for the NSB. Coastal erosion and flooding occurs during open water season (August-October) storms (USACE, 2007). These storms are usually short, but intense, and have caused damage in the past. The BRW has berms to protect infrastructure as it is approximately one mile from the coastline, possibly in response to flooding in Barrow in 1963 that

came within ½ mile of the BRW. Deadhorse is approximately twelve miles from the coastline and therefore, it is unlikely that a storm surge would cause flooding problems.

4.7.2 Environmental Consequences—Proposed Action

FCDAS

No impacts to floodplains would be expected from implementation the Proposed Action, as none of the projects proposed in the 2015 FCDAS FMP would disturb or are sited in the Gilmore Creek floodplain. Since no actions will occur in the floodplain, no compliance with EO 11988 is needed. As currently located, there are four projects within the 100' stream buffer. As mentioned above, this avoiding construction in the buffer is a BMP and not a restrictive requirement.

- ID 2 Road Repairs Phase 4 (Eisele and Domorski)
- ID 18 New Looped Electrical Feed
- ID 20 Security Fencing, Phase 1
- ID 27 Demolish Independent Research Facility

These projects have the potential to affect vegetation and soil within the buffer. Mitigation actions would reduce the likelihood of adverse impacts.

Implementation of the Proposed Action would result in an overall increase of impervious surface at the FCDAS. Impacts could include increased surface water runoff. However, as most of the proposed projects occur within the valley floor with little to no sloping, the potential for increased runoff to Gilmore Creek is low. Project ID 21, Government Road Extension and Improvement, located on the slope north of the main developed area would result in the major addition of impervious surface. In this case, the impervious surface is spread across approximately 7,000 linear feet therefore resulting in negligible concentrated or adverse runoff potential impacts.

NLDP

No impacts to floodplains would be expected from implementation of the Proposed Action at the NLDP locations. The NLDP locations are coastal or near coastal but not at risk from storm surge flooding due to protective berms at the BRW and the distance from the coastline at Deadhorse. The NLDP proposed project would increase the impervious surface by approximately 100 square feet. This is a negligible amount of area, and both NLDP locations are currently quite flat. Overall, adverse impacts from runoff potential are negligible.

4.7.3 Environmental Consequences—FCDAS Decommission Alternative

The FCDAS is considered to be outside the 100-year floodplain. No adverse impacts on floodplains would be expected from facility demolition or site cleanup as no modification to the Gilmore Greek floodplain would occur. Minor, beneficial impacts from the removal of impervious surfaces would occur with this alternative.

4.7.4 Environmental Consequences—No Action Alternative

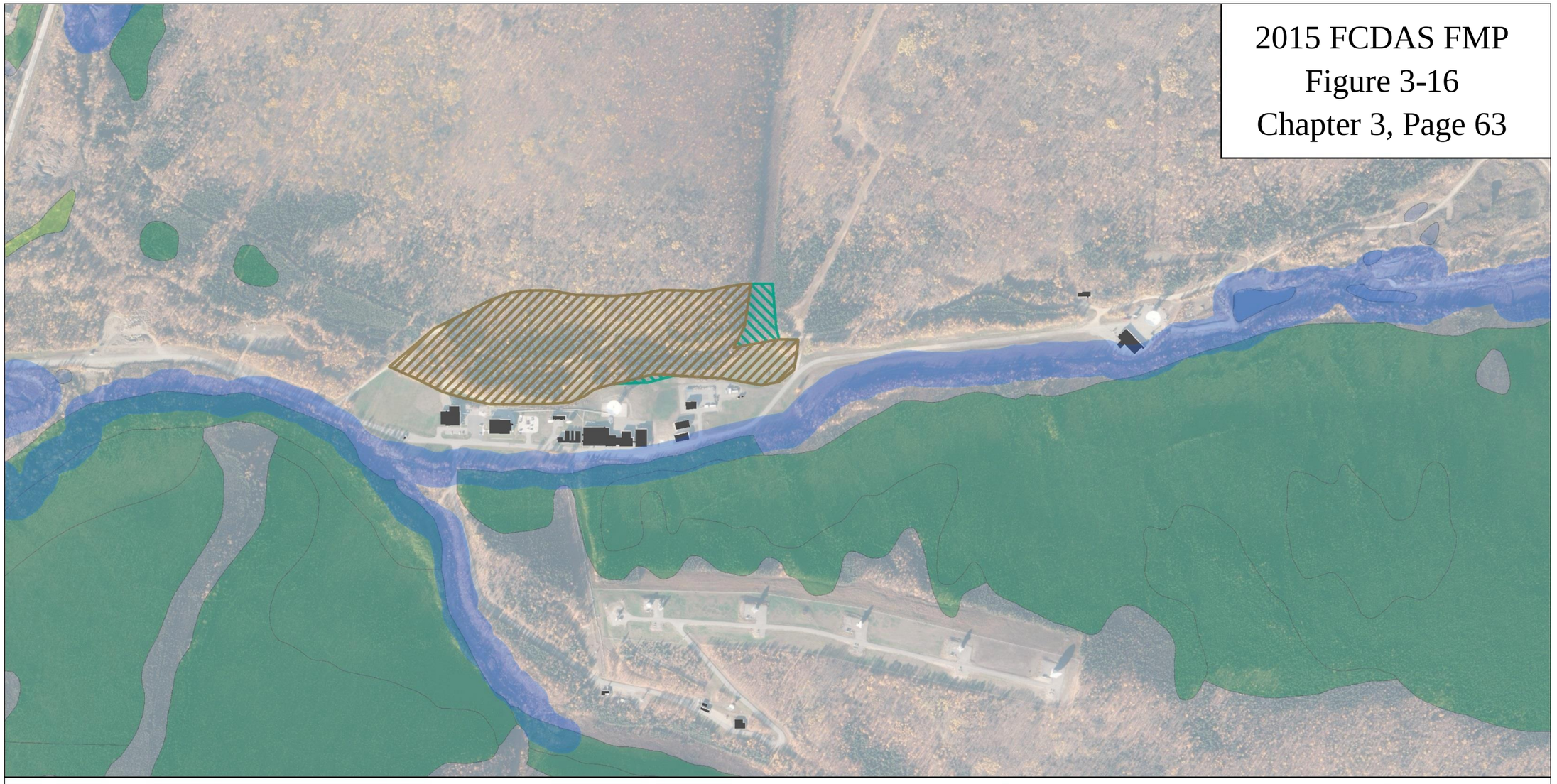
Under the No Action Alternative, there would be no impacts to floodplains since current operations do not occur in the Gilmore Creek floodplain. With this alternative, there would be no change in impervious surfaces.

4.7.5 Mitigation

No mitigation would be required as there are no impacts to floodplains for any alternative.

Mitigation actions for the four projects currently sited within the 100' stream buffer would be the same as those described for soil erosion in Section 4.3.5.

Figure 10 – Stream Buffer



4.8 Coastal Zone Management

Federal agencies proposing development that may affect coastal resources are required to prepare a Federal Consistency Determination and submit it to the state's coastal resource management program for concurrence. The ADNR managed Alaska's Coastal Management Program (CMP). However, the CMP was closed on July 1, 2011 when Alaska Legislature failed to pass legislation requiring extension of the program (ADNR, 2011).

4.8.1 Affected Environment

FCDAS

FNSB lies outside of the coastal zone that the ADNR designated in their CMP therefore the FCDAS would not have been subject to Alaska's CMP (ADNR, 2011).

NLDP

Both the BRW and Deadhorse lie within the established coastal zone identified by the State of Alaska and recognized by the NSB. A coastal zone management program was developed by NSB in order to manage coastal resources and plan for balanced use. The program developed the NSB Coastal Management Plan (NSB, 2007).

4.8.2 Environmental Consequences—Proposed Action

FCDAS

Implementation of the Proposed Action at the FCDAS would occur outside of the established coastal zone for the state of Alaska. Therefore, no impacts to coastal resources would result.

NLDP

Implementation of the Proposed Action at NLDP locations would occur within the established coastal zone for the NSB. Since the state of Alaska has not extended the CMP, submitting a Federal Consistency Determination is not possible. NESDIS completed an internal review of the actions, and determined the scale and nature of the actions proposed at the NLDP locations would be consistent with existing development and activities currently permitted within the local coastal zone. Thus, no adverse impacts would be expected.

4.8.3 Environmental Consequences—FCDAS Decommission Alternative

The FCDAS is outside the established coastal zone for the State of Alaska. No adverse impacts on the coastal zone would be expected from facility demolition or site restoration.

4.8.4 Environmental Consequences—No Action Alternative

Under the No Action Alternative, there would be no impacts to the coastal zone since current operations do not affect the coastal zone.

4.8.5 Mitigation

No mitigation would be required for the Proposed Action at the FCDAS as it is outside the established coastal zone.

No mitigation would be required at the NLDP locations because the proposed projects would be consistent with existing development and activities permitted within the coastal zone.

4.9 Wild and Scenic Rivers

The Wild and Scenic Rivers Act of 1968 (16 USC, Chapter 28 §§ 1271–1287), administered by the Department of Interior, provides for a wild and scenic river system by recognizing the remarkable values (scenic, recreational, geologic, fish and wildlife, historic, cultural, or other values) of specific rivers of the United States.

4.9.1 Affected Environment

FCDAS

The two designated wild and scenic rivers closest to the FCDAS withdrawal are Beaver Creek and Birch Creek (NWSRS, 2012). At their closest approach, Beaver and Birch Creeks are located about 25 miles north and 55 miles northeast of the FCDAS, respectively. Both creeks flow northward and drain into the Yukon River.

NLDP

There are no designated wild and scenic rivers near the NLDP locations (NWSRS, 2012). The Noatak River is located approximately 230 miles south of the BRW and the Ivishak River is located approximately 80 miles south of Deadhorse.

4.9.2 Environmental Consequences—Proposed Action

Due to the distance to the nearest wild and scenic river, no impacts on wild and scenic rivers would result from the Proposed Action at the FCDAS or NLDP.

4.9.3 Environmental Consequences—FCDAS Decommission Alternative

Due to the distance from the FCDAS to designated wild and scenic rivers, no adverse impacts would be expected from facility demolition or site cleanup.

4.9.4 Environmental Consequences—No Action Alternative

Under the No Action Alternative, there would be no impacts to wild and scenic rivers as current operations do not affect any wild and scenic rivers.

4.9.5 Mitigation

No mitigation would be required, since there are no wild and scenic rivers near the FCDAS and NLDP locations.

4.10 Air Quality

Public concern about air quality resulted in federal and state actions under the Clean Air Act (CAA) of 1970 and the CAA Amendments of 1977 and 1990. Under authority of the CAA, the EPA promulgated primary and secondary National Ambient Air Quality Standards (NAAQS) for seven "criteria" pollutants: particulate matter (PM) with an aerodynamic diameter less than or equal to 10 microns, PM 2.5 micrometers in diameter and smaller, nitrogen oxides, sulfur dioxides, lead, ozone, and carbon monoxide.

Following this legislation, the CAA Amendments of 1990 identify certain areas of the country as being in non-attainment of the NAAQS. Individual states were then required to submit, for federal approval, a State Implementation Plan that specifies actions designed to bring nonattainment areas into conformity with federal air quality standards. The Alaska Department of Environmental Conservation (ADEC) oversees Alaska's federally-approved State Implementation Plan.

USEPA regulations at 40 CFR Part 93, *Determining Conformity of Federal Actions to State or Federal Implementation Plans*, require that federal agencies determine the conformity of proposed federal actions if located in non-attainment or maintenance areas (i.e., former non-attainment areas that have recently attained NAAQS).

Greenhouse Gases and Global Warming

EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance* (October 5, 2009), outlines policies intended to ensure that federal agencies evaluate climate change risks and vulnerabilities and manage the short- and long-term effects of climate change on their operations and mission. The EO specifically requires federal agencies to measure, report, and reduce their Greenhouse Gas (GHG) emissions from both their direct and indirect activities. Direct activities include sources the agencies own and control and the generation of electricity, heat, or steam they purchase. Indirect activities include actions of their vendor supply chains, delivery services, and employee travel and commuting.

Direct and indirect activities comprise Scope 1, 2, and 3 GHG emissions. Scope 1 GHG emissions originate from onsite sources such as natural gas combustion in boilers, and Scope 2 emissions are indirect emissions associated with consumption of purchased electricity. Scope 3 emissions are largely made up of employee commuting emissions. The DOC detailed its strategy for reducing GHG emissions in a Strategic Sustainability Performance Plan (USDOC, 2012).

The DOC established a 21% reduction target for agency-wide Scope 1 and 2 GHG emissions by fiscal year 2020, and a 6% reduction target for agency-wide Scope 3 GHG emissions by fiscal year 2020. The Department achieved a 5.4 percent reduction in these emissions from 2010 to 2011 (USDOC, 2012).

4.10.1 Affected Environment

FCDAS

The Fairbanks area is in attainment of NAAQS for all criteria pollutants except PM with a diameter smaller than 2.5 microns (PM 2.5). However, the FCDAS is outside of the USEPA PM 2.5 Non-Attainment Boundary for the FNSB (ADEC, 2009). As such, the FCDAS has no restrictions in regards to criteria pollutants. Currently, there is no requirement for ambient air monitoring at the FCDAS.

For GHG emissions, direct activities include purchased electricity and the usage of equipment. Golden Valley Electric Association provides electric service to the FCDAS via power lines located along Steese Highway and Eisele Road. Equipment used by station personnel consumes modest amounts of gasoline and diesel fuel, including high sulfur containing fuels. According to the FCDAS Stationary Source Permit, there are nine emission units. The units include three standby engine generators, five hot water boilers, and one diesel pump. Air emissions data for the nine current units are shown in Table 5.

Table 5 – Air Emissions of Current Equipment

	Standby Generators-3
NO_x	34.68 lbm/hr
CO	1.13 lbm/hr
HC	0.73 lbm/hr
PM_{10}	0.26 lbm/hr
SO_2	3.01 lbm/hr

	Diesel Pump (ton/yr)	**FSOF Boilers-2 (ton/yr)**	**Powerhouse Boilers-3 (ton/yr)**
NO_x	0.0037	0.41	0.08
CO	0.0009	0.10	0.02
PM	0.0004	0.04	0.01
PM_{10}	0.0002	0.02	0.00
SO_2	0.01	1.16	0.24
VOC	0.0001	0.01	0.00
Pb	0.0000	0.00	0.00

NLDP

According to the Emissions, Meteorological Data, and Air Pollutant Monitoring for Alaska's North Slope dated December 21, 2011, there are a lack of monitoring stations and data for the entire NSB. Most ambient air monitoring is done by industrial/commercial entities. However, the

BRW measures the properties of the atmosphere related to air quality, the ozone layer, and GHG. To continue to operate, the BRW requires the maintenance of a Clean Air Sector where it is important to keep emissions to an absolute minimum. The Barrow area is in attainment of NAAQS for all criteria pollutants. Ambient air measuring began in 2010 at Deadhorse, however, the referenced document does not include the specific ambient air data for Deadhorse. As a result, criteria pollutants are analyzed from the NSB. For the entire NSB, the highest measured concentrations of pollutants were generally half of the NAAQS levels with the exception of NO_2 and PM-2.5. The report notes that the concentration of these pollutants had not been computed to represent ambient concentrations based on the definition of the standard (annual mean averaged over three years), and once computed could reduce the levels to below the NAAQS.

