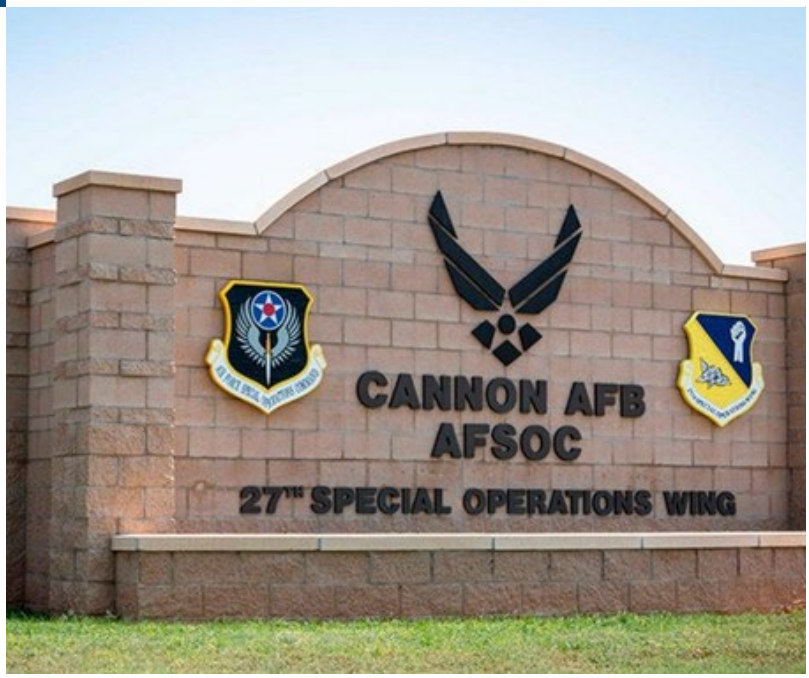

December

2025

Draft

Environmental Assessment

Addressing Installation Development at Cannon Air Force Base, New Mexico

United States Air Force
Air Force Special Operations Command
27th Special Operations Wing

ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
ACAM	Air Conformity Applicability Model
ACM	asbestos-containing material
AFB	Air Force Base
AFFF	aqueous film-forming foam
AFSOC	Air Force Special Operations Command
AMOP	Asbestos Management and Operations Plan
AOC	Area of Concern
APE	area of potential effects
AST	aboveground storage tank
BGEPA	Bald and Golden Eagle Protection Act
bgs	below ground surface
BMP	best management practice
BTPD	black-tailed prairie dog
BUOW	burrowing owl
CAC	corrective action complete
CEIE	Civil Engineering Installation Environmental
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	equivalent emissions of CO_2
CWA	Clean Water Act
DAF	Department of the Air Force
DAFI	DAF Instruction
DAFMAN	DAF Manual
dB	decibel
dBA	A-weighted decibel
DNL	Day-night Sound Level
DoD	Department of Defense
DWTP	drinking water treatment plant
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EO	Executive Order
ERP	Environmental Restoration Program
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
FTA	Fire Training Area
GAC	Granular Active Carbon
GHG	greenhouse gas
gpd	gallons per day

HVAC	heating, ventilation, and air conditioning
HWMP	Hazardous Waste Management Plan
ICRMP	Integrated Cultural Resources Management Plan
IDP	Installation Development Plan
IPMP	Integrated Pest Management Plan
JAA	Jet A Aviation
LBP	lead-based paint
MBTA	Migratory Bird Treaty Act
mcf	million cubic feet
MMRP	Military Munitions Response Program
MSA	Munitions Storage Area
msl	mean sea level
MW	megawatt
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMAC	New Mexico Administrative Code
NMDGF	New Mexico Department of Game and Fish
NMED	New Mexico Environment Department
NOA	Notice of Availability
NO_X	nitrogen oxides
NRHP	National Register of Historic Places
O_3	ozone
OSH	occupational safety and health
OSHA	Occupational Health and Safety Administration
OWS	oil/water separator
PCB	polychlorinated biphenyl
PFAS	per- and polyfluoroalkyl substances
PFBA	perfluorobutanesulfonic acid
PFC	perfluorinated chemical
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonate
PM_{10}	particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
POL	petroleum, oils, and lubricants
PPE	personal protective equipment
PRMC	Plains Regional Medical Center
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
SBR	sequencing batch reactor
SCADA	Supervisory Control and Data Acquisition
SGCN	Species of Greatest Conservation Need
SHPO	State Historic Preservation Officer
SI	Site Inspection
SOCES	Special Operations Civil Engineer Squadron
SOSFS	Special Operations Security Forces Squadron

SOW	Special Operations Wing
SO_X	sulfur oxides
SPR	Spill Prevention and Response
SWMU	Solid Waste Management Unit
SWPPP	Stormwater Pollution Prevention Plan
tpy	tons per year
UFC	Unified Facilities Criteria
US	United States
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
VOC	volatile organic compound
WOTUS	Waters of the United States
WWTP	wastewater treatment plant

PRIVACY ADVISORY

This Environmental Assessment (EA) has been made available for public comment in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code Section 4321 et seq.), and the Department of Defense (DoD) NEPA Implementing Procedures (effective 30 June 2025). These procedures establish a standardized Environmental Planning Process across all DoD Components, including the Department of the Air Force (DAF), and provide for public review of environmental analyses that inform decision-making. Public comments help ensure that community perspectives and environmental considerations for better-informed decisions.

Letters or other written or oral comments provided may be published in the Final EA. As required by law, comments provided will be addressed in the Final EA and made publicly available. Providing personal information is voluntary. Private addresses may be compiled to develop a mailing list for those requesting copies of the EA. Only the names of the individuals making comments and specific comments will be disclosed in the Final EA. Personal information, home addresses, telephone numbers, and email addresses will not be published in the Final EA.

This EA has been verified to comply with the 75-page limit, excluding citations and appendices. This document is compliant with Section 508 of the Rehabilitation Act. This allows assistive technology to be used to obtain the available information from the document. Due to the nature of graphics, figures, tables, and images occurring in the document, accessibility is limited to a descriptive title for each item.

FINDING OF NO SIGNIFICANT IMPACT/ FINDING OF NO PRACTICABLE ALTERNATIVE

for the Environmental Assessment Addressing Installation Development at Cannon Air Force Base, New Mexico

PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to support Air Force Special Operations Command (AFSOC) mission requirements by improving the facilities, infrastructure, and utilities for current and future use by personnel and residents at Cannon Air Force Base (AFB). The need for the Proposed Action is to uphold mission effectiveness by meeting mission and regulatory demands through eight projects to enhance current installation capabilities. These projects include (1) conducting site preparation for a food court and recreational area, (2) constructing a replacement pump house and demolishing the old pump house, (3) constructing an addition to the existing Security Forces Facility, (4) constructing a Furnishing Management Warehouse, (5) constructing a constant pressure fuel system, (6) renovating the existing drinking water treatment plant (DWTP) and constructing filtration buildings for the water plant and two wells, (7) renovating the existing wastewater treatment plant (WWTP) and constructing filtration buildings, and (8) fencing the flightline.

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Proposed Action. The Environmental Assessment (EA) supports a proposal by the Department of the Air Force (DAF) and Cannon AFB to implement eight separate projects in support of installation development at Cannon AFB. The need for each project is detailed below.