Green House Gases

The International Council for Local Environmental Initiatives conducted an inventory of GHG emissions. The total GHG emissions in FNSB reported in 2007 was 3.76 Million Metric Tons of CO_2 Equivalent (MMt CO_{2e}). This is higher than the national average per resident. The higher rate of emissions is likely due to the cold climate. The NSB did not have GHG emissions data as part of the initiative. The status of GHG emissions of the FNSB and NSB are provided in Appendix A.

4.10.2 Environmental Consequences—Proposed Action

FCDAS

During implementation of the Proposed Action, short-term adverse effects on air quality would be expected. This would occur during construction and demolition activities from equipment air emissions and from movement of earth from installation and removal of built infrastructure and during ground-clearing and grading. Movement of building materials and removal of topsoil would expose silt soils to wind erosion, potentially generating substantial amounts of dust. Additional dust could be generated during placement and removal of surcharge materials and final site grading.

The Western Regional Air Partnership Fugitive Dust Handbook (2006) recommends an average of 0.011 ton/acre-month when calculating PM_{10} emissions. The proposed projects for 2018 would result in the highest acreage disturbed for the ten year period at approximately 13 acres. Using an estimated 4-month time period, 0.57 tons or approximately 1,200 lbs of PM_{10} could be expected as the maximum amount generated. In comparison, a 2011 National Air Emissions Inventory results for construction dust within all of the FNSB was approximately 328 tons. Mitigation actions would reduce the dust to negligible levels.

Air emissions from heavy equipment and temporary stationary sources, such as standby generators, would be intermittent, short-term, and insignificant. Increases in emissions would not exceed *de minimis* thresholds, would be regionally minor, and would not contribute to a violation of any federal, state, or local air regulation.

Long-term air emissions from building equipment would not change significantly from current levels. Actually, it is anticipated with implementation of the proposed projects, new equipment would have reduced emissions compared to the data identified in Table 5. While there would continue to be emissions from driven equipment and vehicles, this would occur in an attainment area and would have only minor effects on air emissions. Again, with fewer facilities and less driving required, overall less emissions would be anticipated. A federal conformity determination would not be required.

NLDP

Construction activities associated with the NLDP are minimal. Proposed Actions at the BRW or Deadhorse both would only disturb up to approximately 31 cubic yards of soil for the 10' x 10' building or antenna tower pad. Air emissions would also be associated with the use of equipment during installation at the facilities. Together, these actions would result in a short-term minor impact to air quality. Long-term air emissions at either BRW or Deadhorse would return to current levels.

Green House Gases

Under the Proposed Action, there would be a minor beneficial impact to GHG emissions at the FCDAS and none to either NLDP location. New construction would be designed in conformance with Leadership in Energy and Environmental Design (LEED) principles, resulting in decreased air emissions from more efficient space and water heating and cooling systems and by using more "green" building materials. More specifically, GHG emissions would be reduced at the FCDAS by updating existing facilities, demolishing obsolete facilities, constructing modern facilities, and following recommendations set forth in the DOC Strategic Sustainability Performance Plan.

4.10.3 Environmental Consequences—FCDAS Decommission Alternative

Substantial movement of materials would be required for removal of the built infrastructure. This removal of building materials, as well as some topsoil, would expose silt soils to wind erosion, potentially generating substantial amounts of dust. Additional dust could be generated during placement and removal of surcharge materials and final site grading. Approximately 1,800 lbs of PM_{10} could be generated assuming a 20 acre impact area of current infrastructure with the 0.011 ton/acre-month and four month time period. This would result in short-term, minor adverse impacts to air quality.

Conversely, existing Powerhouse boiliers and emergency power generators would be removed. Electric consumption by the FCDAS would cease. Air emissions would be reduced permanently in the larger Fairbanks area resulting in a long-term, minor beneficial impact to air quality. At this time there is no ambient air data for the FCDAS however, any decrease in air emissions is expected to be modest and effects on air quality minor since the FCDAS is currently in an attainment area for critical pollutants.

Green House Gases

There would be a minor, beneficial impact to GHG emissions at the FCDAS with the removal of infrastructure and equipment that are currently utilized.

4.10.4 Environmental Consequences—No Action Alternative

Under the No Action Alternative, over time, there would be an increase in impacts to air quality from criteria pollutants and GHGs at FCDAS since improvements to equipment would not take place. Overtime, it is anticipated that emissions would increase as a result of equipment becoming outdated and inefficient.

Under the No Action Alternative, there would be no change in impacts to air quality from criteria pollutants and GHGs at the NLDP locations.

4.10.5 Mitigation

During any construction or demolition activities at the FCDAS or NLDP location, BMPs would be implemented to minimize the amount of dust generated, such as treating exposed areas of soil with sprayed water or dust suppressants, as warranted, and promptly removing spilled and tracked dirt from paved surfaces. Equipment would need to be maintained in good running order to keep exhaust emissions at acceptable levels.

No mitigation would be required for the No Action Alternative.

4.11 Noise

Noise is any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Human response to noise varies depending on the type and characteristics of the noise, the distance between the noise source and the receptor, receptor sensitivity, and the time of day. Noise is often generated by activities such as construction or vehicular traffic.

4.11.1 Affected Environment

FCDAS

The FCDAS is located in a rural area. The main source of noise is from vehicles using Steese Highway and internal roads of the FCDAS; occasional aircraft flights add minimal noise. Noise generated by movement of antennas at the FCDAS, operation of heating and air conditioning equipment, use of power equipment at the existing operations building, add to the vehicular noise.

As part of the True North Mine Project Environmental Evaluation (Fairbanks Gold Mining, Inc., 2000), equivalent continuous sound levels (Leq) were measured at several locations in the general vicinity of the FCDAS. Table 6 shows the results of the True North Noise and Vibration Study. Measured sound pressure levels range from such typically found at a library, at the low end, to that

of a lawn mower at the high end. Comparatively, maximum exterior noise levels recommended by the United States Environmental Protection Agency (USEPA) is 70 decibels in a 24 hour period.

Table 6 – Noise Monitoring Summary

Noise Survey Location	Approximate Distance from FCDAS	Daytime Leq	Nighttime Leq
Intersection of Steese and Elliot Highways	2.5 miles	58-61	43-50
Pedro Dome Road	5 miles	35-40	30-35
Intersection of Fish Creek and Skiland Road (adjacent to Steese Highway)	5.5 miles	70-78	42-75

The FCDAS does not contain any areas of use, such as residences, schools, or hospitals that are sensitive to noise. The nearest sensitive noise receptors are residences located along Steese Highway, about 3,000 feet west of the FCDAS Facilities Building. The largely undeveloped hills surrounding the FCDAS provide a buffer to electromagnetic interference and acoustic noise.

NLDP

The BRW is located in a rural area. The main source of noise is from vehicles using Dew Line Road. Noise generated by facility operations, such as movement of antennas at the BRW and adjacent properties occupied by the USGS, USAF, and United States Navy add to the vehicular noise. The BRW does not contain any areas of use, such as residences, schools, or hospitals that are sensitive to noise. The nearest sensitive noise receptor would be Ilisagvik College, approximately one mile to the southwest.

Deadhorse, AK is located in an isolated area. The main source of noise is from vehicles using the Dalton Highway, which is the main route that connects Deadhorse with the city of Fairbanks and the Deadhorse Airport. The airport provides runway and hangar services for commuter and small commercial-type aircraft. Sensitive noise receptors at Deadhorse include the 25-30 permanent residents and the additional 2,000-3,000 transient, temporary residents associated with industry in the area (mainly oil industry).

4.11.2 Environmental Consequences—Proposed Action

FCDAS

During implementation of the Proposed Action, use of heavy machinery, equipment, and hand tools would generate intermittent loud noises typical of construction sites within the FCDAS. Construction and demolition activities would occur primarily during normal working hours. The duration of the noise generation would vary depending on the nature and complexity of the proposed project.

The peak noise levels at 50 feet from the source of noise would be about 89 dBA (Bolt, Beranek, and Newman, 1971). Table 7 (below) provides information on the magnitude of noise to be expected from construction or demolition at various distances.

Table 7 – Qualitative Noise Comparison

Distance (feet) from Source	dBA L_{eq}	Indoor Equivalent Sound*
50	89	Garbage Disposal at 3 feet
500	69	Normal Speech at 3 feet
1,000	63	Large Business Office
3,000	53	Dishwasher in Next Room
5,280 (1 mile)	49	Theater

* Sources: http://www.dot.ca.gov/dist2/projects/sixer/loud.pdf

A doubling of distance from the sound source will reduce the sound level by 6 dB (USDOL, Undated). Due to the distance to nearby sensitive receptors, construction and demolition noise impacts would be minor.

NLDP

The installation of an antenna and any support infrastructure at the NLDP location would generate minimal noises from small to medium-sized equipment and hand tools. Operational antenna movement noise would be intermittent and unobtrusive.

4.11.3 Environmental Consequences—FCDAS Decommission Alternative

Under the assumptions for this PEA, improvements at the FCDAS that would be demolished and removed under this alternative, would total approximately 475,000 cubic yards of structure and road material (FCDAS FMP, 2015). Noise levels during demolition activities would be the same as those produced under the Proposed Action, but would likely take place over a single period of time and would be less intermittent. Still, due to the distance to nearby sensitive receptors, and buffering by surrounding hills, noise impacts from demolition would be minor and temporary.

Overall, impact from vehicular traffic noise would be relatively short-term and relatively minor. During demolition activities, vehicle traffic would increase at the FCDAS and on Steese Highway for perhaps several months. The increase in short-term noise would be caused by multiple trips of various vehicles, such as 2 ½ ton trucks with dump trailers. For planning purposes, 20 cubic yard side dump trailers could make in the range of 23,000 to 24,000 trips to move the demolition materials, as calculated in Section 2.3. For example, a typical diesel truck (such as an equipment hauler or dump truck), traveling at 50 miles per hour produces a noise level of approximately 80 dBA at a distance of 50 feet (California DOT, Undated). The increase in short-term noise levels may affect residences, wildlife, and persons near Steese Highway. However, this noise level already exists along Steese Highway and existing wildlife is desensitized by existing traffic noise,

and off-road noise between FCDAS and Steese Highway would be buffered by surrounding terrain, thereby mitigating effects. Noise levels after demolition activities are completed would return to current levels.

4.11.4 Environmental Consequences—No Action Alternative

Under the No Action Alternative, the current ambient noise level would remain, and there would be no change in impacts from noise generation at the FCDAS or NLDP locations.

4.11.5 Mitigation

Noise mitigation measures for each of the alternatives may include, but are not limited to:

- Limiting hours of construction/demolition activities to specific times during the day and avoiding operations during time sensitive periods;
- Use of adequate muffler systems;
- Use of newer, quieter equipment;
- Modifications to older equipment such as adding new mufflers or sound absorbing materials;
- Repairing loose or worn equipment parts as soon as possible; and
- Sequencing and scheduling of construction/demolition so that several noisy operations are performed concurrently to take advantage of the fact that the combined noise levels produced may not be significantly greater than the level produced if the operations were performed separately (USDOT, 2011).

4.12 Transportation

Transportation is the movement of goods and people between locations. Roadways, vehicles, and trails comprise the transportation system discussed in this PEA. The ADOT&PF provides rules and guidance for AK in 17 AAC Chapter 25. Applicable rules referenced in the PEA discuss 1, 2, 3, and 4 axle trucks.

4.12.1 Affected Environment

FCDAS

Steese Highway and Eisele Road provide access to the FCDAS. Both roads have two travel lanes and are paved. The intersection of Steese Highway and Eisele Road is controlled by a stop sign on Eisele Road. Traffic volumes on the portion of Steese Highway near the FCDAS and Eisele Road are relatively low. The 2013 Annual Average Daily Traffic for Steese Highway between Fox and Pedro Creek was 1,851, which includes Eisele Road (Figure 11, next page). North of Eisele Road the count reduces to 875. Steese Highway and its right-of-way cross the western portion of the FCDAS land withdrawal. NOAA does not restrict public use of Steese Highway where it crosses the property.

Unauthorized vehicles and persons are prevented from entering the FCDAS by a continuously staffed guard station and gates on Eisele Road. However, miners retaining mining claims within the FCDAS boundaries are permitted to access those claims.

RST 650, the Gilmore Trail-Fairbanks Creek Connector Trail (Figure 2, Page 5) crosses the FCDAS just to the west of the Facilities Building (FNSB, 2013). Use of RST 650 on the FCDAS does not occur. It is accessed to the north of Gilmore Creek. Trails and roads, which pre-date establishment of the FCDAS in 1965, have mostly been abandoned. Figure 12 identifies roads at the FCDAS.

NLDP

Access to the BRW is provided by Stevenson Street (north) and Dew Line Road (southeast) out of Barrow. The northern portion of Barrow is sparsely developed. Dew Line Road provides access to only a few small facilities, including the BRW.

Deadhorse marks the end of Dalton Highway, which exists to support oil operations in Prudhoe Bay. The majority of vehicles traveling the Dalton Highway are commercial-freight vehicles associated with oil-field activities, though privately owned vehicles and commercial tour operators also use the highway. Summer traffic levels for the Dalton Highway (June-August) are substantially higher than traffic levels for the rest of the year.

Figure 11 – 2013 Annual Average Daily Traffic for Steese Highway

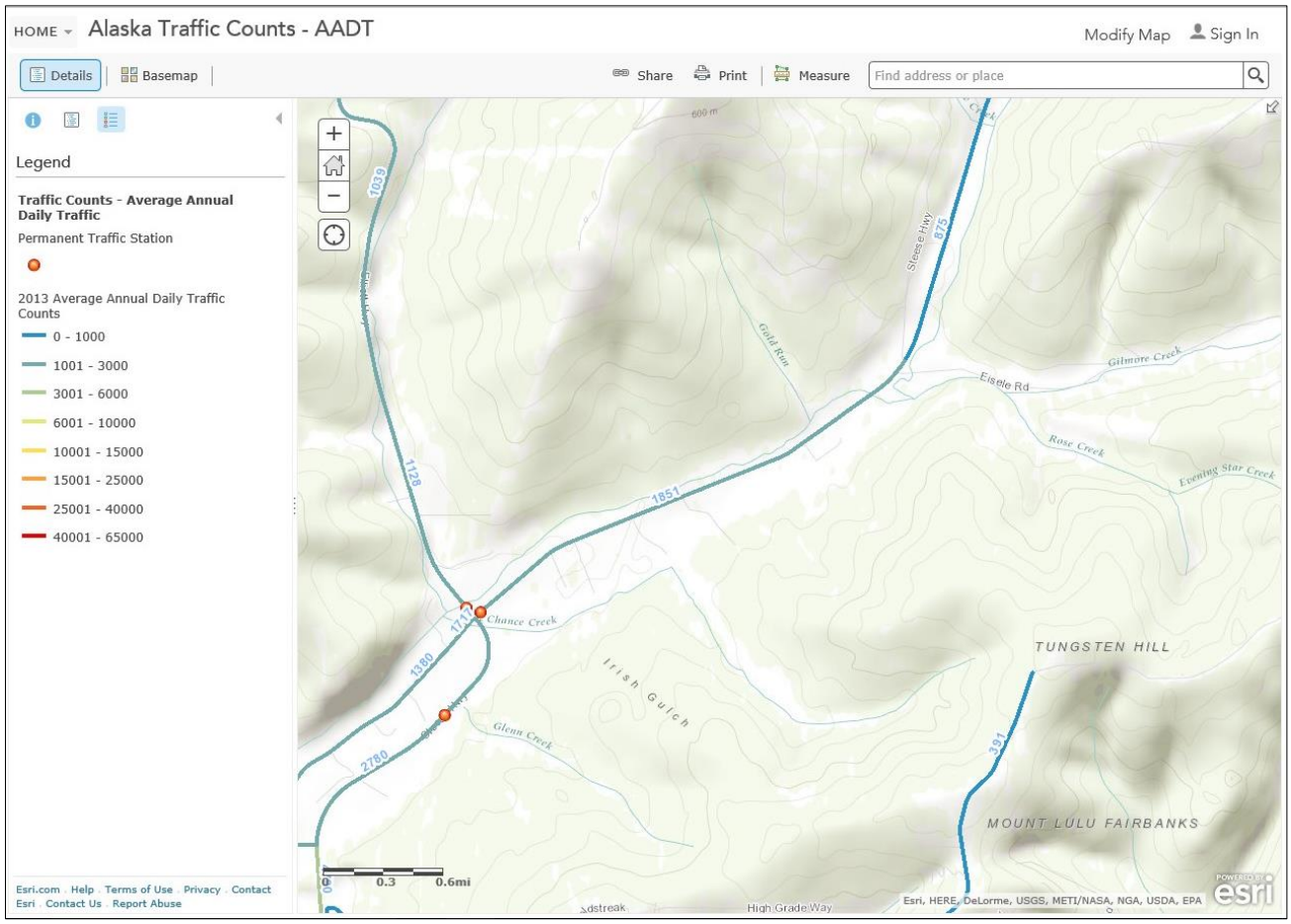
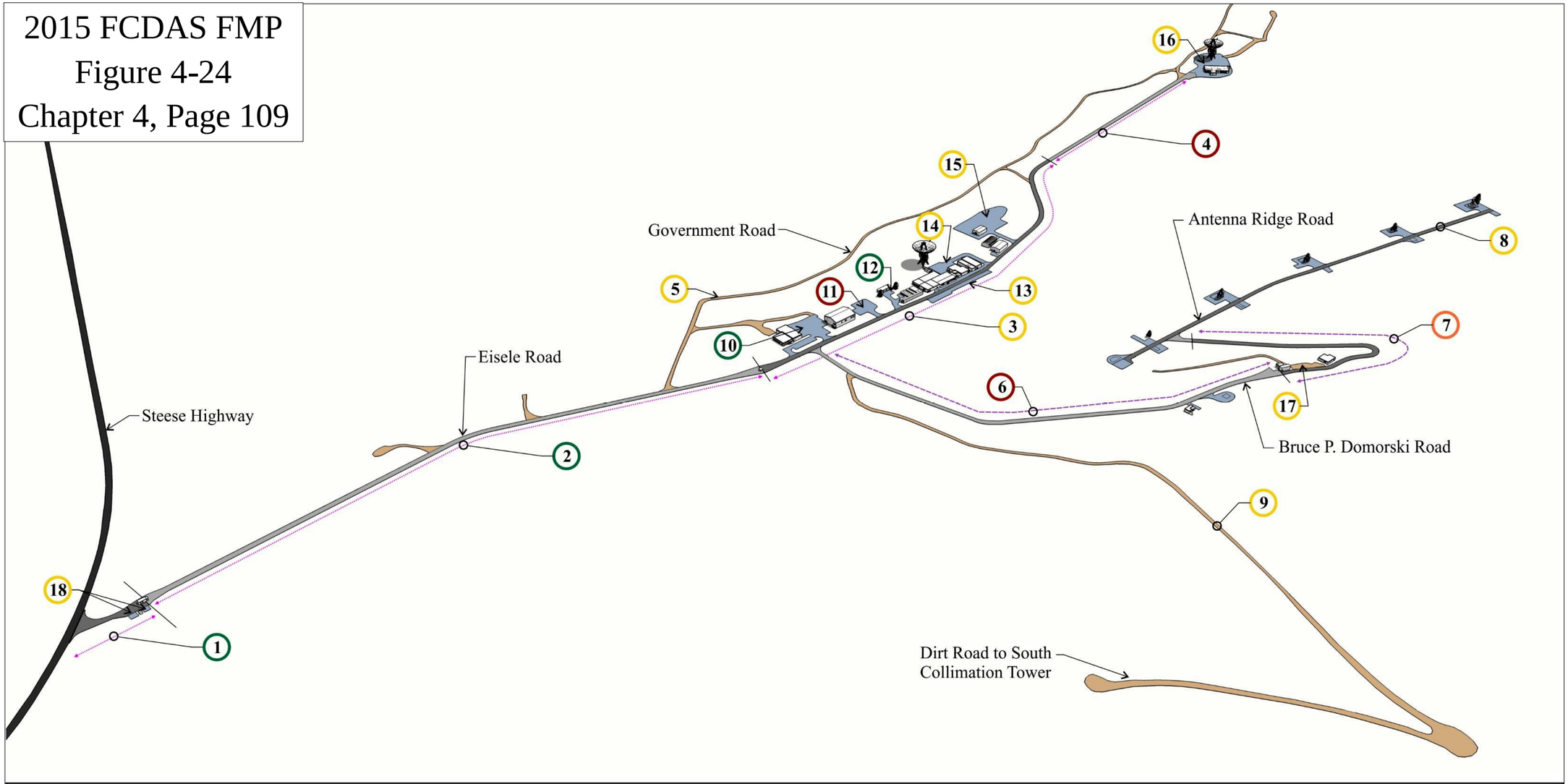


Figure 12 – Road System

2015 FCDAS FMP
Figure 4-24
Chapter 4, Page 109



4.12.2 Environmental Consequences—Proposed Action

FCDAS

Projects with the potential to directly impact transportation patterns at the FCDAS include:

- ID 2 Road Repairs Phase 4 (Eisele and Domorski)
- ID 12 Construct Station Entrance Safety Lane
- ID 21 Construct Government Road Extension and Improvement

Proposed road realignment and repair projects would improve the quality of the interior roads on FCDAS and improve safety for their drivers. Drivers along existing roads may encounter minor short-term inconveniences during repairs or construction. The addition of a deceleration lane at the station entrance would have minor long-term beneficial safety implications.

The proposed project to extend and improve Government Road to connect directly to Steese Highway (ID #21) would create a secondary entrance to the station. This entrance would provide access for owners of mining claims to their claims without interfering with the station's activities. This would improve security for FCDAS and provide redundancy in case the primary station access is cut-off.

There would be temporary increases in traffic in order to accomplish each of the projects proposed in the 2015 FCDAS FMP. Nature and extent of the activity would be typical of experience for the surrounding area for the long period of time that FCDAS has existed. Supply trucks, construction vehicles, and workers' vehicles would use Steese Highway and Eisele Road to access the FCDAS during demolition and construction periods. These activities would likely fluctuate seasonally, with increased traffic during warm months and limited activity during the winter months. The impact to traffic patterns and volume would be intermittent, short-term, and minor.

NLDP

At BRW, a small building piles or crushed rock and an antenna would be installed and at Deadhorse an antenna would be placed on a tower pad. Conceivably, a 2 ½ ton flatbed truck with a 20 cubic yard container and workers' vehicles would use surrounding roads to access these sites during the construction period. The impact to traffic patterns from construction activities would be short-term and minor. No additional employees will be stationed after installation, so no long-term impact from workers commuting the site would be anticipated.

4.12.3 Environmental Consequences—FCDAS Decommission Alternative

As described in Section 2, this Proposed Alternative demolition of all facilities and infrastructure on the station. Federal properties such as buildings and antennas would be demolished, removed, and/or transferred to another location. Trucks, construction vehicles, and workers' vehicles would use Steese Highway and Eisele Road to access the FCDAS during the demolition and removal periods. Approximately 475,000 cubic yards of structure and road material would be demolished

and removed. For planning purposes, 20 cubic yard side dump trailers could make in the range of 23,000 to 24,000 trips to move the demolition materials as calculated in Section 2.3. This would increase the number of vehicle trips on Steese Highway and Eisele Road during demolition. Debris from the demolition of the existing property would be hauled by truck via Steese Highway. The Fairbanks landfill is approximately 30 minutes from the FCDAS. It is assumed one truck would make six trips per day based on a 90 minute turnaround time. In total, up to several dozen trips per day would be generated during these periods by commute vehicles used by construction workers, construction vehicles, trucks delivering supplies and equipment, and trucks removing construction debris. Vehicle trips during the demolition period would temporarily increase traffic volumes on Steese Highway and Eisele Road, but not to the extent that it would interfere with routine daily traffic patterns. As shown in Figure 11, the daily traffic for 2013 was 1851. That falls within the count range of 1001-3000. The net increase in traffic due to demolition is approximately 3.5% which would not trigger the next count range. As a result, the impact to transportation would be short-term and moderate.

The impact to traffic patterns once the land would revert back to BLM would be beneficial and long-term, but minor, since the FCDAS employs fewer than 50 individuals.

4.12.4 Environmental Consequences—No Action Alternative

FCDAS

The No Action Alternative would result in no impact to current traffic patterns or volume on the Steese Highway or Eisele Road, but eventually would have a moderate adverse impact to roads within the FCDAS. If proposed road repair projects were not undertaken, quality of interior roads would continue to deteriorate, and driver safety could be put at increased risk.

NLDP

No impact to current traffic patterns or volume on roads at NLDP locations would result from selection of the No Action Alternative.

4.12.5 Mitigation

The proposed construction and demolition projects under the Proposed Action and the demolition under the FCDAS Decommission Alternative would result in increased traffic volumes on Steese Highway. To mitigate these impacts, NESDIS would coordinate with the Alaska Department of Transportation and Public Facilities (ADOT&PF) to determine if temporary traffic controls or other measures would be required at the intersection of Steese Highway/Eisele Road during these project activities, or if vehicular size and loading limits would be required. To ensure load capacity for Steese Highway would not be exceeded, trucks would conform to the weight limits identified in 17 Alaska Administrative Code Chapter 25 Operations, Wheeled Vehicles: 1-axle, 20,000 lbs; 2-axle, 38,000 lbs; 3-axle, 42,000 lbs; 4-axle, 50,000 lbs. Also, NOAA/NESDIS would coordinate with ADOT&PF for Proposed Projects ID #12 and #21 which would occur on public roadways.

FCDAS would make provisions so that owners of mining claims in the Gilmore Valley could obtain reasonable access to their claims during periods of road maintenance or construction. Either Eisele Road or the existing dirt road on the north side of the valley would provide reasonable access to the claims during the construction period and no further mitigation would be needed.

No traffic mitigation requirements would be anticipated at NLDP locations under the Proposed Action and no traffic mitigation requirements are expected under the No Action Alternative for any of the three locations.

4.13 Solid and Hazardous Waste

EO 13514 requires that Federal agencies promote pollution prevention and eliminate waste. The EO requires agencies to minimize the use of toxic and hazardous chemicals and pursue acceptable alternatives. It also requires agencies to minimize waste generation through source reduction, increase diversion of compostable materials and, by the end of FY 2015, divert at least 50 percent of non-hazardous and 50 percent of construction and demolition debris.

4.13.1 Affected Environment

FCDAS

The FCDAS is considered a conditionally exempt small quantity generator (CESQG) of hazardous waste at current levels of production as defined by the USEPA. The facility is currently using the FNSB household and small business CESQG collection program, which allows monthly disposal of up to 26 gallons of hazardous materials, excluding radioactive materials, explosives, or biological wastes (FCDAS FMP, 2015).

NLDP

The solid and hazardous waste status at the BRW is unknown at this time. Notwithstanding construction activities (assuming construction contractors follow local requirements) the end status of solid waste at either BRW or Deadhorse would not be affected by this action.

4.13.2 Environmental Consequences—Proposed Action

Minor, short-term adverse impacts would be caused by maintenance, demolition, and construction activities at the FCDAS and NLDP location. All projects proposed in the 2015 FCDAS FMP have the potential to impact the environment through the generation or release of solid or hazardous waste. Demolition activities would generate construction debris.

Heavy machinery requires maintenance and fuel. Although maintenance would occur within an authorized service shop, the use of construction machinery could potentially result in the release of small quantities of solvents, cleaning agents, greases, oils, hydraulic fluids, and fuel (e.g., gasoline and diesel). Paints and adhesives would also be used on the site during construction. It is anticipated that quantities of hazardous materials used during the normal operation will remain at,

or close to current levels. Compliance with federal laws and regulations, the HWMP, and the SPCC Plan would minimize adverse effects.

Based on previous reports, a number of buildings at the FCDAS are known to contain asbestos-containing materials and/or lead-based paint. Electrical equipment has been identified to contain polychlorinated biphenyls (PCBs). Provided that these wastes are properly disposed of using green demolition practices, there would be no impacts.

4.13.3 Environmental Consequences—FCDAS Decommission Alternative

FCDAS operations would stop generating solid and hazardous wastes resulting in minor, long-term beneficial impacts. However, restoration activities would involve demolition and removal of buildings, antennas, and infrastructure. Demolition activities would generate approximately 475,000 cubic yards or approximately 115,000 tons of construction debris. To comply with EO 13514, approximately 57,500 tons could be diverted if cost-effective. The resulting approximately 57,500 tons of construction debris would be sent to the Fairbanks landfill. The Fairbanks landfill is currently at about 20% capacity. There are nine cells planned at the landfill for a total of 252 acres (FNSB, 2014). Cell #1 was used from 1999-2008. Cell #2 was used from 2008-2015.Cell #3 is currently being used. In 2015, the landfill accepted just over 100,000 tons of waste materials (FNSB, 2015). With the previous three years showing consistent solid waste amounts, this would represent a projected 57% increase of one year's use of the landfill. Cells #1 and #2 were active for an average of eight years, therefore the landfill would have a projected usable life of 72 years. The projected demolition debris would reduce the life of the landfill by seven months, or 0.8% of its projected usable life. Buildings containing asbestos materials, lead-based paint or PCBs would be properly disposed of, and impacts would be contained within the landfill. Furthermore, coordination with the Fairbanks Landfill would occur to account for the demolition debris. Overall, impacts to the landfill would be permanent, but minor mitigated by disposal fees paid for the use of the facility.

4.13.4 Environmental Consequences—No Action Alternative

Under this alternative, current-operating levels would be maintained and there would be no changes to impacts on solid and hazardous waste.