Site Preparation for Food Court and Recreational Area. Cannon AFB is remote and isolated; therefore, offering a variety of food establishments on the installation would enhance the environment and be desirable to the military community, particularly for the convenience of personnel who have limited transportation and cannot travel off installation for meals. This project would benefit mission accomplishments and the morale and welfare of installation personnel.

Construct Replacement Pump House. The diesel pumps that currently feed water to the hangars have reached the end of their lifecycle. Replacement parts are no longer manufactured and are extremely difficult to acquire. The new, electric pumps proposed to replace the old, diesel pumps are larger and would not fit into the current pump house. Additionally, the current pump house has a void beneath one of the equipment pads that has caused the pump to become unstable, rendering the equipment unusable. If a new pump house is not provided with updated electric pumps to comply with Unified Facilities Criteria 3-600-01, *Fire Protection Engineering for Facilities*, fire suppression capabilities could be diminished, which could result in aircraft losses. Additional pumping capacity is also required to meet the requirements of planned renovations to two hangars.

Addition to the Security Forces Facility. The Security Force's updated guidance requires more personnel to share workspace within proximity for accessibility. This addition would add confinement cells to allow for the separation of men and women. The current Security Forces Facility has space limitations and does not comply with space

requirements. Further, the current armory door does not meet DAF requirements. Inadequate administrative and confinement space would degrade the ability of the 27th Special Operations Security Forces Squadron (SOSFS) to protect 27th Special Operations Wing (SOW) personnel and assets. Additionally, if the project is not completed, 27 SOSFS would not meet the criteria to become a regionally accredited military detention center, leaving the southwest region without required military detention capabilities.

Construct Furnishing Management Warehouse. Excess furnishings for dormitories are currently stored in a facility that is not designed as a storage space for furnishings and is not climate controlled. As a result, several furnishings have been damaged and inadequate asset accountability has contributed to the loss of items. Future construction of additional dormitory space and renovation of older dormitories also creates a need for additional storage space to protect furnishings.

Construct Constant Pressure Fuel System. This new system would provide faster and more efficient refueling for aircraft. The new system would decrease turn times by 30 percent during simultaneous refueling operations due to the higher flow rate at each hot refuel point and would save an average of 3 hours per 12-hour training window. Dual point hot refueling would enable the installation to carry out the continuation training plan. The flexibility that hot refueling offers the squadron when scheduling continuation training is vital. Hot refueling capability allows departure for each sortie with a more flexible fuel plan, so the installation can engage in focused training events like helicopter landing zone terminal area training immediately after takeoff.

The existing system was constructed in early 1996 and commissioned in 1998 using obsolete equipment from base closures and functional remnants from other installations that received upgrades. The system has outlived its expected lifecycle and does not meet the constant-pressure hydrant refueling system criteria as published in operational standards. Today, the system is fueled via two tanks. Additionally, the hot pits require the constant transfer of fuel to maintain operations from these tanks. By increasing storage approximately threefold, system transfers would be reduced from bulk storage. Further, the existing system would continue to degrade until failure, and operations would continue to use non-compliant equipment. Constructing a complete Type IV system would reduce aircraft refuel time because the system would operate at a better-regulated system pressure with increased pumping rates. Current operations require 650 man-hours per year for routine maintenance and checks on the system, and approximately 330 man-hours per year for civil engineer personnel to perform regular inspections on the distribution line, storage tanks, pumps, breakers, associated tank cleaning, and markings. Upgrading the current system would save civil engineers maintenance man-hours from upkeep of an outdated system with degraded pumping capability.

Renovate DWTP. Several significant issues have been identified in the current DWTP system. One of the most pressing concerns is per- and polyfluoroalkyl substances (PFAS) contamination in groundwater sources. Although all PFAS levels are currently under regional screening levels and in legal compliance, contaminants will need to be minimized by 2029 to meet new United States Environmental Protection Agency (USEPA) regulations. Construction of three filtration buildings is planned to meet the requirements

outlined in the new proposed regulation. In addition, infrastructure deterioration includes aging electrical systems, inadequate heating, ventilation, and air conditioning units, and corroded storage tanks. Structural problems in buildings housing the wells and pump stations, such as corroded piping and non-compliant safety equipment, further compromise the reliability and safety of the water supply. These issues collectively threaten public health and the installation's operational readiness. Major improvements to existing equipment and construction of new treatment systems are planned to eliminate or reduce contaminants from reclaimed water.

Renovate WWTP. Several issues have been identified in the current WWTP system. In the past, the presence of perfluorinated chemical compounds in the soil at the plant has resulted in temporary shutdowns of reclaimed-water irrigation activities at the Whispering Winds Golf Course on the installation. Therefore, all disturbed soil in the WWTP project area would undergo hazardous waste characterization and sampling for perfluorinated chemicals and any contaminated soils would be removed and disposed of in accordance with federal, state, and local regulations. Additionally, many of the components within the plant are either inoperable, deficient, or beyond their service life. Proposed improvements include demolition and replacement of the existing headworks, new treatment systems, mechanical repairs, electrical repairs, and Supervisory Control and Data Acquisition system enhancements, and civil/site improvements.

Installation of Flightline Fence. Physical security of the restricted flightline area is a requirement of DAF Instruction (DAFI) 31-101, *Base Defense Operations*, to protect DAF assets where a threat of terrorism is imminent or likely. Personnel entering a restricted area must enter through an established Entry Control Point. Installation of fencing would provide added protection of assets by delaying any adversary until Security Forces can reach the target. If this project is not completed, the perimeter of the protected areas and the restricted areas of the flightline and hangars that contain DAF assets would not be clearly defined and manpower to maintain security would need to be increased. Clearly defined access to the restricted areas would act as a deterrent to entry and would prevent unauthorized personnel from entering.

Alternatives. Potential alternatives for all projects were considered but dismissed and not carried forward for full environmental analysis in the EA per the five selection standards discussed in **Section 2.1** of the EA. Additional explanation of alternatives considered for each of the eight projects can be found in **Section 2.3** of the EA.

No Action Alternative. The No Action Alternative is carried forward for further analysis in the EA to provide a baseline against which the effects of the Proposed Action can be assessed. The No Action Alternative would be "no change" from current practices or continuing with the present course of action until that action is changed. The No Action Alternative assumes that the Proposed Action would not occur.

Under the No Action Alternative, current deficiencies would not be addressed, and mission effectiveness would deteriorate as mission and regulatory demands outpace installation capabilities, and the following outcomes would be expected from each of the projects:

- **Site Preparation for Food Court and Recreational Area.** Cannon AFB would continue to lack food establishments for installation personnel.