4.13.5 Mitigation

For the Proposed Action and Decommission Alternative, asbestos-containing materials, lead-based paint, and PCBs would be identified and removed from buildings prior to construction activities in conformance with USEPA regulations for these types of wastes. To minimize hazardous waste disposal, FCDAS and the NLDP location would maximize recovery of waste in accordance with EO 13514.

All hazardous materials would be stored and disposed of in accordance with all local, state, and federal laws and regulations, the FCDAS *Hazardous Waste Management Plan* (HWMP), and *Spill Prevention, Control, and Countermeasure Plan* (SPCCP). Basic SPCCP requirements delineate

measures and practices that are implemented to prevent and/or minimize spill/release from the storage and handling of hazardous materials. These mitigation measures protect soil and water resources. BMPs for pollution prevention include monitoring storage areas, secondary containment and loading/unloading areas to ensure that products are not spilled. These all act as mitigation measures.

No mitigation would be required for the No Action Alternative, as adherence to HWMP, SPCCP, and BMPs continue at current operating levels.

4.14 Cultural Resources

In accordance with the National Historic Preservation Act (NHPA) of 1966 and its implementing regulations, 36 CFR Part 800, "Protection of Historic Properties" (incorporating amendments effective August 5, 2004), and Section 106 of the Act, requires Federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings. The Section 106 process seeks to accommodate historic preservation concerns with the needs of Federal undertakings through consultation among the agency officials and other parties with an interest in the effects of the undertaking on historic properties, commencing at the early stages of project planning. The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties.

In keeping with requirements of Section 106 of the NHPA, the environmental review process for specific improvement projects would include analysis of the possible effects of the project on historic properties listed, or eligible for listing, on the NRHP. Part of the Section 106 process is to discover if there are cultural or archaeological resources in areas to be effected by project actions.

4.14.1 Affected Environment

FCDAS

Gilmore Valley was one of the first locales in the Fairbanks area to be explored for gold. The first filing for mineral claims in the Gilmore Valley occurred in 1902. Mining continued in the following years and a village named Gilmore with rail service was established near the confluence of Pedro and Gilmore Creeks. Both the town and railroad tracks were later abandoned. In the 1950s, a gold dredge worked its way up Pedro Creek and into Gilmore Creek. Mining for gold using a variety of methods also occurred in the Gilmore Creek Valley floor upstream from the current location of the Old Operations Building (NOAA, 2008). Sometime during this period, the entire valley floor was filled in, or covered, by mine tailings, upon which the FCDAS was constructed. As such for certain aspects, the entire site has been previously disturbed.

The FCDAS was originally established in 1961 as a small satellite tracking station operated by the University of Alaska Geophysical Institute under contract to NASA. NASA expanded the station with construction of several new structures during the 1960s. From 1973 through 1984, NASA and NOAA jointly operated the FCDAS, and most of the existing facilities at the FCDAS were constructed between 1961 and 1974. In 1984, NOAA assumed sole control of the FCDAS. The current mission of the FCDAS is similar to the early days of the station.

No places listed in the National Register of Historic Places (NRHP) are located within the FCDAS boundaries (National Park Service, 2012). The closest place listed on the NRHP is the discovery claim on Pedro Creek, located about two miles north of the FCDAS.

On May 15, 2002, the FCDAS was determined eligible for listing as a Historic District by the Alaska State Historic Preservation Officer (SHPO) and Department of the Environment. The site was deemed eligible for listing under NRHP Criteria A (associated with significant events), Criteria C (embodies distinctive characteristics), and Consideration G (significance of less than fifty years). Under Section 106 of the NHPA, the Alaska SHPO office, NOAA, and the ACHP has been consulted and Memoranda of Agreement (MOA) have been entered into to address impacts to certain facilities. Specifically, two MOAs have addressed the Old Operations Building and the 9 and 12m antennas, all of which have been scheduled for demolition. All mitigation measures have been met and approved by the SHPO (Aparicio, 2012).

At the age of 50 years, a structure is generally considered to be potentially eligible for listing in the NRHP. While considered to be potentially eligible, a structure has to meet significance criteria before being determined eligible for, or being listed on the NRHP. Table 8 identifies the year at which structures at the FCDAS would reach the 50 year threshold.

Table 8 – Time Frame for NRHP Eligibility

Structure	Year Built	Year Eligible
26 Meter Antenna*	1962	2012
26 Meter VLBI Antenna*	1962	2012
Independent Research Facility*	1964	2014
VHF Transmitter Building*	1964	2014
Satellite Automatic Tracking Antenna*	1964	2014
Range and Range Rate Building*	1965	2015
Facilities Building*	1966	2016
Boom Truck Garage*	1967	2017
26 Meter Vault and Utilidor	1970s	2020s
Powerhouse*	1971	2021
Supply Warehouse*	1972	2022
Water Storage Building*	1972	2022
SCAMP Antenna*	1972	2022
POES Antenna – 13 Meter	1998	2048
Gravel Storage Building	1999	2049
USCRN Antenna	2002	2052
GOES Antenna – 21 Meter	2003	2053
SARSAT Antennas	2003	2053
Contingency Operations Area	2005	2055
Covered Storage Building	2006	2056
DATRON Antenna – 5 Meter	2008	2058
DOMSAT Antenna	2010	2060
Fairbanks Satellite Operations Facility (FSOF)	2011	2061
JPSS Antenna	2013	2063

*These structures have been determined to be a contributing property within the eligible Historic District.

A total of seven archaeological sites within a one mile radius of the FCDAS are included in the Alaska Historic Resources Survey (AHRS) (Table 9). Of these, only one (FAI-2151) is located within the FCDAS withdrawal. Each of the recorded sites occurs within the Fairbanks Mining District. The Tanana Valley Railroad (FAI-0230) would have provided access to each of the sites. The Tanana Valley Railroad has been assessed as eligible for listing on the NRHP. None of the other archaeology sites have been assessed at this time. The site most recently investigated (FAI-2151), reported in 2012 by the BLM, occurs in the eastern portion of the FCDAS withdrawal. The site contains a log cabin, privy, and associated archaeological deposits. There are no prehistoric archaeological sites within one mile of the FCDAS.

Table 9 – Archaeology Sites within 1 Mile of the FCDAS

Site Number	Description	Location	NRHP status	Comment	Comment2
FAI-2151	Log cabin site, cabin present	on FCDAS	Unknown	Mining related	Part of Fairbanks mining district
FAI-2147	Log cabin site, cabin present	off site	Unknown	Residential	Part of Fairbanks mining district
FAI-2146	Log cabin site, cabin absent	off site	Unknown	Mining related	Part of Fairbanks mining district
FAI-2145	Mining sluices	off site	Unknown	Mining related	Part of Fairbanks mining district
FAI-2153	Mining features	off site	Unknown	Mining related	Part of Fairbanks mining district
FAI-2152	Mining features	off site	Unknown	Mining related	Part of Fairbanks mining district
FAI-0230	Tanana Valley Railroad	off site	Eligible	Mining related	Part of Fairbanks mining district

A Historic Trail under (Revised Statute) RS 2477, known as RST 650, the Gilmore Trail-Fairbanks Creek Connector Trail crosses the FCDAS just to the west of the Facilities Building (FNSB, 2013) (Figure 2, page 5). This historic trail is not listed on the NRHP. The RST 650 is overseen by the Alaska Department of Natural Resources (ADNR), Land Section.

An archaeological reconnaissance survey of portions of the FCDAS was conducted in 1999. The survey covered the developed portions of the valley and adjacent hillsides from the entrance gate to east of the VLBI. The survey "resulted in discovery of numerous potentially significant features and artifacts dating to the early days of mining in the Fairbanks district. The few diagnostic artifacts collected during the survey suggest that the cabins, dumps, drift holes, and scattered historic artifacts date to the 1910s and 1920s, if not earlier" (Cultural Resource Consultants, 1999).

NLDP

NSB, including Barrow and Deadhorse, has a homogeneous population of Iñupiat Eskimo, who have lived and survived in this area for over 11,700 years. Iñupiat History, Language, and Culture (IHLC) Division documents, preserves, and perpetuates the history, language, and culture of the North Slope region and ensures that cultural issues are given appropriate consideration during the planning process of any potentially invasive project (NSB-IHLC, 2014).

A number of cultural resource surveys have been conducted in or with regard to Barrow. Cultural sites within the area include villages, camps, burial areas, and historic structures (Alaska Army National Guard, 2006). No specific cultural sites are known to occur within the BRW.

Cultural resource surveys, which included the Deadhorse area, have identified historic and prehistoric sites including lookout points and seasonal camps (University of Alaska, Fairbanks, 1981). No specific cultural sites are known to occur within the settlement of Deadhorse.

4.14.2 Environmental Consequences—Proposed Action

FCDAS

Notwithstanding analysis and determination by this PEA, future FCDAS improvements would still be subject to project-specific environmental review requirements set forth in NOAA Administrative Order 216-6 if projects change significantly. Obligations set forth in Section 106 of the NHPA have not occurred concurrently with this PEA. Section 106 reviews will be conducted for each project prior to their implementation.

The AHRS plotting of historic sites suggests that most, if not all, are related to gold mining. These sites occur along Gilmore Creek and other drainages, and along transportation routes. NRHP-eligible sites in the area appear to be those that retain a high level of physical integrity and that are characteristic of early gold mining, mining transportation, and the social life of early independent miners.

Figure 13 (page 76) shows the potential archaeological significance levels based on the 1999 Reconnaissance Survey and aerial photo analysis of previous disturbance patterns. Most proposed projects are cited in the low archaeology sensitive areas. There are no project sited in the high archaeology sensitive areas. The following project are sited in the medium archaeology sensitive areas:

- ID 15 New Vehicle Maintenance and Storage Facility
- ID 18 New Looped Electrical Feed
- ID 20 Security Fencing, Phase 1
- ID 21 New Government Road Extension and Improvement
- ID 25 New Redundant Primary Electrical Feed
- ID 33 Future Antenna

As the 1999 archaeology study encompassed those areas on the FCDAS that contain the transportation routes and drainages, it is unlikely (based on settlement pattern) that other archaeological sites are present on the FCDAS. Projects located in areas with potential to impact cultural resources would be addressed by NOAA/NESDIS based on results of consultation with the SHPO. Alterations to the FCDAS infrastructure could impact the Historic District eligibility however, NOAA would consult individually on the projects with the SHPO and other appropriate parties to avoid, minimize, and if necessary mitigate these effects prior to their implementation.

Under this alternative, the Historic Trail under RS 2477, known as RST 650, the Gilmore Trail-Fairbanks Creek Connector Trail, would be protected from adverse impacts. Coordination with

both the SHPO and the ADNR, Land Section would occur to maintain the integrity of this resource (FNSB, 2013).

NLDP

There is currently no specific project location for the NLDP at Deadhorse. However, the implementation of the proposed action at BRW or Deadhorse would occur adjacent to an existing building and likely result in no historic properties affected since the project would occur within an existing disturbed area and away from any historic structures and their viewsheds as part of project conditions.

4.14.3 Environmental Consequences—FCDAS Decommission Alternative

As explained in Section 2.3, this PEA assumed action of this alternative as the demolition of all buildings, any substructures, antennas, roads, and infrastructure. This would have long-term, significant impacts to cultural resources, specifically the FCDAS Historic District. Impacts to cultural resources, under this alternative, would require consultation with the Alaska SHPO under Section 106 of the NHPA. It is anticipated, based on previous actions, that an MOA would be developed to mitigate adverse impacts through mitigation measures identified during the consultation process. Under this alternative, the Historic Trail under RS 2477, known as RST 650, the Gilmore Trail-Fairbanks Creek Connector Trail, would be protected from adverse impacts. Coordination with both the SHPO and the ADNR Land Section, would occur to maintain the integrity of this resource (FNSB, 2013).

4.14.4 Environmental Consequences—No Action Alternative

Under the No Action Alternative, operations at the FCDAS would remain as it functions now; however, over time, due to lack of capital expenditures, the facilities would degrade. This would adversely affect the buildings, and likely, their eligibility as part of a historic district as their integrity would suffer. Otherwise, there would be no further impacts to cultural resources. With regards to demolition of the Old Operations Building, all mitigation measures already have been met through the MOA, dated June 2007. The Historic Trail under RS 2477, known as RST 650, the Gilmore Trail-Fairbanks Creek Connector Trail (see Figure 2, Page 5), would retain its status as an historic trail and there would be no impacts to the cultural resource.

4.14.5 Mitigation

In the highly unlikely event that artifacts are uncovered during any of the proposed project activities, construction activities that could harm the find would be suspended, and NOAA/NESDIS and the Alaska SHPO would be notified to assess the significance of the find and provide direction for additional investigation, if warranted.

Mitigation actions could include, but are not limited to, avoidance of the site, protective measures, documentation, or excavation. If a site cannot be avoided, information about the historic property

could be retrieved for analysis, curation, and reporting to preserve the integrity for future generations.

The No Action Alternative would require no mitigation, as the FCDAS and BRW continue operations under existing conditions. Since there is no existing facility at Deadhorse, there would be no mitigation required.

Figure 13 – Archaeology Sensitivity

Note:
1) Areas were approximated based on narrative within 1999 Reconnaissance Survey and aerial photo analysis of previous disturbance patterns.

Legend

- Highest Archaeological Potential
- Moderate Archaeological Potential
- Low Archaeological Potential
- General Extent of 1999 Archeological Reconnaisance Survey (based on narrative within report)

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0 300 600 900 1,200
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4.15 Socioeconomic Impacts and Environmental Justice

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs federal agencies to focus on, identify and address, as appropriate, disproportionately high and adverse environmental or human health effects on minority populations and low-income populations. Minority communities and low-income communities must also have access to public information on matters related to human health and the environment (EO 12898, 1994).

A minority person is defined as an individual of black (not of Hispanic origin), Hispanic, Asian, Native American, or other origin. CEQ guidelines state that minority populations should be identified where either (*a*) the minority population of the affected area exceeds 50 percent, or (*b*) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

The U.S. Census Bureau (USCB) defines national poverty thresholds annually, which are measured in terms of household income dependent upon the number of persons within the household. Individuals falling below the poverty threshold ($24,221 for an average-weighted household of four in 2014) are considered low-income individuals. A poverty area, as designated by the USCB, is any census tract with a poverty rate of 20% or more. When the percentage is higher than 40 %, the census tract becomes an extreme poverty area.

4.15.1 Affected Environment

FCDAS

The FCDAS is located in Census Tract 19 (CT 19), which covers about 2,782 square miles or 37.8 percent of the FNSB total land area of 7,338 square miles (USCB, 2013). Census data from 2010 and employment within selected industries for FNSB and CT 19, more specifically, Zip Code 99712 (Zip Code for FCDAS) is presented in Table 10, next page.

NLDP

Both Barrow and Deadhorse, Alaska are geographically located within the NSB. Barrow is the largest community on the North Slope with a population of 4,212 (USCB, 2013). The BRW is located approximately five miles northeast of Barrow, AK. This facility is manned year around by two engineers/scientists.

Deadhorse is mostly inhabited by approximately 3,000 transient industrial-workers with only 25-30 permanent residents (ADEC, 2011). Census data specific to Deadhorse is not provided by the U.S. Census Bureau, but is accounted for in the NSB information. Census data from 2010 and employment within selected industries for NSB and Barrow is presented in Table 11, page 79.

Table 10 – 2010 Census Data for FNSB

2010 Census Data for Fairbanks North Star Borough and Census Tract 19 – Zip Code 99712		
	FNSB	**CT 19 - 99712**
Total Population	97,581	11,684
Households	41,783	4,999
Median Household Income	$69,485.00	$88,716.00
% Minority	22%	12.8%
% Unemployed	6.9%	3.3%
% In Poverty	8%	3.2%
Census Data for FNSB and CT 19 Employment in Selected Industries		
Total Civilian Employed Population	45,920	6,427
Agriculture, Forestry, Fishing, Hunting, and Mining	3.7%	7.3%
Construction	9.3%	10.1%
Manufacturing	2.2%	1.1%
Retail Trade	12.2%	15.5%
Transportation, Warehousing and Utilities	7.1%	6.1%
Finance, Insurance and Real Estate	4.0%	3.7%
Professional, Scientific, Management, Administrative and Waste Management Services	8.3%	6.3%
Educational Services, Health Care, and Social Assistance	25.1%	26.2%
Arts, Entertainment, Recreation, Accommodation and Food Service	9.5%	7.8%
Public Administration	11.4%	11.2%

Source: U.S. Census Bureau – 2010 Census and American Fact Finder 2009-2013 American Community Survey.

Table 11 – 2010 Census Data for NSB

2010 Census Data for North Slope Borough and Barrow City		
	NSB	**Barrow**
Total Population	9,430	4,212
Households	2,521	1,599
Median Household Income	$80,761.00	$90,500.00
% Minority	66.6%	83.1%
% Unemployed	9.6%	13.4%
% In Poverty	8.3%	7.8%
Census Data for NSB and Barrow Employment in Selected Industries		
Total Civilian Employed Population	5,958	2,337
Agriculture, Forestry, Fishing, Hunting, and Mining	26.9%	4.4%
Construction	8.9%	9.8%
Manufacturing	0.9%	0.0%
Retail Trade	8.0%	13.7%
Transportation, Warehousing and Utilities	5.9%	9.2%
Finance, Insurance and Real Estate	2.6%	1.9%
Professional, Scientific, Management, Administrative and Waste Management Services	12.2%	5.0%
Educational Services, Health Care, and Social Assistance	15.4%	24.7%
Arts, Entertainment, Recreation, Accommodation and Food Service	4.3%	6.8%
Public Administration	10.7%	19.1%

Source: U.S. Census Bureau – 2010 Census and American Fact Finder 2009-2013 American Community Survey.

4.15.2 Environmental Consequences—Proposed Action

FCDAS

The FCDAS would continue to operate with existing staff, but with the same or increased funds for construction projects. A short-term beneficial impact to the local economy would be realized through the purchase of goods used for maintenance, renovation, and new construction, as well as short-term employment opportunities for construction workers.

The 2014 gross domestic product (GDP) for the construction industry in the Fairbanks Metropolitan Statistical Area was $356,000,000 (BEA, 2015). NESDIS plans approximately $280,000 to $480,000 per year for construction projects at the FCDAS which could account for approximately 0.08% to 0.1% of the 2014 construction GDP. If the proposed improvements to the FCDAS result in new tenants and/or new programs coming to the FCDAS, then long-term economic benefits could be realized to the local economy through an increased number of permanent jobs. Both the short-term and long-term potential impacts would be beneficial, but still relatively minor.

There would be no adverse environmental affects to minority or lower income populations as a result of the Proposed Action. With a 12.8% minority population and 3.2% poverty population, FCDAS, within CT-19, is not considered a concentrated minority-population area or poverty area.

NLDP

Construction of new facilities at the NLDP location would generate short-term employment opportunities for construction workers. Thus, the socioeconomic impact for the NLDP would be short-term, beneficial, but minor. No long-term economic benefit would be anticipated since there would be no additional NOAA/NESDIS staff at the locations.

While the NLDP locations are considered to have minority populations, disproportional high and adverse environmental effects would not occur. Therefore, minority or low-income persons would not be affected due to these very small projects.

4.15.3 Environmental Consequences—FCDAS Decommission Alternative

A short-term beneficial impact to the local economy would be realized through opportunities for workers to participate in the demolition actions that would take place on the station. There would be no adverse environmental affects to minority or lower income populations as a result of the FCDAS Decommission Alternative. With a 12.8% minority population and 3.2% poverty population, the FCDAS, within CT-19, is not considered a concentrated minority-population area or poverty area.

Long-term economic impacts would be minor with the loss of 48 jobs at the station. Forty-three out of the 48 jobs at the station are contractor positions and five are federal employees.

Table 12 – Contractor Workforce at FCDAS

FCDAS Contractors	Workforce by Location		Percentage of Total Workforce	
	CT 19 – 99721	FNSB	CT 19 – 99721	FNSB
43	6,680	46,244	0.64%	0.09%

It is presumed the Federal employees would be reassigned, laid-off through a reduction in force, or given the opportunity to retire. As Table 12 above indicates, the overall effect of the action would be minor.

4.15.4 Environmental Consequences—No Action Alternative

FCDAS

The No Action Alternative would have no change in impact on the local population. The FCDAS would continue to operate at its present operational level. Under this alternative, the lack of improvements to the station could result in a technical and/or conditional inability of the FCDAS to support future operations. Socioeconomic impacts would be minor as the 43 contractor positions at FCDAS represent less than one percent in both CT-19 and FNSB.

There would be no adverse effects to minority or lower income populations as a result of the No Action Alternative. With a 12.8% minority population and 3.2% poverty population, FCDAS, within CT-19, is not considered a concentrated minority-population area or poverty area.

NLDP

There would be no socioeconomic impacts to the NLDP locations under the No Action Alternative. The BRW would continue to operate unchanged, and no new equipment would be placed at Deadhorse.

4.15.5 Mitigation

No mitigation would be required for socioeconomics or environmental justice for any alternative, as the impacts are minor.

4.16 Subsistence Resources

Section 810(a) of Alaska National Interest Lands Conservation Act (ANILCA), Public Law 96-487, requires federal agencies to analyze effects to subsistence resources when considering withdrawing, reserving, leasing, or otherwise permitting the use, occupancy, or disposition of public lands in Alaska. The ANILCA defines subsistence as: the customary and traditional uses by rural Alaska residents of wild, renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of nonedible byproducts of fish and wildlife resources taken for personal or family

consumption; for barter or sharing for personal or family consumption; and for customary trade (Federal Subsistence Management Program in Alaska, 36 CFR Section 242.23).

4.16.1 Affected Environment

FCDAS

Areas determined to be non-rural are not eligible to participate in the Federal Subsistence Management Program (FSMP) on federal public lands in Alaska. The FNSB is considered to be non-rural by the Federal Subsistence Board (FSMP in Alaska, 36 CFR Section 242.23).

NLDP

It is noted that subsistence and Iñupiat Culture are one and the same. The Iñupiat residents of the NSB have traditionally practiced and relied on subsistence activities for millennia. It is part of their sociocultural system. Generally, subsistence is considered to be hunting, fishing, and gathering for the primary purpose of acquiring food. On Federal lands and navigable waters in Alaska, Federal laws grant subsistence priority over other uses, and Federal Agencies are now managing these subsistence hunts (BLM, 2003).

4.16.2 Environmental Consequences—Proposed Action

FCDAS

Under the Proposed Action, subsistence resources would not be impacted. Station boundaries would remain unchanged. Wildlife may still access open spaces within FCDAS boundaries, but public hunting and fishing subsistence activities would continue to be prohibited.

NLDP

BRW would continue current operations under the Proposed Action. BRW boundaries would remain as they have been since 1973. Wildlife may still access open spaces and NOAA/BLM and the NSB will continue to manage the subsistence and harvesting within the area. No specific site has been chosen at Deadhorse, but placing an antenna and equipment at an existing facility means that there would be no impact to subsistence resources in the area.

4.16.3 Environmental Consequences—FCDAS Decommission Alternative

Under this alternative there would be no impacts to subsistence resources. The FNSB is considered non-rural and is not eligible to participate in the FSMP.

4.16.4 Environmental Consequences—No Action Alternative

FCDAS

Under this alternative, FCDAS would continue to operate within existing parameters. The property is within the FNSB, a non-rural area under the ANILCA; therefore, adverse effects to subsistence uses would not result. Subsistence activities are currently not allowed on the withdrawal, and would remain as such.

NLDP

For the NLDP, BRW would continue to operate within existing guidelines and parameters. Under ANILCA and NSB current subsistence resource actions would be maintained. Any site chosen for Deadhorse would not be impacted as it would be located at an existing facility.

4.16.5 Mitigation

No mitigation would be required for any of the described actions because the FNSB is a non-rural area under the ANILCA, and the NLDP would be implemented at an existing facility which would already be excluded from any subsistence resource concerns.

4.17 Visual Effects/Light Emissions

4.17.1 Affected Environment

FCDAS

The FCDAS is located in a secluded valley bounded by hills to the north and south that reach about 2,400 feet MSL. Hillsides are steep and range up to 30 percent in slope gradient. In general, hillsides are vegetated with a dense mixed forest. Land in the vicinity of the FCDAS is mostly undeveloped, and the forested hillsides dominate the viewshed. Isolated facilities located on hilltops, such as the NESDIS dish antennas on the ridgeline south of the valley and communications towers, are prominent human elements of the viewshed and are partially visible from a few points along Steese Highway. The FCDAS facilities located at the valley floor are generally not visible from Steese Highway or from areas outside the Gilmore Valley.

NLDP

Both proposed NLDP locations are located in secluded areas where they receive minimal influence from anthropogenic effects. The BRW is about five miles northeast of the village of Barrow. At both BRW and Deadhorse, the surroundings are made up of open tundra and there are large lagoons, including Elson Lagoon, and a number of lakes in the vicinity. The Arctic Ocean is less than two miles northwest of the BRW and ten miles north of Deadhorse. Barrow and Deadhorse are located approximately 326 miles above the Arctic Circle. The sun does not set between May and August of each summer, nor does it rise between November and January each winter.

4.17.2 Environmental Consequences—Proposed Action

FCDAS

Under the Proposed Action, the FCDAS would continue operations, expand operations, and improve facilities. Most facilities and equipment would be either removed, updated, or added, but there would be only minor changes to the visual climate within the station boundaries. However, the overall character of the station would not change. There would be no impact to visual effects or light emission to areas surrounding the FCDAS as the proposed projects would be consistent

with current activities and operations. The use of LED lights in the Proposed Action will reduce light emission, which would be a beneficial impact.

NLDP

The BRW has been in operation since 1973 and at its current facilities there are sets of functional infrastructure, such as antennas and one-story buildings. If Deadhorse is chosen as the NLDP location, the antenna will be among other industrial-use facilities. Implementation of the Proposed Action at either NLDP location would not affect the visual character of the site and its surroundings, nor would light emissions change from present operating status.

4.17.3 Environmental Consequences—FCDAS Decommission Alternative

Under this alternative, there would be noticeable changes to the appearance at the FCDAS as structures are removed and the property restored. However, because the FCDAS is located in a sheltered valley, those changes while beneficial, would not be significantly noticeable to surrounding developed properties.

4.17.4 Environmental Consequences—No Action Alternative

Implementation of the No Action Alternative would have no impact on visual effects within the station boundaries or on the surrounding areas, as FCDAS and BRW operations would be maintained at their current levels.

4.17.5 Mitigation

No mitigation would be required due to no change in visual effects or light emissions under the Proposed Action.

No mitigation would be required for the Decommission Alternative, as it would result in zero light emissions and the visual effect would change back to uninhabited, forested areas.

The No Action Alternative would have no impact on visual effects or light emissions within the facility boundaries or on the surrounding areas. FCDAS and BRW operations would be maintained at their current levels.

4.18 Energy Consumption

EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance* specifies that Federal agencies must enhance efforts towards sustainable buildings and communities. Specific requirements include implementation of high performance sustainable Federal building design, construction, operation and management, maintenance, and deconstruction by: 1) Ensuring all new Federal buildings, entering the design phase in 2020 or later, are designed to achieve zero net energy by 2030; 2) Ensuring all new construction, major renovations, repair, or alteration of Federal buildings comply with the *Guiding Principles for Federal Leadership in High*

Performance and Sustainable Buildings; 3) Ensuring at least 15% of existing agency buildings and leases (above 5,000 gross square feet) meet the Guiding Principles by fiscal year 2015 and that the agency makes annual progress towards 100% compliance across its building inventory; 4) Pursuing cost-effective, innovative strategies (e.g., highly-reflective and vegetated roofs) to minimize consumption of energy, water, and materials; 5) Managing existing building systems to reduce the consumption of energy, water, and materials, and identifying alternatives to renovation that reduce existing asset deferred maintenance costs; 6) When adding assets to agency building inventories, identifying opportunities to consolidate and eliminate existing assets, optimize the performance of portfolio property, and reduce associated environmental impacts.

4.18.1 Affected Environment

FCDAS

Golden Valley Electric Association provides electric service to the FCDAS via electric lines located along Steese Highway and Eisele Road. The existing Powerhouse at the FCDAS contains three hot water boilers (circa 1974); three standby emergency power generators (circa 1998); and is comprised of older buildings (circa 1970s).

NLDP

Barrow Utilities and Electric Cooperative, Incorporated provides electric service to BRW. TDX Northslope Generating, Incorporated provides electric service to Deadhorse.

4.18.2 Environmental Consequences—Proposed Action

FCDAS

Under the Proposed Action, there would be long-term beneficial impacts to energy resources. Outdated equipment and buildings would be removed from the FCDAS through demolition, some facilities would be renovated, and new facilities would be constructed. Projects proposed under the 2015 FCDAS FMP that would impact energy resources at the FCDAS include:

- ID 1 Powerhouse Rehabilitation
- ID 7 Demolish Old Operations Building
- ID 8 Install Water Meters
- ID 11 Repair Roof, Independent Research Facility
- ID 13 Install Electrical Meters
- ID 14 Replace IRF Substation #5 and Underground Cable
- ID 15 New Vehicle Maintenance and Storage Facility
- ID 19 Replace Facilities Building Water Equipment
- ID 22 New Ridgeline Boom Truck Garage
- ID 24 FSOF Building Addition
- ID 27 Demolish Independent Research Facility
- ID 31 Renovation or Replacement of Facilities Building

- ID 32 Demolish Supply Warehouse
- ID 33 Future Antenna
- ID 34 Secondary Power Plant

In accordance with EO 13514, new construction would be designed in conformance with LEED principles, resulting in improved energy efficiency and decreased air emissions from space and water heating and cooling systems. It is anticipated that the overall energy consumption will decrease with the addition of new facilities and demolition of antiquated facilities. The net result is a lower energy consumption intensity which would yield more efficient energy consumption.