- **Construct Replacement Pump House.** The current pump house would continue to not meet fire codes, and one of the pumps would continue to be out of service, resulting in decreased fire suppression for the hangars, which could result in aircraft losses.
- **Addition to Security Forces Facility.** The current building has space limitations and would continue to be out of compliance with the Security Forces' updated guidance. Inadequate administrative and confinement space would continue to degrade the ability of 27 SOSFS to protect 27 SOW personnel and assets, and 27 SOSFS would not meet the criteria to become a regionally accredited military detention center.
- **Construct Furnishing Management Warehouse.** Furnishings stored in the current facility would continue to be damaged and/or stolen. Additionally, future construction of additional dormitory space and renovation of older dormitories would result in a lack of storage space to protect furnishings.
- **Construct Constant Pressure Fuel System.** Connections would continue to not meet the constant pressure hydrant refueling system criteria as published in operational standards and continue to degrade until failure.
- **Renovate DWTP.** The current facility would become non-compliant with USEPA guidance on PFAS for drinking water becoming effective in 2029. Infrastructure deterioration would continue, further compromising the reliability and safety of the installation's water supply.
- **Renovate WWTP.** The current WWTP would continue to be deficient, as many of the components within the plant are either inoperable or beyond their service life and effluent water would not meet USEPA regulations.
- **Installation of Flightline Fence.** The flightline would remain vulnerable to threats, particularly during Force Protection Condition status, and be non-compliant with DAFI 31-101.

SUMMARY OF ENVIRONMENTAL EFFECTS

The Proposed Action and alternatives have been reviewed in compliance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code Section 4321 et seq.) and the Department of Defense (DoD) NEPA Implementing Procedures (effective 30 June 2025). The analysis focuses on the following environmental resources: noise, air quality, geological resources, water resources, biological resources, cultural resources, hazardous materials and wastes and other contaminants, infrastructure, and safety. The analysis in the EA for each of the environmental resource areas listed above identified negligible to moderate adverse impacts under the Proposed Action. Potential environmental impacts are not expected to be significant for any of the resources. A summary of the environmental consequences is provided in **Table 2-1** of the EA.

STAKEHOLDER INVOLVEMENT

Based on the description of the Proposed Action as outlined in the EA, all activities have been found to comply with the criteria or standards of environmental quality. Coordination with appropriate federal, state, and local agencies regarding this EA has been completed.

The attached EA and this Finding of No Significant Impact (FONSI)/Finding of No Practicable Alternative (FONPA) were made available to the public for a 30-day review period on 28 November 2025. Agencies received coordination throughout the EA development process, and their comments were addressed as part of the analysis of potential environmental impacts performed in the EA.

FINDING OF NO PRACTICABLE ALTERNATIVE

Executive Order (EO) 11988, *Floodplain Management*, requires federal agencies to avoid, to the maximum extent possible, adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of development in a floodplain wherever there is a practicable alternative. If it is found that there is no practicable alternative, the agency must minimize potential harm to the floodplain and circulate a notice explaining why the action is to be located in the floodplain before acting. Additionally, new construction in a floodplain must apply accepted flood proofing and flood protection, such as diverting water away from the area of development and implementing stormwater best management practices (BMPs).

Although no Federal Emergency Management Agency (FEMA) 100-year floodplains have been delineated on Cannon AFB, potential flooding areas and planning resources to address flooding problems around the installation were identified in a 2022 floodplain analysis conducted by Colorado State University. Based on the assessment, many installation assets including storage tanks, hazardous material and waste sites, and portions of the airfield were found to be within the proposed 100- and 500-year floodplains (CSU 2022).

Negligible to moderate, adverse impacts on the proposed 100- and 500-year floodplains would be expected. Construction activities would directly increase obstructions within the floodplain. Implementation of appropriate BMPs during construction would limit impacts such as sediment and surface runoff. No impacts on FEMA-designated floodplains would be expected as no FEMA floodplains have been officially designated on Cannon AFB. The Constant Pressure Fuel System, Renovate DWTP, Renovate WWTP, and Flightline Fence project areas are within or immediately adjacent to the proposed 100- or 500-year floodplain and would directly increase obstructions and reduce pervious cover within the proposed 100- or 500-year floodplains. However, these impacts would be minimized through the design, siting, and implementation of environmental protection measures and stormwater management.

EO 11990, *Protection of Wetlands*, requires 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 wherever there is a practicable alternative. If it is found that there is no alternative, the agency must provide an opportunity for early public review of any plans or proposals for such construction and minimize the destruction, loss, or degradation of wetlands and preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's actions. Additionally, a proposed action in a wetland must include all practicable measures to minimize harm to wetlands and consider the action's effect on the survival and quality of the wetland.

Negligible to minor, adverse, and negligible to minor, beneficial impacts on surface waters and wetlands would be expected. Impacts from ground-disturbing activities could result in the transportation of additional sediment and other materials into the surface waters. Additionally, stormwater has the potential to carry sediment, construction debris, and hazardous substances into drainage ditches, which connect to various surface water bodies across the installation. However, implementation of standard stormwater protection BMPs and spill prevention and management plans, including a Storm Water Pollution Prevention Plan, would reduce or eliminate any lasting detrimental effects on the quality of surface waters. The surface water bodies on Cannon AFB do not have connections to jurisdictional waters outside the installation. Therefore, the Proposed Action is not expected to have an impact on water bodies beyond the installation's boundaries.

A Notice for Early Public Review of a Proposed Action in a wetland and floodplain was published in *The Eastern New Mexico News* on 21 May 2025. No comments were received in response to this notice.

Under EOs 11988 and 11990, and under the authority delegated in Headquarters Air Force Mission Directive 1-18, and based on the analysis presented in the EA, I find that there is no practicable alternative to the Proposed Action. The project incorporates all practicable measures to minimize harm to the environment, including the floodplain. This determination has been made following consideration of all submitted information and a range of reasonable alternatives that meet project objectives and fall within the legal authority of the DAF.

FINDING OF NO SIGNIFICANT IMPACT

Based on the information and analysis presented in the EA and on review of the public and agency comments submitted during the 30-day public comment period, I conclude that the environmental impacts of implementing the above projects at Cannon AFB are not significant, that preparation of an Environmental Impact Statement is unnecessary, and that a FONSI/FONPA is appropriate.

ROBERT L. JOHNSTON, Colonel, USAF
Commander

Date

Attachment: *Environmental Assessment Addressing Installation Development at Cannon Air Force Base, New Mexico*

COVER SHEET

DRAFT
ENVIRONMENTAL ASSESSMENT ADDRESSING INSTALLATION DEVELOPMENT AT CANNON AIR FORCE BASE, NEW MEXICO

Responsible Agencies: Department of the Air Force (DAF), Cannon Air Force Base (AFB), Air Force Special Operations Command (AFSOC), 27th Special Operations Wing (SOW).

Affected Location: Cannon AFB, New Mexico.

Proposed Action: Installation Development at Cannon AFB.

Report Designation: Draft Environmental Assessment (EA).

Abstract: This EA was developed in compliance with the Department of Defense (DoD) National Environmental Policy Act (NEPA) Implementing Procedures (effective 30 June 2025) in support of Cannon AFB, AFSOC, and 27 SOW. It supports a proposal by Cannon AFB to implement eight separate projects in support of installation development at Cannon AFB. These projects include (1) conducting site preparation for a food court and recreational area, (2) constructing a replacement pump house and demolishing the old pump house, (3) constructing an addition to the existing Security Forces Facility, (4) constructing a Furnishing Management Warehouse, (5) constructing a constant pressure fuel system, (6) renovating the existing drinking water treatment plant (DWTP), (7) renovating the existing wastewater treatment plant (WWTP), and (8) fencing the flightline. Each of these projects would support AFSOC mission requirements by improving the facilities, infrastructure, and utilities for current and future use at Cannon AFB. If current deficiencies are not addressed, mission effectiveness would deteriorate as mission and regulatory demands outpace installation capabilities. Further, certain projects (specifically the WWTP renovation) could cause the shutdown of Cannon AFB, and the DWTP upgrades are required to meet anticipated United States Environmental Protection Agency water regulations by 2029.

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1.0 PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

Cannon Air Force Base (AFB), home of the 27th Special Operations Wing (SOW), lies in the high plains of eastern New Mexico near the Texas Panhandle. The installation is 8 miles west of the town of Clovis on 4,397 acres of land at an elevation of 4,295 feet above sea level (see **Figure 1-1**). In 2007, Cannon AFB became home to the 27 SOW, which operates AC-130J Ghostrider, MC-130J Commando II, CV-22B Osprey, U-28A Draco, and the MQ-9 Reaper. 27 SOW is one of six Department of the Air Force (DAF) active-duty SOWs within the Air Force Special Operations Command (AFSOC). The primary mission of the 27 SOW is to execute unconventional airpower any place, anytime, anywhere.

1.2 PROJECT DESCRIPTIONS

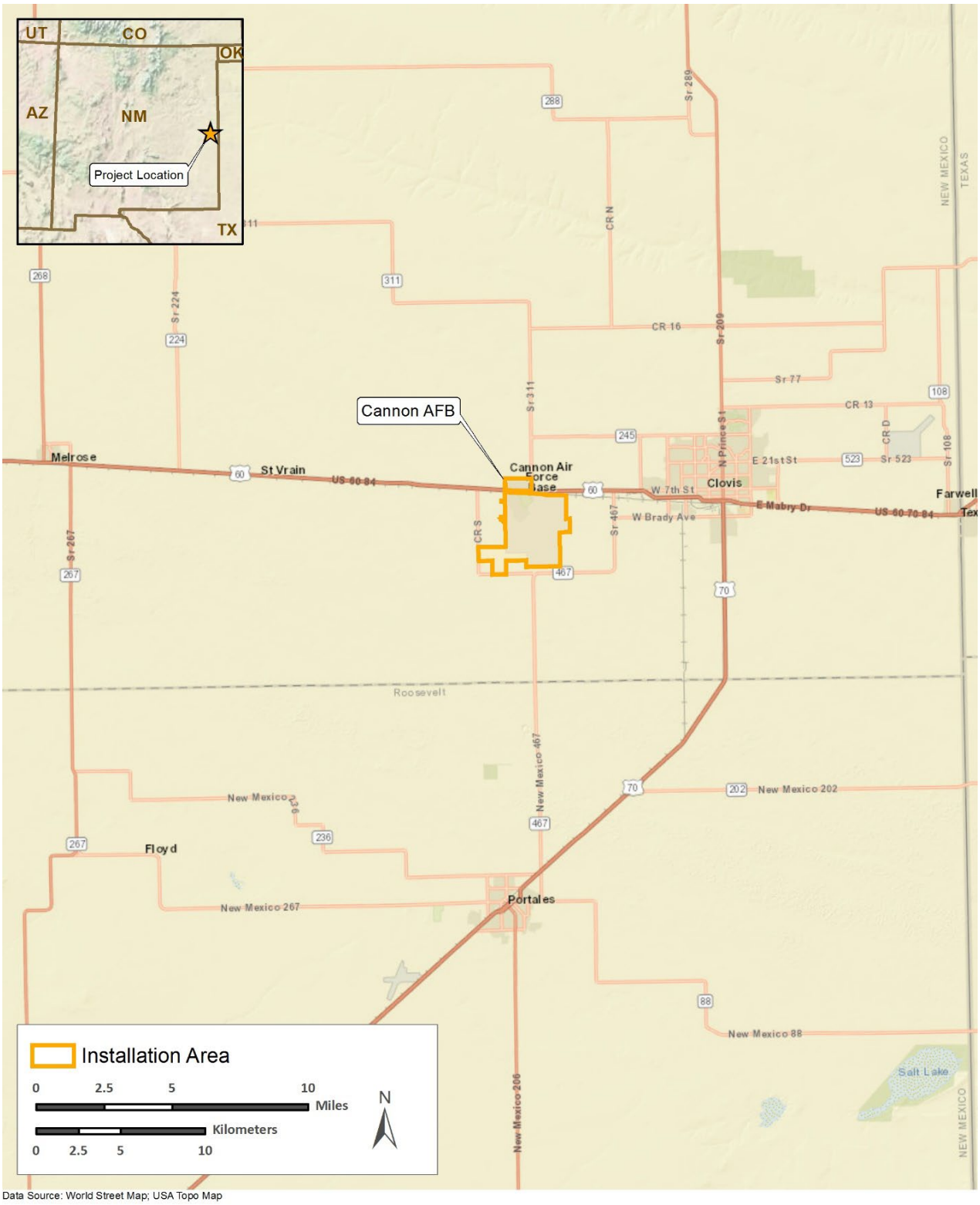
This Environmental Assessment (EA) is a planning and decision-making tool that will be used to guide Cannon AFB in implementing the Proposed Action in a manner that complies with all applicable federal, state, and local environmental laws and is consistent with DAF standards for environmental stewardship. It supports a proposal by the DAF and Cannon AFB to implement eight separate projects in support of installation development at Cannon AFB (see **Figure 1-2**).

1.2.1 Site Preparation for Food Court and Recreational Area

This project would include site preparation for the construction of up to four modular restaurants with outdoor seating and a recreational area within the northwestern portion of the installation in the grassy area adjacent to the existing parking lot. This area previously housed barracks, and asbestos piping is known to exist in the area. All remediation regulations, such as permits and/or notifications, safety precautions, and proper removal and disposal procedures, would be followed. Preparation would include the installation of concrete pads and tying into potable water, gas lines, sewage lines, plumbing, and electrical.

1.2.2 Construct Replacement Pump House

This project would include demolition of the current, undersized, diesel pump house and construction of a new pump house to include three electric motor-driven fire pumps with all required piping, equipment, and appurtenances. The new, approximately 30-by-50-foot metal building would sit on a concrete slab on grade foundation and consist of pre-engineered, structural steel framing, overlapping metal wall panels, and mechanically seamed metal roof panels over vinyl batt insulation. The building would have one exterior manual roll-up door and one steel man door with steel framing to the building and panic hardware. The concrete foundation would have equipment pads for three new, electric fire pumps and their support equipment. Pump requirements would include controllers, piping, equipment, and appurtenances, control valves, discharge check valves, and relief valves. Fire pumps would be rated for 2,500 gallons per minute at 165 pounds per square inch. This project would include all utilities necessary to tie into the existing fire water supply infrastructure, including the existing water storage tanks. The new pump house would be capable of supplying fire suppression water to five hangars. Demolition of the old pump house and decommissioning of utilities would occur once the new pump house is operational. Additionally, underground lines from the hangars and water tanks would need to be rerouted to the new pumphouse.