NLDP

Under the NLDP, there would be no significant change to energy consumption at the BRW, as the Proposed Action would only add equipment for data collection within a 10' x 10' building. The change to energy consumption at the Deadhorse site would be the same, but much less with respect to Deadhorse entirely. The placement of the most current technology at either location would encourage maximum energy efficiency.

4.18.3 Environmental Consequences—FCDAS Decommission Alternative

If FCDAS operations ceased and the facility was demolished, operational energy consumption would be reduced to zero upon completion of demolition activities. This would result in a long-term minor beneficial impact to energy resources in the region.

4.18.4 Environmental Consequences—No Action Alternative

Under the No Action Alternative, energy consumption would remain at its current levels for the present time. As equipment ages, efficiency lessens and causes overall increase of energy consumption, resulting in long-term, but minor, adverse impacts to energy resources.

4.18.5 Mitigation

No mitigation would be required for the Proposed Action or the FCDAS Decommission Alternative as the impacts are beneficial.

No mitigation would be required under the No Action Alternative, as station operations would remain at status quo for the present time.

4.19 Cumulative Impacts

4.19.1 Affected Environment

CEQ regulations at 40 CFR 1508.7 define cumulative impact as "the impact on the environment resulting from the incremental impact of the action when added to other past, present, or reasonably foreseeable future action regardless of what agency or person undertakes such other actions." This

PEA will address this regulation by considering known past, present, and reasonably foreseeable future actions, which include:

- ADOT&PF transportation projects for the Richardson Highway/Steese Expressway Corridor;
- ADFG Goldstream Creek restoration project;
- ADNR Cleary Summit-Gilmore Dome trail realignment
- BEO research activities; and
- USAF Point Barrow Long Range Radar Site removal.

4.19.2 Environmental Consequences—Proposed Action

The ADOT&PF is conducting a Planning and Environmental Linkage (PEL) study for the Richardson Highway/Steese Expressway Corridor. This study is to develop three concepts, one for mobility, a second for a blend of mobility, and access and the third concept to emphasize access. Each concept addresses either a current or future traffic deficiency. As a result of the PEL study, transportation projects may be constructed within the next 5 years while others may not be constructed for up to 20 years (ADOT&PF, undated). Future transportation projects that would occur concurrently with proposed projects at the FCDAS are not likely to create adverse cumulative impacts. Construction and demolition related traffic would not measurably increase based on current traffic levels between the two actions. Upon completion of any transportation projects, vehicular traffic commuting to the FCDAS could ultimately benefit as commute times may be shortened.

The ADFG is working on a stream restoration project downstream from FCDAS on Goldstream Creek. This action would be considered a beneficial impact to fish and wildlife, as the ADFG states that the project should improve fish access upstream. Any land disturbance has the potential to affect water quality however, proposed projects at the FCDAS would use BMPs to reduce erosion and sedimentation to protect surface water. With improved habitat, fisheries resources could be considered subsistence resources under the ANILCA. Subsistence activities are currently not allowed on the FCDAS property therefore, adverse effects to subsistence uses would not result (ADFG, 2014).

The ADNR, Division of Mining, Land, and Water, Northern Region Office (DMLW-NRO) approved an administratively realignment of a portion of the Cleary Summit-Gilmore Dome trail just east of the FCDAS Withdrawal boundary. The trail is a legislatively accepted historic trail and R.S. 2477 right of way documented in AS 19.30.400 as RST 644 (FNSB, 2013). The realignment co-located 2,371 feet of RST 644 with RST 650, the Gilmore Trail-Fairbanks Creek Connector. This area is situated on Fairbanks Gold Mining Incorporated property and next to the Fort Knox Gold Mine. Including the trail reroute and existing gold mining actions, the environmental consequences from the FCDAS are *de minimis* and will not affect operations or the environment on or around the FCDAS.

Just to the south of BRW is the BEO. The BEO is comprised of 7,466 acres of arctic tundra and has been set aside to ensure the land use is consistent with the intent of the Scientific Research District (SRD). It remains a viable location for global research on the Arctic (UMIAQ, LLC, 2013). This land is used for research and has only limited facilities within its parameters. Ongoing and future biological and environmental research is likely to continue at the BEO. No change in impacts to the natural and human environment is expected from the proposed project at the BRW in conjunction with research activities at the BEO.

In 2011, the USAF conducted remedial action-cleanup, building demolition, and debris removal on the 267-acre Point Barrow Long Range Radar Site (USAF, 2011). The action consisted of removing soil contaminated with PCBs and xylene as well as the demolition and removal of excess infrastructure all in accordance with the BLM Right-of-Way grant stipulations. Contaminated soil was transported to Oregon for disposal and demolition debris was removed to the NSB Landfill. This action had an overall beneficial impact to the area by removing harmful contaminants and debris.

The Proposed Action would result in enhanced levels of satellite environmental data capture operation at the BRW. Installing the antenna and 10’ x 10’ building would have minor, short-term impacts on air, noise, and traffic. Any construction debris from the proposed project would be negligible and would have no compounding effect with the USAF action. Previously described mitigation activities would further reduce impacts. There would be long-term, beneficial impacts to global weather forecasting as a result of the proposed project.

Based on current information researched as part of this PEA, at this time there are no known activities near Deadhorse. General activities that have occurred in the past consist of development to support oil exploration and production. Therefore cumulative effects would consist of the addition an antenna which is miniscule compared to existing development.

4.19.3 Environmental Consequences—FCDAS Decommission Alternative

Under this alternative, all infrastructure would be demolished and removed from the FCDAS and the site restored to the satisfaction of the BLM. This alternative could compound impacts to the local natural and human environment with transportation projects on the Richardson Highway/Steese Expressway Corridor. Specifically, demolition debris would generate increased truck traffic as discussed in Section 4.12, temporarily adding traffic volume. NOAA/NESDIS would coordinate with FBNS/AKDOT for any combined additional traffic resulting from FCDAS activities and proposed transportation projects. As discussed in Section 4.13, NOAA/NESDIS would comply, as appropriate, with EO 13693 and reduce construction and demolition debris by 50%. The solid waste from the FCDAS demolition would be approximately 57,500 tons after recycling. If any ADOT&PF transportation or other construction/demolition project occurred concurrently, this could reduce the life of the landfill by approximately one year. However, this projected reduction of usable life would change from 72 to 71 years (~1.5%), so any cumulative impact would be minor. Coordination with local and state entities as well as implementation of BMPs during the action as previously described would reduce the magnitude of impacts.

Restoration of the FCDAS to an undeveloped state would provide a long-term, beneficial impact. This would benefit fish and wildlife resources and could increase the success of the Goldstream Creek Restoration Project by eliminating human activity around Gilmore Creek.

4.19.4 Environmental Consequences—No Action Alternative

FCDAS operations will continue at their present status, adding no cumulative effects.

NLDP operations under the No Action Alternative will continue at current operation levels and would not add any cumulative effects.

4.19.5 Mitigation

Mitigation measures would be required for construction and/or demolition activities. These measures consist mostly of implementing BMPs to protect existing natural resources and restoring or stabilizing disturbed areas. Implementing BMPs during the action as previously described would reduce the magnitude of impacts. The description of mitigation measures can be found under individual resource sections throughout Chapter 4.

5 COMMUNITY INVOLVEMENT

NOAA has prepared this PEA in conformance with NOAA Administrative Order 216-6 and the implementing regulations for the National Environmental Policy Act, 40 CFR Parts 1500-1508. During preparation of this PEA, federal, state and local agencies and organizations, including Native Alaskan tribes were consulted for review and comment. A Notice of Availability (NOA) of the PEA was published in the *Fairbanks News-Miner* and *The Arctic Sounder* and copies of the document were made available at the Fairbanks Public Library and Tuzzy Consortium Library.

NESDIS accepted comments on the Draft PEA during an official 30-day comment period. A list of entities which were provided a copy of the Draft PEA for comment, and copies of correspondence can be found in Appendix C.

6 CONCLUSION

This PEA addresses potential effects associated with continuing existing operations, expanding operations, and improving facilities at FCDAS as outlined in the 2015 FCDAS FMP. Proposed projects outlined in the FCDAS FMP will maintain, enhance, and expand mission capabilities at the station, reduce or eliminate facility and electrical infrastructure shortfalls, and optimize the functional efficiencies by providing additional antenna infrastructure, additional operational space, and redundancy of critical electrical, communication, and mechanical infrastructure.

No significant adverse effects to the natural or human environment, as defined in 40 CFR Section 1508.27 of the CEQ's Regulations for Implementing NEPA, are expected from implementation of the Proposed Action at FCDAS or the NLDP locations. Based on the information analyzed, implementation of the Proposed Action could result in minor, adverse impacts to numerous components of the environment as a result of some or all of the proposed projects. However, some of the aspects of the environment could receive minor, beneficial impacts from the Proposed Action. Overall, the Proposed Action would allow the NESDIS mission to continue which provides a critical global service by collecting atmospheric, oceanic, and terrestrial environmental conditions.

No significant adverse effects to the natural or human environment, as defined in 40 CFR Section 1508.27 of the CEQ's Regulations for Implementing NEPA, would be expected from implementation of the Decommission Alternative at FCDAS or No Action Alternative.

6.1 Execution

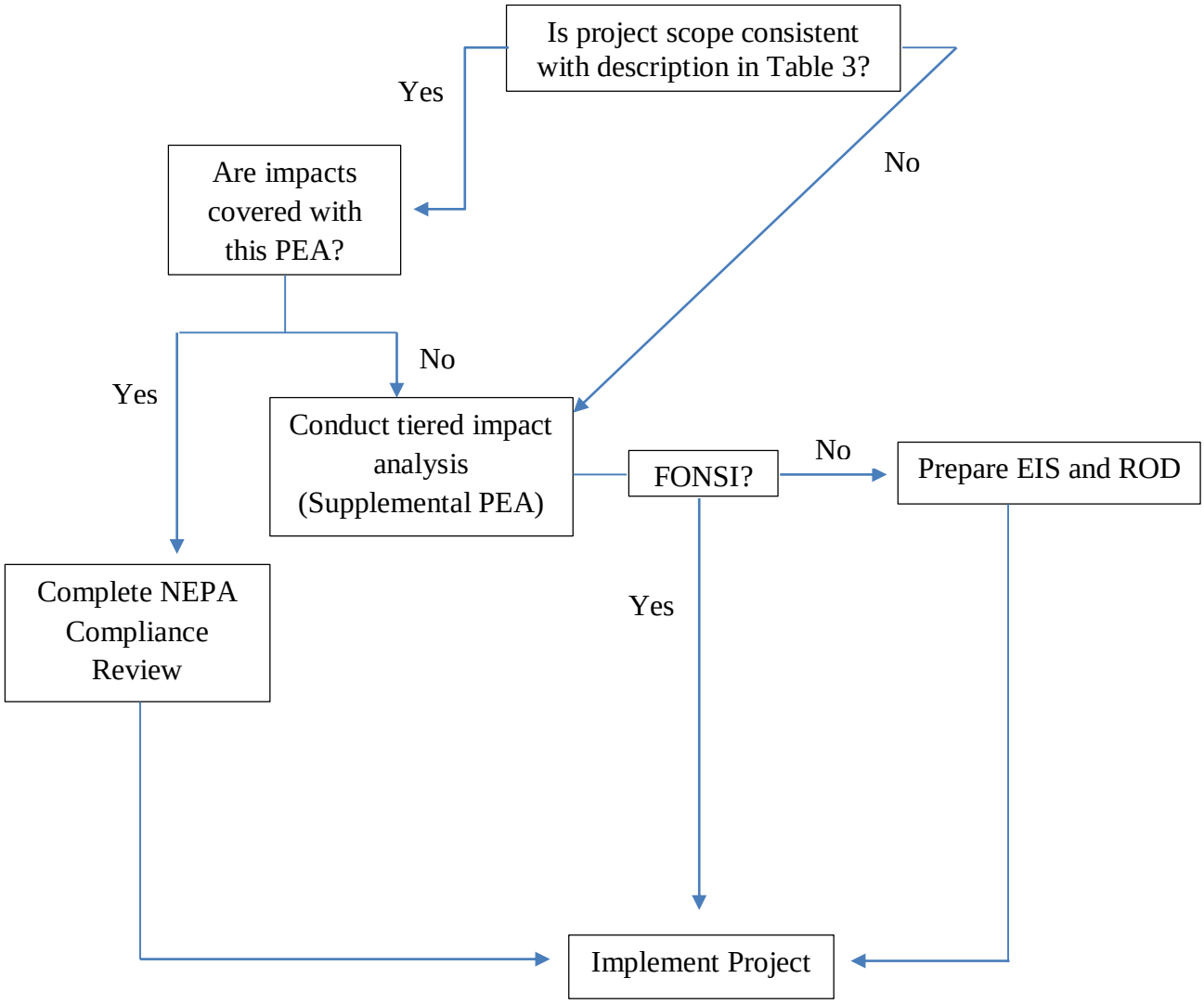
This PEA is intended to guide decision-making for FCDAS operations and projects outlined in the 2015 FCDAS FMP over the next ten years. NOAA/NESDIS will review this PEA and environmental baseline data at five year intervals to ensure the scope and analysis continues to be applicable. If, at any time during the ten year period that this PEA covers, either the scope of a project changes, impacts to the environment from a project, or the affected environment significantly change, then a supplemental NEPA review could occur.

At the time each project is considered for implementation, future Project Managers and the FCDAS Facility Manager will consult this PEA to ensure NEPA compliance. Managers will use the NEPA Compliance Review of Final Project Design found in Appendix B to guide this process. This review document consists of a series of questions to help the Station Manager and NESDIS project managers identify changes which would require additional NEPA. It also serves as a checklist to record agency and tribal coordination actions.

The first step would be to review the proposed project outlined in the 2015 FCDAS FMP and in this PEA in order to determine if the proposed project remains within the scope as analyzed. If the project remains the same and the impacts are covered by this PEA, then the NEPA Compliance

Review of Final Project Design would be completed and the project would be implemented. If the project scope changes significantly, or the impacts from a project have changed significantly, then project managers would identify those changes as directed in the NEPA Compliance Review of Final Project Design. The Project Manager and the NESDIS NEPA Coordinator would then conduct tiered impact analysis in the form of a supplemental NEPA review. Once the additional NEPA review is completed then project implementation could begin. The process is outlined in the illustration below.

Figure 14 – Proposed Project NEPA Validation Flowchart



Once NEPA requirements have been satisfied, project managers should continue to monitor project implementation. Actions could include, but are not limited to, ensuring all regulations are adhered to and that mitigation measures are implemented and followed. If impacts occur during the project period that are different from what has been analyzed in this PEA, NOAA/NESDIS will make a determination whether modifications to actions would be a suitable solution or whether additional NEPA review would occur.