Data Source: World Street Map; USA Topo Map

Figure 1-1. Cannon AFB Vicinity Map

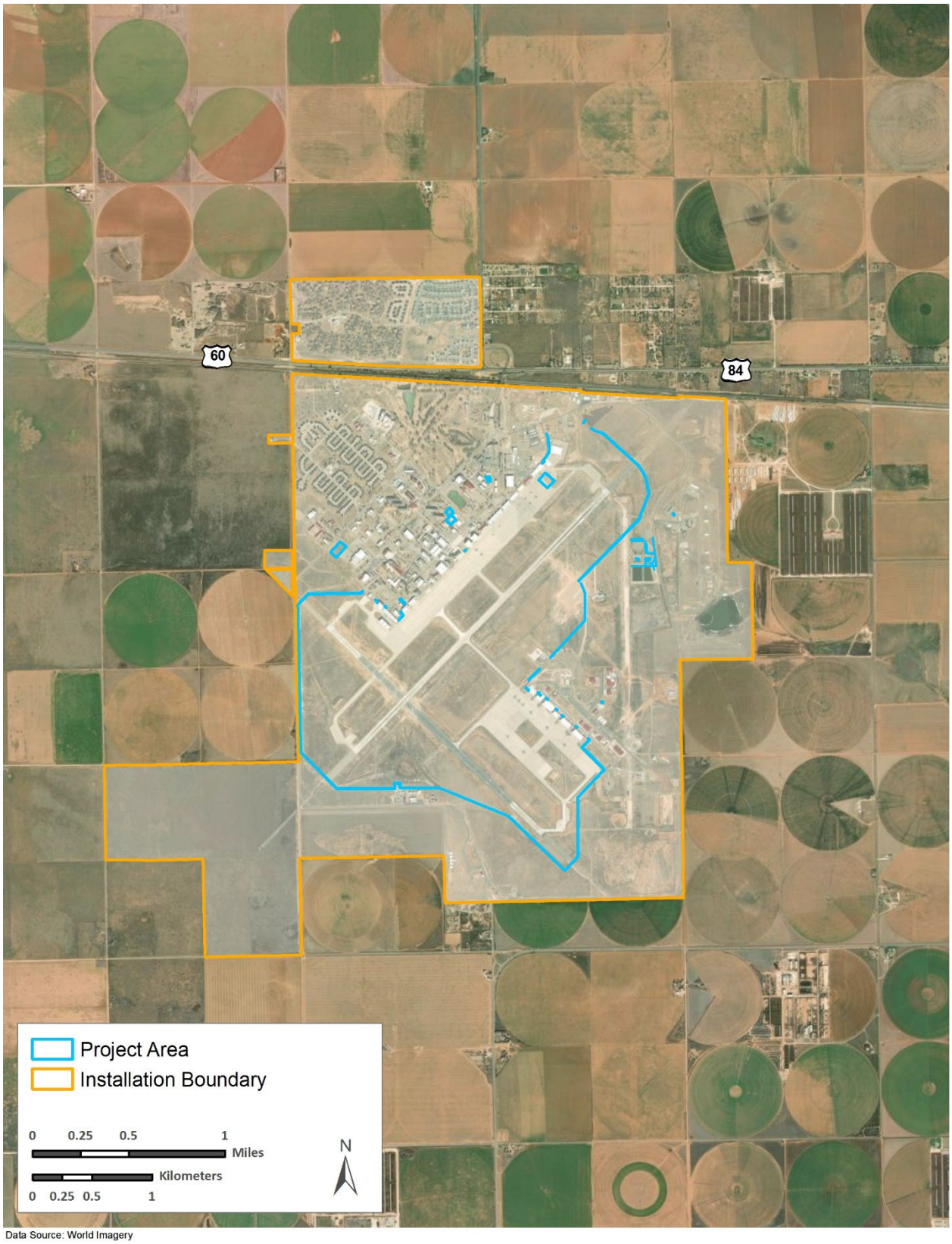


Figure 1-2. Project Area Overview

1.2.3 Addition to Security Forces Facility

This project would include the construction of a 10,000-square-foot addition to the existing Security Forces Facility to provide a complete and usable complex for the 27th Special Operations Security Forces Squadron (SOSFS), compliant with the most up-to-date regulations. The addition would include an 8-cell confinement module to allow for the separation of men and women, an armory space with a restroom, and a training area. The addition would ensure vehicle access to the rear of the building, a parking area for four vehicles, and an adequate standoff distance to satisfy all antiterrorism/force protection requirements outlined in Unified Facilities Criteria (UFC) 4-010-01, *Department of Defense (DoD) Minimum Antiterrorism Standards for Buildings*. The project would also include alterations to the existing facility, such as converting current cells to usable office space and replacing the armory door with a Class 5 vault door. Construction activities could include, but are not limited to, earthwork, site improvements, exterior lighting, sidewalk installation, and the associated foundation work necessary to support the addition. The addition would also require installation of utilities as well as the necessary security and communications systems to meet the requirements set forth for 27 SOSFS.

1.2.4 Construct Furnishing Management Warehouse

This project would include the construction of an approximately 10,000-square-foot, climate-controlled warehouse to be used for the storage of dormitory housing furnishings/appliances and recreational support equipment. The warehouse would serve all eight existing dormitories as well as an anticipated new dormitory. Construction would include a concrete foundation, a pre-engineered building with a roll-up door; heating, ventilation, and air conditioning (HVAC) units; utilities; and a parking lot/loading dock. Access to the warehouse would also be required from the parking lot to the north and the access road to the west of the proposed project area.

1.2.5 Construct Constant Pressure Fuel System

This project would include the construction of a modified Type IV constant-pressure fuel system with all stainless steel pipe and fittings. Construction would include the installation of three aboveground tanks; receipt filtration; two fixed, hot refueling points complete with fixed pantographs and flow controls; issue filtration; issue pumps; eyewash station; and all necessary components required for a DoD Type IV hydrant fueling system. The new system would meet the following requirements, including UFC 3-460-01 and the National Fire Protection Association 30, DoD Standard Design AW 78-24-29, and Antiterrorism/Force Protection requirements. Site preparation would include demolition of the two existing tanks, piping, pumps, filters, pantographs, and valves downstream of the pig launch/receipt pad. Site improvements would include sidewalks, site restoration, and landscaping. Site electrical work would include lighting, transformers, lightning protection, grounding, communications, control wiring, emergency fuel shut-off systems, and control stations. The existing emergency generator would remain and be reconnected to the new system. Site civil work would include excavation and earthwork as well as water utility and stormwater management requirements.

1.2.6 Renovate Drinking Water Treatment Plant

The existing drinking water treatment plant (DWTP) infrastructure includes multiple groundwater wells, chlorination systems, high-service booster pumps, distribution networks, storage tanks, and associated laboratory and office facilities. Building 336 serves as the main water plant office, housing administrative spaces, a laboratory, and monitoring systems connected to the installation's Supervisory Control and Data Acquisition (SCADA) system. Water from wells is chlorinated and stored in aboveground and underground tanks. The distribution network consists of asbestos cement pipes, which, although repaired as needed, require further assessment and upgrades. Key facilities include Building 336, which has water softening systems, emergency eyewash units, and fuel gas systems, and the Building 337 pump station, which has multiple high-capacity pumps essential for water distribution. Additionally, the housing wells in the buildings include electrical systems, HVAC units, and safety equipment crucial for maintaining operational efficiency and safety.