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Appendix A

Greenhouse Gas and Global Warming Data

As a participant in the International Council for Local Environmental Initiatives, the Alaska Center for Energy and Power (ACEP) conducted an inventory of GHG emissions on behalf of the FNSB. The inventory revealed total 2007 GHG emissions to be 3.76 Million Metric Tons of CO_2 Equivalent (MMt CO_2e), or 38.6 metric tons per resident, which, at that time, was higher than the national average of 23.6 metric tons per resident (ACEP, 2008). The higher per capita emissions in the FNSB are likely to be largely a byproduct of the cold climate. When considering climate as a factor, GHG emissions from heating are most directly and obviously impacted. However, emissions from transportation sectors are also higher in colder climates. The ACEP calculated as much as a 25% decline in motor fuel efficiency in winter compared to summer months, due to poor lubrication in bearings and other moving engine components. The higher volume of electricity used in the FNSB in winter months, due lack of natural light, is also a factor related to their geographic location.

The 3.76 MMt CO_2e were emitted from sources originating in the FNSB. These emissions represent all emissions associated with sources that were anticipated to be required in future reporting protocols. These emissions were broken into the following sectors: Agricultural, Commercial, Industrial, Industrial Processes, Military, Residential, Transportation, and Waste Management – represented in Table 13 below.

Table 13 – NSB Emissions by Sector

Source Emissions	MMt CO2e
Agricultural	0.010
Commercial	0.71
Industrial	1.03
Industrial Processes	0.05
Military	0.66
Residential	0.83
Waste Management	0.42
Transportation	0.06
Total	**3.76**

Source ACEP, 2008

In addition to those sectors reported in Table 13, an important part of FNSB GHG emissions are those associated with air fuel combustion. Air fuel combustion occurs at Fairbanks International Airport (FAI), Eielson AFB, and Fort Wainwright. Because this fuel is likely used in transit between FNSB and other areas, these emissions are essentially shared across political and geographic boundaries. For this reason, inventory protocols regarding these emissions differ, and

in the absence of state or federal guidelines, protocol allows these air fuel emissions to be omitted from GHG inventory totals.

In October 2009, USEPA issued the Mandatory Greenhouse Gas Reporting Final Rule (74 FR 56260), which requires reporting of GHG data and other relevant information from large sources and suppliers in the United States. Facilities that emit 25,000 metric tons or more per year of GHGs are required to submit annual reports to EPA. In January 2012, USEPA made the first years of GHGRP reporting data available to the public through its interactive Data Publication Tool, called Facility Level Information on Green House Gases Tool.

The most recent GHG emissions reported for the FNSB area are available through the USEPA's GHGRP. There are seven large source emitters within the FNSB, which participated in the USEPA program. Not all of the source emission categories reported in the FNSBs initial inventory are represented in the USEPA database, likely because individual sources did not meet the USEPA threshold for reporting. Table 14, below, lists the GHG emissions from FNSB sources reported from 2010 through 2012 (the most recent available data). Note that USEPA data is reported in Metric Tons CO_2e rather than MMt CO_2e as reported by the FNSB.

Table 14 – Large Source GHG Emissions in FNSB

Industry	Number of Facilities Reporting within FNSB	Metric Tons CO_2e 2010	Metric Tons CO_2e 2011	Metric Tons CO_2e 2012
Power Plants	3	1,093,687	1,092,910	1,169,112
Petroleum/Natural Gas	0	0	0	0
Refineries	2	233,912	241,943	197,130
Chemicals	0	0	0	0
Other	2	468,047	495,497	488,276
Waste	1	53,676	55,377	56,805
Metals	0	0	0	0
Minerals	0	0	0	0
Pulp and Paper	0	0	0	0
Total Reported to EPA for FNSB		1,849,322	1,885,727	1,911,323

Source: http://ghgdata.epa.gov/ghgp/main.do

The NSB, which includes the Village of Barrow, was not a participant in the International Council for Local Environmental Initiatives, and therefore does not have an early inventory of GHG emissions (as does FNSB). There are a total of 24 large source emitters within the NSB. GHG emissions reported to the GHGRP for the NSB are provided in Table 15 below.

Table 15 – Large Source GHG Emissions in North Slope Borough

Industry	Number of Facilities Reporting within North Slope Borough	Metric Tons CO_2e 2010	Metric Tons CO_2e 2011	Metric Tons CO_2e 2012
Power Plants	1	42,686	42,773	43,403
Petroleum/Natural Gas	18	9,861,706	10,873,510	11,005,304
Refineries	2	589,598	560,520	558,542
Chemicals	0	0	0	0
Other	3	210,749	215,077	230,148
Waste	0	0	0	0
Metals	0	0	0	0
Minerals	0	0	0	0
Pulp and Paper	0	0	0	0
Total Reported to EPA for FNSB		10,704,739	11,691,880	11,837,397

Source: http://ghgdata.epa.gov/ghgp/main.do

Appendix B

NEPA Compliance Review of Final Project Design

NEPA Compliance Review of Final Project Design

The intent of this review is to ensure the nature and scope of each individual project discussed in the 2015 FCDAS PEA is still significantly representative of the project prior to its implementation. This review also helps the agency remain fully incompliance with NEPA. For responses in this review, add additional pages where necessary.

Project Title/Name	
Creation Date	
Version	

I validate this Record of Environmental Review correctly describes conditions of the project as of this date.

Name of reviewing official:

Date of project review:

NESDIS NEPA Coordinator:

Date of NEPA review:

1. Is project plan final? (yes/no)

2. Was NEPA document prepared? (yes/no)
   a. Title of NEPA document:
   b. Date decision document was signed:

3. Are the project and its impacts adequately described in the NEPA document? (yes/no)
   a. Has the size of the project changed? Yes:_____ (indicate in acres) No

   b. Has the location of the project changed? Yes:_____ (attach description or map) No
      - Would changes in the final project plan result in any significant environmental impacts? (yes/no/not applicable)?
      - Would changes in the final project plan result in additional minor impacts? (yes/no/not applicable)
        - If yes, attach description of minor impacts.

4. Is Finding of No Significant Impact still applicable to this project? (yes/no/not applicable)

5. Is additional NEPA analysis warranted for this project? (yes/no)
   a. If yes, type of NEPA document recommended: (Categorical Exclusion/Environmental Assessment/Environmental Impact Statement)
      Title:
      Date:
   b. Was recommended NEPA document completed? (yes/no)

6. Was NHPA Section 106 consultation completed with SHPO/THPO? (yes/no) if yes, what did the SHPO/THPO say/require; if no, why not?:

   a. Is additional coordination or consultation required? (yes/no)
   b. Are any mitigation measures required? (yes/no) if yes, then:
      - Project enacted mitigation measures by the following:

7. Was Tribal coordination completed? (yes/no) if yes, what did the tribal entity say/require; if no, why not?:

8. Are jurisdictional waters and/or wetlands present on the project site? (yes/no)
   a. Will jurisdictional waters and/or wetlands be avoided during project construction? (yes/no)
   b. Is coordination with the USACE required? (yes/no) if yes, what did USACE say/require upon coordination; if no, why not?:

9. Was ESA Section 7 consultation completed with USFWS/NOAA? (yes/no) if yes, what did USFWS/NOAA say/require; if no, why not?:

    a. Is additional coordination or consultation required? (yes/no)

    b. Are any mitigation measures required? (yes/no) if yes, then:
        - Project enacted mitigation measures by the following:

10. Was coordination with State Fish/Wildlife agency completed? (yes/no) if yes, what did the state agency say/require; if no, why not?:

    a. Is additional coordination or consultation required? (yes/no)
    b. Are any mitigation measures required? (yes/no) if yes, then:
        - Project enacted mitigation measures by the following:

11. Were other state or federal agencies consulted? (yes/no)
    a. List of other agencies:
    b. Is additional coordination or consultation required? (yes/no)
    c. Are any mitigation measures required? (yes/no) if yes, then:
        - Project enacted mitigation measures by the following:

12. Are any permits required prior to start of construction? (yes/no)
    a. List of permits needed:

Permit	Agency	Date Obtained	NESDIS Office with Permit File

Appendix C

Public Comment Period and Agency Review Information

AFFP

Draft progammatic environmenta

Affidavit of Publication

UNITED STATES OF AMERICA
STATE OF ALASKA } SS.
FOURTH DISTRICT

Before me, the undersigned, a notary public, this day personally appeared Magdalena Ibarra, who, being first duly sworn, according to law, says that he/she is an Advertising Clerk of the Fairbanks Daily News-Miner, a newspaper (i) published in newspaper format, (ii) distributed daily more than 50 weeks per year, (iii) with a total circulation of more than 500 and more than 10% of the population of the Fourth Judicial District, (iv) holding a second class mailing permit from the United States Postal Service, (v) not published primarily to distribute advertising, and (vi) not intended for a particular professional or occupational group. The advertisement which is attached is a true copy of the advertisement published in said paper on the following day(s):

March 27, 2016

and that the rate charged thereon is not excess of the rate charged private individuals, with the usual discounts.

Advertising Clerk

Subscribed to and sworn to me this 27th day of March 2016.

Marena Burnell, Notary Public in and for the State Alaska.

My commission expires: December 07, 2017

00008392 00034041

ERG
1006 Culbreth Street
Bainbridge, GA 39819

34041

NOTICE OF AVAILABILITY DRAFT PROGRAMMATIC ENVIRONMENTAL ASSESSMENT NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE FAIRBANKS COMMAND AND DATA ACQUISITION STATION, FAIRBANKS, ALASKA

The National Oceanic and Atmospheric Administration (NOAA) National Environmental Satellite, Data, and Information Service (NESDIS) announces the availability of, and invites comments on the Draft Programmatic Environmental Assessment for the continuing operations at the Fairbanks Command and Data Acquisition Station (FCDAS), Fairbanks, Alaska.

Various Capital Improvement Program (CIP) projects are required to ensure adequate facility support to maintain the satellite data collection and satellite command and control missions of the FCDAS. The CIP projects are the proposed actions discussed in the Draft PEA where one can also find location and scope of the proposed actions.

The Draft PEA also considers actions to support a small level of operations at the existing Barrow Observatory, in Barrow, Alaska, or at an unspecified location in Deadhorse, Alaska. At this time, these proposed actions are more exploratory in nature. The Draft PEA will be available for public review from March 28, 2016 through April 27, 2016 at the following locations: (1) Fairbanks Noel Wien Library (Fairbanks, AK), and (2) Tuzzy Library (Barrow, AK). Comments may be submitted at any time during the 30-day public review period.

For further project information or to submit comments, please contact: Morgan Keel, Environmental Research Group, 843 W. 36th St., Suite 200, Baltimore, Maryland 21211, 601-530- 2728, morgan.keel@envrg.com.

NOTARY PUBLIC
M. BURNELL
STATE OF ALASKA
My commission Expires December 7, 20____

NOAA/NESDIS is not responsible to respond to comments sent by any other method, to any other address or individual, or received after the end of the comment period. Comments received electronically, including all attachments, must not exceed a 15-megabyte file size. All personal identifying information (e.g., name, address) voluntarily submitted by the commenter may be publicly accessible. An electronic copy of the Draft PEA may be obtained by contacting Morgan Keel at the contact information above.

Publish: March 27, 2016

NOTARY PUBLIC
M. BURNELL
STATE OF ALASKA
My commission Expires December 7, 20____

The Arctic Sounder

CASE/PO/AIO: Environmental Research Group
AD# or identifier: Notice of Availability Draft Programmatic Environmental Assessment

REMIT TO: Alaska Media, LLC
P.O. Box 241582
Anchorage, AK 99524
Ph: (907) 770-0836
Fax: (907) 770-0822

INVOICE(S):16550

AFFIDAVIT OF PUBLICATION

UNITED STATES OF AMERICA
STATE OF ALASKA, THIRD DISTRICT BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC, THIS DAY PERSONALLY APPEARED **Tanny Walker** WHO, BEING FIRST DULY SWORN, ACCORDING TO LAW, SAYS THAT S/HE IS **General Manager** OF **The Arctic Sounder** PUBLISHED AT **500 W International Airport Rd, Ste F, Anchorage, AK**, IN SAID THIRD DISTRICT AND STATE OF ALASKA AND THAT THE ADVERTISEMENT, OF WHICH THE ANNEXED OR ATTACHED IS A TRUE COPY, WHICH WAS PUBLISHED IN SAID PUBLICATION ____3/24/16_____ AND THEREAFTER FOR A TOTAL OF ___1___ CONSECUTIVE ISSUE(S), THE LAST PUBLICATION APPEARING ON _____3/24/16_____.

TANNY WALKER
GENERAL MANAGER

SUBSCRIBED AND SWORN BEFORE ME THIS 24th day of March, 2016

KATHLEEN L SEWARD
NOTARY PUBLIC STATE OF ALASKA
MY COMMISSION EXPIRES ON FEBRUARY 1, 2017

STATE OF ALASKA
NOTARY PUBLIC
Kathleen L. Seward
My Commission Expires Feb 1, 2017

ATTACH PROOF OF PUBLICATION HERE

SPORTS

Have some sports to share? Send us your story. E-mail: crestino@reportalaska.com

Huskiettes' bid for repeat falls short in state finals

BY TOMMY WELLS
The Arctic Sounder

The Alak High School Huskiettes went into the Class 1A girls' state championship with every intention of winning a second straight state championship. And they almost did.

The Huskiettes fought their way to a second-place finish in the 2016 First National Bank/ASAA State Basketball Championships this past weekend in front of a large crowd in the Alaska Airlines Center. Alak won their first three games before suffering a tough 66-43 setback to Scammon Bay in the finals.

Despite narrowly missing a second state title, Huskiettes' Head Coach Edna Ahmaogak said she was thrilled with her team's performance.

"The girls did an amazing job, and I am very pleased with their effort throughout the season," said Ahmaogak.

In the state championship game, the Huskiettes picked up an outstanding effort from Kai Nashookpuk. The AHS standout scored a team-high 27 points and recorded seven steals. Teammates Samantha Kippi and Jenysa Ahmaogak also did well. Kippi finished with nine points and nine rebounds, while Ahmaogak collected nine boards.

Alak kicked off the tournament with a victory over St. Mary's on Wednesday. In that game, Nashookpuk proved she was among the top players in the state by almost notching a triple double. She finished with 35 points, 17 rebounds and five steals. She also had three blocked shots.

Molly Nayakik and Kippi also played well in the first-round romp. Nayakik posted 14 points and five steals, while Kippi chipped in eight points.

The Huskiettes continued their march to the finals on Thursday with a 58-41 win over Teller on Thursday. In that game, Nashookpuk threw in 29 points and had seven steals.

Ahmaogak and Kippi added 12 and eight points, respectively.

Nashookpuk kept up her impressive offensive barrage on Friday. She pumped in a team-high 20 points and nabbed 11 boards en route to lead the Huskiettes to a 45-32 win over Aniak in the semifinals.

Nashookpuk finished as one of the top scorers. En route to scoring 111 points, she averaged 27.7 points in her four outings.

Nayakik and Mattie Panik also starred in the win. Nayakik finished with 12 points. Panik added 11 rebounds and four steals.

Contact sportswriter Tommy Wells via e-mail at twells@reportalaska.com, or via phone at (940) 329-1540

PHOTO BY SAM TOWARAK

Jenysa Ahmaogak of the Wainwright Huskies skys for two points at state basketball.

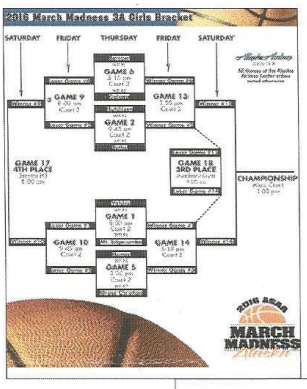

PHOTO BY SAM TOWARAK

Jordyn Lane of Point Hope calls a play during state basketball.

PUBLIC NOTICE

ConocoPhillips Alaska, Inc., Kuparuk River Unit – Drilling Annex Pad

The Alaska Department of Natural Resources, Division of Oil and Gas (DO&G), has received a Unit Plan of Operations Application (LONS 16-002) from ConocoPhillips Alaska, Inc. (CPAI), to construct a new gravel pad in the Kuparuk River Unit (KRU). DO&G is providing public notice and an opportunity to comment under 38.05.035(e)(1)(C)(ii).

Applicant: CPAI, PO Box 100360, Anchorage, AK 99510; Steve Brashear; 907-263-4691

Project ID: LONS 16-002 CPAI KRU Drilling Annex Pad

Location: Section 22, Township 10 North, Range 7 East of the Umiat Meridian.

Project Description: CPAI requests approval to construct a new gravel pad in the Kuparuk River Unit. The proposed development will include an access road and gravel pad with a total footprint of 16.5 acres southwest of Drill Site 2L (DS-2L). The new pad is necessary to support continued oil and gas development within the KRU. The application meets all of the requirements of 11 AAC 83.346.

The application package is available for review at the Division of Oil and Gas, Permitting Section, 550 West 7th Avenue, Suite 800, Anchorage, or online at: http://www.dog.dnr.alaska.gov/Permitting/Permitting.htm#permittingnotices

Please send your comments by e-mail to dog.permitting@alaska.gov, or by mail to the above address. Only persons who comment in writing during the public comment period will be eligible to file an administrative appeal or to request reconsideration of the final decision (11 AAC 02.010). A copy of the final decision will be sent to any person who provides written comments.

The deadline for comments is 4:30 p.m. Alaska Time on April 20, 2016

The Department of Natural Resources complies with Title II of the Americans with Disabilities Act of 1990. This Notice will be made available in alternative communication formats upon request. Individuals with disabilities who may need auxiliary aids, services, or special modifications to participate may contact the address above or call 907-269-8411. 16G-10-068

NOTICE OF AVAILABILITY
DRAFT PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
FAIRBANKS COMMAND AND DATA ACQUISITION STATION, FAIRBANKS, ALASKA

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Various Capital Improvement Program (CIP) projects are required to ensure adequate facility support to maintain the satellite data collection and satellite command and control missions of the FCDAS. The CIP projects are the proposed actions discussed in the Draft PEA where one can also find location and scope of the proposed actions. The Draft PEA also considers actions to support a small level of operations at the existing Barrow Observatory, in Barrow, Alaska, or at an unspecified location in Deadhorse, Alaska. At this time, these proposed actions are more exploratory in nature.

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For further project information or to submit comments, please contact: Morgan Keel, Environmental Research Group, 843 W. 36th St., Suite 200, Baltimore, Maryland 21211, 601-530-2728, morgan.keel@envrg.com.

NOAA/NESDIS is not responsible to respond to comments sent by any other method, to any other address or individual, or received after the end of the comment period. Comments received electronically, including all attachments, must not exceed a 15-megabyte file size. All personal identifying information (e.g., name, address) voluntarily submitted by the commenter may be publicly accessible. An electronic copy of the Draft PEA may be obtained by contacting Morgan Keel at the contact information above.

List of Organizations Contacted for Draft PEA Review and Comment

Federal
Bureau of Land Management, Fairbanks District Office
U.S. Fish and Wildlife Service, Fairbanks Field Office

State
Alaska State Historic Preservation Office
Alaska Department of Environmental Conservation
Alaska Department of Natural Resources
Alaska Department of Game and Fish
Alaska Department of Transportation and Public Facilities

Local
Fairbanks North Star Borough, Office of the Mayor
Fairbanks North Star Borough, Commission on Historic Preservation
City of Fairbanks, Office of the Mayor
North Slope Borough, Office of the Mayor
Mayor of Barrow

Federally Recognized Tribes
Beaver Village
Birch Creek Tribe
Circle Native Community
Healy Lake Village
Native Village of Barrow Inupiat Traditional Government
Inupiat Community of the Arctic Slope
Native Village of Nuiqsut

THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Natural Resources
DIVISION OF MINING, LAND & WATER
Northern Regional Land Office

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April 29, 2016

Morgan Keel
Environmental Research Group, LLC
Baltimore, MD 21211
morgan.keel@envrg.com

Dear Mr. Keel:

The State of Alaska, Department of Natural Resources (DNR), respectfully submits the following comments pursuant to the Draft Programmatic Environmental Assessment for the Fairbanks Command and Data Acquisition Station.

RST 650 (Gilmore Trail Fairbanks Creek Connector Trail)

RST 650 is a highway easement granted under RS 2477, initially constructed in 1904, and managed by DNR. The EA notes that RST 650 is a historic trail that currently sees no use; while it may be true that RST 650 sees little or no use, the public has the legal right to utilize the route. It is unacceptable for the fencing project to sever this access; if gates are included at the crossing points, DNR has no objection to the proposed fencing, provided the gates are not locked. We further recommend that the trail location be marked through the developed portion of FCDAS if NOAA wishes to limit potential users to this easement.

RST 644

On page 62, the EA states that DMLW proposes to relocate a portion of RST 644; on 3/12/2015, this office issued a decision authorizing the reroute of RST 644 as described in the EA.

New Government Road

The proper name for this road is "Gilmore-Pearl Creek" Road, and was included in the February 26, 1957 Omnibus Deed ("Federal-Aid Primary Highway System as Approved February 26, 1957 and Subsequently Amended) as FAS 6721. This is another highway easement that the public has a legal right to utilize, and is managed by the Department of Transportation and Public Facilities (DOTPF). Please coordinate with DOTPF regarding management and upgrade of this route, and note this route extends beyond the boundaries of the FCDAS withdrawal, providing access to Gilmore Dome.

DOTPF requests that coordination for upgrade of FAS 6721 begin at least 60 days prior to NOAA's desired final authorization date.

Generally, particularily for Deadhorse NLDP

Please ensure adequate timelines for authorizations on DNR managed uplands, shorelands, tidelands, and submerged lands.

DNR Requests applications be submitted no less than the following timeframes prior to NOAA's desire for final authorization decision

- LUPs
  - 90 days
- Easements
  - 6 months
- Leases
  - 1 Year

Sincerely,

AJ Wait
Natural Resource Manager I
DNR, DMLW, Northern Region Lands Section

Cc: Pete Eagan, Right of Way Agent IV, DOTPF, Northern Region
Name, Title

Morgan Keel

From: Johnson, McKenzie S (DNR) <mckenzie.johnson@alaska.gov>
Sent: Wednesday, April 13, 2016 1:32 PM
To: Morgan Keel
Subject: RE: NOAA PEA Opportunity to Comment
Attachments: Pages from FCDAS Draft PEA_AKSHPOComments4-13-16.docx

Hello Morgan, I have attached a tracked changes document with some edits and comments for your consideration. I converted the Cultural Resource section from PDF to word so the formatting is a little off from what it was. Let me know if you need clarification, or just want to discuss. Thank you.

4.14 Cultural Resources

In keeping with requirements of Section 106 of the NHPA, the environmental review process for specific improvement projects would include analysis of the possible effects of the project on historic properties listed, or eligible for listing, on the NRHP. Part of the Section 106 process is to discover if there are cultural or archaeological resources in areas to be effected by project actions. ~~That is, areas not previously impacted by ground disturbance. However, as the entire valley floor was filled in, covered, by mine tailings, and the FCDAS was constructed on these areas, the entire site has been previously disturbed.~~

Commented [MSJ1]: I would strike out this portion as it reads incorrectly in this context. There can be cultural or archaeological resource in areas that were previously impacted by ground disturbance, ground disturbance by itself can be a cultural modification—developed areas have historic resources present on them—sometimes prior disturbance only disturbs the top portion of a site etc.

4.14.1 Affected Environment

At the age of 50 years, a structure is generally ~~deemed~~considered to be potentially eligible for listing in the NRHP. While considered to be potentially eligible, a structure has to meet significance criteria before being determined to be eligible for, or being listed on the NRHP ~~listing~~. Table 8 identifies the year at which structures at the FCDAS would ~~be eligible for listing in the NRHP.~~reach the 50 year mark.

Commented [MSJ2]: While valid information (with some change to the language) it should include the counter to this rule which is Consideration G, properties that rise to a certain level of significance but are younger than 50 years old. This is important, because at the time of the FCDAS determination of eligibility they were found eligible under this Consideration.

Hitting the 50 year mark does not automatically make a property eligible for listing, it just indicates that there may be the *potential* for the property in question to meet one or more of the Criteria of significance and therefore become a 'historic property'. Eligibility is determined through a formal evaluation process.

Approximately half of the buildings listed in the table have already been determined to be a contributing historic property to the FCDAS.

On May 15, 2002, the FCDAS was determined eligible for listing as a Historic District by the Alaska State Historic Preservation Officer (SHPO) and Department of the Environment. The site was deemed eligible for listing under NRHP Criteria A (associated with significant events) and C (embodies distinctive characteristics), and Consideration G. Under Section 106 of the NHPA, the Alaska SHPO office, NOAA, and the ACHP has been consulted and Memoranda of Agreement (MOA) have been entered into to address impacts to certain facilities. Specifically, two MOAs have addressed the Old Operations Building and the 9 and 12m antennas, all of which have been scheduled for demolition. All mitigation measures have been met and approved by the SHPO (Aparicio, 2012).

Building information…

Commented [MSJ3]: This jumps into archaeological resources rather abruptly, when the building resources that make up the FCDAS Historic District are not clear. (Suggest incorporating eligibility status into the table 8)

~~NSB, including Barrow and Deadhorse, has a homogeneous population of Iñupiat Eskimo, who have lived and survived in this area for over 11,700 years. Iñupiat History, Language, and Culture (IHLC) Division documents, preserves, and perpetuates the history, language, and culture of the North Slope region and ensures that cultural issues are given appropriate consideration during the planning process of any potentially invasive project (NSB-IHLC, 2014).~~

~~A number of cultural resource surveys have been conducted in or with regard to Barrow. Cultural sites within the area include villages, camps, burial areas, and historic structures (Alaska Army National Guard, 2006). No specific cultural sites are known to occur within the BRW.~~

Commented [MSJ4]: This paragraph is not relevant to the FCDAS location.

Need to be clearer about the different localities included in the overall assessment.

~~Cultural resource surveys, which included the Deadhorse area, have identified historic and prehistoric sites including lookout points and seasonal camps (University of Alaska, Fairbanks, 1981). No specific cultural sites are known to occur within the settlement of Deadhorse.~~

4.14.2 Environmental Consequences—Proposed Action

Notwithstanding analysis and determination by this PEA, future FCDAS improvements would still be subject to project-specific environmental review requirements set forth in NOAA Administrative Order 216-6 and Section 106 of the NHPA, ~~, if projects change significantly~~.

Commented [MSJ5]: Any federal undertaking, or project that is licensed/permitted/approved by a federal agency is subject to Section 106. This EA is not satisfying Section 106, it is stating that Section 106 obligations will be met on a case-by-case basis (at least that was our understanding from communications with your office).

As the 1999 archaeology study encompassed those areas on the FCDAS that contain the transportation routes and drainages, it is unlikely (based on settlement pattern) that other archaeological sites are present on the FCDAS. ~~Further, as only those sites that retain high levels of physical integrity have been determined eligible~~

Commented [MSJ6]: Assuming eligibility before even knowing what could be encountered. Furthermore, there are seven aspects of integrity as outlined in the NRHP bulletin and a property that meets one or more of the Criteria only needs to retain one of those seven aspects to be considered a historic property.

~~for the NRHP, the level of disturbance within~~

~~developed portions of the FCDAS suggest that if additional sites are found they will not be eligible for listing~~. Alterations to the FCDAS infrastructure could ~~would~~ impact the Historic District eligibility however, NOAA will consult individually on the projects with AKSHPO and other appropriate parties to avoid, minimize, and if necessary mitigate these effects prior to their implementation. ~~ould enter into MOAs as needed to ensure the current mission of the FCDAS is able to continue.~~

Coordination with the SHPO, ADNR Land Section, and federally recognized tribes will occur during the draft stage of the PEA and results will be incorporated into the final document. Projects located in areas with potential to impact cultural resources would be addressed~~mitigated~~ by NOAA based on the results of the consultation.

~~There is currently no specific project location for the NLDP at Deadhorse. However, the implementation of the proposed action at BRW or Deadhorse would occur adjacent to an existing building and likely result in no historic properties affected since the project would occur within an existing disturbed area and away from any historic structures and their viewsheds as part of project conditions~~.

Commented [MSJ7]: If we are doing these things case-by-case there is not a guaranteed outcome of 'adverse effect' for every project—mitigation only applies to undertakings that have been determined to have an 'adverse effect' on a historic property.

Commented [MSJ8]: See comment 4

4.14.3 Environmental Consequences—FCDAS Decommission Alternative

Because this PEA defines decommission as the demolition of all buildings, any substructures, antennas, roads, and infrastructure, this alternative would have long-term, significant impacts to cultural resources, specifically the FCDAS Historic District. Impacts to cultural resources, under this alternative, would require consultation with the Alaska SHPO and coordination with interested Native Alaskan groups under Section 106 of the NHPA. It is anticipated based on previous actions that an MOA ~~could~~ would be developed to mitigate adverse impacts ~~so that~~through ~~compliance with~~ mitigation measures identified during the consultation process. ~~would avoid or minimize any potential effects on historic properties~~. The Historic Trail under RS 2477, known as RST 650, the Gilmore Trail-Fairbanks Creek Connector Trail, will require coordination with both the SHPO and the ADNR, Land Section, as the historic trail crosses the FCDAS just to the west of the Facilities Building (FNSB, 2013). RST 650 would be identified and would retain its historic status.

Commented [MSJ9]: If you are at the point of MOA development you are saying that there will be an adverse effect to the property or properties because you cannot avoid or sufficiently minimize.

Commented [MSJ10]: It is important to note that Rs2477's are not automatically a 'historic property' under Section 106, they should go through the standard evaluation process to determine their significance if they will be affected by a project (unless this has already been determined). RS2477's are essentially historical R-O-W's that the State manages in an effort to ensure certain public access rights for citizens (suggest reviewing the website, or speaking with someone from DMLW directly for a better understanding). They may *also* be historic properties if determined to be so through formal evaluation.

4.14.4 Environmental Consequences—No Action Alternative

Implementation of the No Action Alternative would result in no historic properties affected as the FCDAS and BRW would continue to operate in their current status.

4.14.5 Mitigation

Mitigation actions could include, but are not limited to, avoidance of the site, protective measures, documentation, or excavation. If a site cannot be avoided, information about the historic property could be retrieved for analysis, curation, and reporting to preserve the integrity for future generations.