Several significant issues were identified in the current DWTP system. One of the most pressing concerns is per- and polyfluoroalkyl substances (PFAS) contamination in groundwater sources, which poses serious health risks. Infrastructure deterioration includes aging electrical systems, inadequate HVAC units, and corroded storage tanks. Structural problems in buildings housing the wells and pump stations, such as corroded piping and non-compliant safety equipment, further compromise the reliability and safety of the water supply system. These issues collectively threaten public health and the installation's operational readiness. To address these challenges, several key upgrades and renovations are proposed including refurbishing the existing DWTP to include interior renovation of Building 336, perimeter fence upgrades from 6- to 7-feet high, installation and incorporation of drinking water treatment filtration systems, incorporation of drinking water treatment filtration system at Wells 5 and 9, interior and exterior refurbishment of the Chavez drinking water holding tank, and replacement of two pumps and motors in Building 337. The project would also add a water storage tank at the Chavez water pump plant and associated underground piping to connect to existing infrastructure.

To address issues with PFAS removal, Cannon AFB proposes to install Granular Activated Carbon (GAC) filtration systems at Buildings 336, 4672, and 5035. These systems are effective in removing both long- and short-chain PFAS compounds and would significantly improve water quality. Renovations to Buildings 336 and 337 would include upgrading electrical and HVAC systems to handle the increased demands of new treatment processes. Structural enhancements, such as reinforcing storage tanks and repairing corroded piping, would be implemented to prevent leaks and ensure the long-term durability of the infrastructure. The project would also include installing new safety showers and eyewash stations to meet safety standards. Additionally, new buildings would be constructed to house advanced water treatment equipment.

1.2.7 Renovate Wastewater Treatment Plant

The existing wastewater treatment plant (WWTP) at Cannon AFB has a rated capacity of 1.5 million gallons per day, receiving a mix of domestic and industrial waste, with source activities including aircraft maintenance and washing, corrosion control, and vehicle washing. The plant is equipped with two headworks, sequencing batch reactors (SBRs),

blowers, an aerobic digester, multiple pumping stations, chlorine contact basins, Parshall flume flow metering, two lined storage basins for raw and treated water, sludge drying beds, and effluent flow pumping systems for irrigation at the nearby Whispering Winds Golf Course.

Potential contaminants of concern at the plant are perfluorinated chemicals (PFCs), metals, and petroleum, oils, and lubricants (POL)[1]. Observable impacts on the WWTP performance and effluent quality have included foam releases, oil sheens, pH imbalances, and disruptions to microbial populations. The presence of PFC compounds in the soil has resulted in temporary shutdowns of reclaimed-water irrigation activities at Whispering Winds Golf Course in the past. Moreover, many components within the plant are either inoperable, deficient, or beyond their service life. Therefore, a series of improvements is recommended to modernize and optimize plant performance. The proposed improvements include demolition and replacement of the existing headworks, new treatment systems, mechanical repairs, electrical repairs, and SCADA system enhancements, and civil/site improvements. These projects are further detailed below:

- The existing Headworks 1 and 2 (which screen solids, grit, and grease from the wastewater) would be demolished and replaced. Replacement of these units would include mechanical bar screens, influent pump station, fine screen, vortex grit removal, dissolved air flotation, magnetic flow meter, sluice gates, peristatic pumps, and electrical connections.
- The SBRs would be restored with the coating of the existing structure, new equipment to include restoration of one idle SBR, repair of electrical components, and installation of a floating scum pump.
- The composting area of the sludge drying beds would be crack-sealed, and a slurry coat would be applied. Mixer motors and circuit conductors would be replaced at the current chlorine contact chamber.
- The effluent tank reuse pumping station would receive a new effluent pump with valves and the reuse of the pump and basket strainers (one-for-one replacement).
- For the control building, the existing insulation on the exterior ductwork would be demolished and replaced. Air diffusers and grilles throughout the facility would be cleaned and repaired. Polyvinyl chloride condensate piping and a new laboratory sink basin and faucet would be installed. Electrical repairs would be completed, and the SCADA system would be replaced.
- For the blower building, the HVAC unit, exterior and interior ductwork, generator and fuel tanks, safety switches, blower motors, transfer switches, and related electrical components would be replaced. Additionally, the motorized louver would be repaired, interior lighting upgraded, and emergency lighting installed.
- For the chlorination building, fans, roof exhaust, electric heaters, chlorine dosing pumps and piping, and an injection pump, including piping, totes, and mixers, would be installed. A new water heater would also be installed to provide tempered water to the emergency shower/eyewash station.

[1] All disturbed soil within the WWPT project area would undergo hazardous waste characterization and PFAS sampling. If PFAS is present, Cannon AFB would follow DAF PFAS disposal guidance dated 4 March 2025.

- At the treated basin, aerators including wiring, pumps, and a hyperboloid mixer would be installed.
- The raw basin would be converted into an equalization basin to balance the nutrient load and would require two pumps, including installation and piping, and a floating scum pump.
- An enclosure with ventilation and all utility connections would be constructed for the new Headworks 2 to prevent freezing in the winter. This project would include fire detection and suppression, and methane detection.
- A new chlorine contact chamber would be constructed as a redundancy for the existing chlorination chamber. This redundant chamber would ensure complete disinfection during down times for routine cleaning of settled solids. The structure would be approximately 9 feet by 22 feet and include steel stairs and steel grating at platform areas. This chamber would be located adjacent to the existing structure and partially below grade. The depth would be approximately 13 feet.
- Three new facilities with a block or metal enclosure, HVAC, electrical, and piping and equipment for filtration of chemicals and heavy metals would be constructed to reduce levels in the effluent treated water to non-detect levels. Two GAC filtration systems would remove PFAS from the effluent water, a dissolved air flotation building would enable advanced grease removal, and an arsenic filtration building would remove heavy metals from the effluent water.

1.2.8 Installation of Flightline Fence

This project would consist of enclosing the flightline area with a chain-link fence. The project would include the installation of additional electronic gates and surveillance equipment. The Type A2 chain link fence would be composed of 9-gauge steel wire with 2-inch square mesh and wrought iron fencing and posts. All fencing would be constructed to meet wingtip clearance requirements per UFC 3-260-01, *Airfield and Heliport Planning and Design*. The project would include all supporting facilities such as site improvements, pavements, communications, and utilities necessary to provide a complete and usable facility.

1.3 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to support AFSOC mission requirements by improving the facilities, infrastructure, and utilities for current and future use by personnel and residents at Cannon AFB. If current deficiencies are not addressed, mission effectiveness will deteriorate as mission and regulatory demands outpace installation capabilities. The need for each project is detailed in the following sections; however, these projects have not been designed and solutions and/or scope of work may change depending on UFCs, code requirements, and best practice recommendations from architects and engineers.

Site Preparation for Food Court and Recreational Area. Cannon AFB is remote and isolated; therefore, offering a variety of food establishments on the installation would enhance the environment and be desirable to the military community, particularly for the convenience of personnel who have limited transportation and cannot travel off

installation for meals. This project would benefit mission accomplishments and the morale and welfare of installation personnel.

Construct Replacement Pump House. The diesel pumps that currently feed water to the hangars have reached the end of their lifecycle. Replacement parts are no longer manufactured and are extremely difficult to acquire. The new, electric pumps proposed to replace the old, diesel pumps are larger and would not fit into the current pump house. Additionally, the current pump house has a void beneath one of the equipment pads that has caused the pump to become unstable, rendering the equipment unusable. If a new pump house is not provided with updated electric pumps to comply with UFC 3-600-01, *Fire Protection Engineering for Facilities*, fire suppression capabilities could be diminished, which could result in aircraft losses. Additional pumping capacity is also required to meet the requirements of planned renovations to two hangars.

Addition to the Security Forces Facility. The Security Force's updated guidance requires more personnel to share workspace within proximity for accessibility. The current Security Forces Facility has space limitations and does not comply with space requirements. Further, the current armory door does not meet DAF requirements. Inadequate administrative and confinement space would degrade the ability of 27 SOSFS to protect 27 SOW personnel and assets. Additionally, if the project is not completed, 27 SOSFS would not meet the criteria to become a regionally accredited military detention center, leaving the southwest region without required military detention capabilities.

Construct Furnishing Management Warehouse. Excess furnishings for dormitories are currently stored in a facility that is not designed as a storage space for furnishings and is not climate controlled. As a result, several furnishings have been damaged and inadequate asset accountability has contributed to the loss of items. Future construction of additional dormitory space and renovation of older dormitories also creates a need for additional storage space to protect furnishings.

Construct Constant Pressure Fuel System. This new system would provide faster and more efficient refueling for aircraft. The new system would decrease turn times by 30 percent during simultaneous refueling operations due to the higher flow rate at each hot refuel point and would save an average of 3 hours per 12-hour training window. Dual point hot refueling would enable the installation to carry out the continuation training plan. The flexibility that hot refueling offers the squadron when scheduling continuation training is vital. Hot refueling capability allows departure for each sortie with a more flexible fuel plan, so the installation can engage in focused training events like helicopter landing zone terminal area training immediately after takeoff.

The existing system was constructed in early 1996 and commissioned in 1998 using obsolete equipment from base closures and functional remnants from other installations that received upgrades. The system has outlived its expected lifecycle and does not meet the constant-pressure hydrant refueling system criteria as published in operational standards. Today, the system is fueled via two tanks with one pump per tank. Additionally, the hot pits require the constant transfer of fuel to maintain operations from these tanks. By increasing storage approximately threefold, system transfers would be reduced from

bulk storage. Further, the existing system would continue to degrade until failure, and operations would continue to use non-compliant equipment. Constructing a complete Type IV system would reduce aircraft refuel time because the system would operate at a better-regulated system pressure with increased pumping rates. Current operations require 650 man-hours per year for routine maintenance and checks on the system, and approximately 330 man-hours per year for civil engineer personnel to perform regular inspections on the distribution line, storage tanks, pumps, breakers, associated tank cleaning, and markings. Upgrading the current system would save civil engineers maintenance man-hours from upkeep of an outdated system with degraded pumping capability.

Renovate DWTP. Several significant issues have been identified in the current DWTP system. One of the most pressing concerns is PFAS contamination in groundwater sources. Although all PFAS levels are currently under regional screening levels and in legal compliance, contaminants will need to be minimized by 2029 to meet new United States Environmental Protection Agency (USEPA) regulations. Construction of three filtration buildings is planned to meet the requirements outlined in the new proposed regulation. In addition, infrastructure deterioration includes aging electrical systems, inadequate HVAC units, and corroded storage tanks. Structural problems in buildings housing the wells and pump stations, such as corroded piping and non-compliant safety equipment, further compromise the reliability and safety of the water supply. These issues collectively threaten public health and the installation's operational readiness. Major improvements to existing equipment and construction of new treatment systems are planned to eliminate or reduce contaminants from reclaimed water.

Renovate WWTP. Several issues have been identified in the current WWTP system. In the past, the presence of PFC compounds in the soil at the plant has resulted in temporary shutdowns of reclaimed-water irrigation activities at the Whispering Winds Golf Course on the installation. Therefore, all disturbed soil in the Renovate WWTP project area would undergo hazardous waste characterization and sampling for PFCs and any contaminated soils would be removed and disposed of in accordance with federal, state, and local regulations. Additionally, many of the components within the plant are either inoperable, deficient, or beyond their service life.

Installation of Flightline Fence. Physical security of the restricted flightline area is a requirement of DAF Instruction (DAFI) 31-101, *Base Defense Operations*, to protect DAF assets where a threat of terrorism is imminent or likely. Personnel entering a restricted area must enter through an established Entry Control Point. Installation of fencing would provide added protection of assets by delaying any adversary until Security Forces can reach the target. If this project is not completed, the perimeter of the protected areas and the restricted areas of the flightline and hangars that contain DAF assets would not be clearly defined and manpower to maintain security would need to be increased. Clearly defined access to the restricted areas would act as a deterrent to entry and would prevent unauthorized personnel from entering.

1.4 DECISION TO BE MADE

This EA evaluates whether the Proposed Action would result in significant impacts on the environment. If significant impacts are identified, Cannon AFB would undertake mitigation to reduce impacts to below the level of significance, undertake the preparation of an Environmental Impact Statement addressing the Proposed Action, or abandon the Proposed Action. If significant impacts are not identified, the EA would be finalized, and a Finding of No Significant Impact (FONSI) would be signed. The decision would be made by the approving official and could incorporate the Proposed Action, its alternatives, or any combination of the Proposed Action and alternatives. The EA was prepared per the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code [USC] Section 4321 et seq.) and the DoD NEPA Implementing Procedures.

Because this EA includes the evaluation of actions proposed to occur within a floodplain, if it is determined that a FONSI is appropriate, a Finding of No Practicable Alternative (FONPA) and approval from Headquarters AFSOC would be required. Per Executive Order (EO) 11988 (24 May 1977), *Protection of Floodplains*, because the Proposed Action would occur within a floodplain, a FONPA would need to accompany the FONSI to discuss why no other practicable alternatives exist to avoid impacts. Impacts would be reduced to the maximum extent practicable through project design and implementation of environmental protection measures. Additionally, appropriate permits would be obtained from applicable regulatory agencies to address impacts and determine potential mitigation measures, if required. As required by EO 11988, an early public notification for potential floodplain impacts was published in *The Eastern New Mexico News* on 21 May 2025.

1.5 INTERGOVERNMENTAL COORDINATION AND CONSULTATIONS

1.5.1 Interagency and Intergovernmental Coordination and Consultations

EO 12372 (14 July 1982), *Intergovernmental Review of Federal Programs*, as amended by EO 12416 (8 April 1983), requires federal agencies to provide opportunities for consultation by elected officials of state and local governments that would be directly affected by a federal proposal. In compliance with NEPA, Cannon AFB has notified relevant stakeholders about the Proposed Action and alternatives (see **Appendix A** for all stakeholder coordination materials). The notification process provided these stakeholders the opportunity to cooperate with Cannon AFB and provide comments on the Proposed Action and alternatives.

Per the requirements of Section 106 of the National Historic Preservation Act (NHPA) and implementing regulations (36 CFR Part 800), Section 7 of the Endangered Species Act (ESA) and implementing regulations (50 CFR Part 17) including the Migratory Bird Treaty Act (MBTA), findings of effect and a request for concurrence was transmitted to the State Historic Preservation Officer (SHPO) and the United States Fish and Wildlife Service (USFWS). A summary of comments received is provided below, and all correspondence with the SHPO and USFWS is included in **Appendix A**. Additionally, correspondence regarding the findings, concurrence, and resolution of any adverse effects is included in **Appendix A**.

- **New Mexico Department of Game and Fish.** The New Mexico Department of Game and Fish (NMDGF) reviewed the project and provided several recommendations regarding potential impacts on wildlife/wildlife habitats from the project. Recommendations have been incorporated as best management practices (BMPs) in **Section 3.6**.
- **New Mexico SHPO.** The New Mexico SHPO stated that they concurred with Cannon AFB that, with the utilization of the new archaeological discovery stipulation, this project would not affect historic properties.

1.5.2 Government-to-Government Coordination and Consultations

Section 106 of the NHPA and implementing regulations 36 CFR Part 800 require federal agencies to consult with federally recognized tribes historically affiliated with the area of potential effects (APE) for the project to determine the presence of and resolve adverse effects to Traditional Cultural Properties. To comply with legal mandates, federally recognized tribes that are historically affiliated with the geographic region were invited to consult on all proposed undertakings that have the potential to affect properties of cultural, historical, or religious significance to the tribes (see **Appendix A** for all tribal coordination materials).

Consultation letters were provided to Native American tribes whose ancestors were historically affiliated with the land underlying Cannon AFB, inviting them to consult on the proposed undertakings outlined within the EA. A summary of comments received is provided below, and all correspondence is included in **Appendix A**.

- **Ysleta del Sur Pueblo**. A representative from Ysleta del Sur Pueblo stated that the tribe does not have any comments and that they believe that the plan of action that Cannon AFB will take in the event of any cultural resources that might be discovered is sufficient.

1.6 PUBLIC AND AGENCY REVIEW OF DRAFT EA

A Notice of Availability (NOA) for the Draft EA was published in *The Eastern New Mexico News,* announcing the availability of the Draft EA on 8 December 2025. Letters were provided to relevant federal, state, and local agencies and Native American tribal governments informing them that the Draft EA was available for review. The publication of the NOA initiated a 30-day comment period. Copies of the Draft EA were made available for review at the following libraries:

Clovis-Carver Public Library
701 N Main Street
Clovis, NM 88101-6658

Portales Public Library
218 S Avenue B
Portales NM 88130-6248

A copy of the Draft EA was also made available for review online at https://www.cannon.af.mil under the Environmental tab. At the closing of the public review period, applicable comments from the general public and interagency and intergovernmental coordination and consultation will be incorporated into the analysis of potential environmental impacts performed as part of the EA, where applicable, and included in **Appendix A** of the Final EA.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 SELECTION STANDARDS

The scope and location of each project and, where applicable, their alternatives, will undergo extensive review by AFSOC personnel, local government agencies, and supporting installation and DAF staff specialists. Potential alternatives were evaluated against the following selection standards:

- **Selection Standard 1**: The alternative(s) must meet the purpose of the Proposed Action to support AFSOC mission requirements for Cannon AFB. The alternative(s) must also address the need to provide and maintain infrastructure that is adequate to support the installation's mission and applicable DAF, state, and federal requirements. Alternatives must also satisfy the purpose of and need for each project (see **Section 1.3**).
- **Selection Standard 2**: The alternative(s) must be consistent with all Cannon AFB internal planning documents and zoning requirements, applicable installation architectural compatibility guides, and relevant legal and regulatory requirements, and must accommodate applicable, known man-made and natural development constraints (e.g., Environmental Restoration Program [ERP] sites, protected plant or animal species habitat, known cultural resources, or floodplains—the relevant constraints vary depending on the project).
- **Selection Standard 3**: The alternative(s) must avoid and/or mitigate adverse impacts on safety, cultural or natural resources, or other environmental constraints, such as impacts on an ERP site.
- **Selection Standard 4**: The alternative(s) must make as much use as possible of existing land and facilities, avoid creating or maintaining redundant space or infrastructure, avoid or minimize operational inefficiencies, and represent the most cost-effective and sustainable alternative.
- **Selection Standard 5**: The alternative(s) must maintain or improve the quality of life enjoyed by personnel and dependents at Cannon AFB.

2.2 DETAILED DESCRIPTION OF THE ALTERNATIVES

2.2.1 Proposed Action

Under the Proposed Action, Cannon AFB would implement the eight separate projects in support of installation development at Cannon AFB. These projects include (1) conducting site preparation for a food court and recreational area (see **Section 1.2.1**), (2) constructing a replacement pump house and demolishing the old pump house (see **Section 1.2.2**), (3) constructing an addition to the existing Security Forces Facility (see **Section 1.2.3**), (4) constructing a Furnishing Management Warehouse (see **Section 1.2.4**), (5) constructing a constant pressure fuel system (see **Section 1.2.5**), (6) renovating the existing DWTP (see **Section 1.2.6**), (7) renovating the existing WWTP (see **Section 1.2.7**), and (8) fencing the flightline (see **Section 1.2.8**).

2.2.2 No Action Alternative

Under the No Action Alternative, Cannon AFB would not implement the eight projects detailed in **Sections 1.2.1** through **1.2.8**. Current deficiencies would not be addressed,

and mission effectiveness would deteriorate as mission and regulatory demands outpace installation capabilities. The following outcomes would be expected from each of the projects:

- **Site Preparation for Food Court and Recreational Area.** Cannon AFB would continue to lack food establishments for installation personnel.
- **Construct Replacement Pump House.** The current pump house would continue to not meet fire codes, and one of the pumps would continue to be out of service, resulting in decreased fire suppression for the hangars, which could result in aircraft losses.
- **Addition to Security Forces Facility.** The current building has space limitations and would continue to be out of compliance with the Security Forces' updated guidance. Inadequate administrative and confinement space would continue to degrade the ability of 27 SOSFS to protect 27 SOW personnel and assets, and 27 SOSFS would not meet the criteria to become a regionally accredited military detention center.
- **Construct Furnishing Management Warehouse.** Furnishings stored in the current facility would continue to be damaged and/or stolen. Additionally, future construction of additional dormitory space and renovation of older dormitories would result in a lack of storage space to protect furnishings.
- **Construct Constant Pressure Fuel System.** Connections would continue to not meet the constant pressure hydrant refueling system criteria as published in operational standards and continue to degrade until failure.
- **Renovate DWTP.** The current facility would become non-compliant with USEPA guidance on PFAS for drinking water becoming effective in 2029. Infrastructure deterioration would continue, further compromising the reliability and safety of the installation’s water supply.
- **Renovate WWTP.** The current WWTP would continue to be deficient, as many of the components within the plant are either inoperable or beyond their service life.
- **Installation of Flightline Fence.** The flightline would remain vulnerable to threats, particularly during Force Protection Condition status, and be non-compliant with DAFI 31-101.

The DoD NEPA Implementing Procedures require consideration of the No Action Alternative; therefore, this alternative will be carried forward for detailed analysis in the EA. However, the No Action Alternative would not meet the purpose of or need for the Proposed Action as described in **Section 1.3**.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER CONSIDERATION

The following alternatives were considered but eliminated from further consideration based on the selection standards outlined in **Section 2.2** and other reasons as explained below.

2.3.1 Site Preparation for Food Court and Recreational Area

Two alternatives were considered but eliminated for this project, including the construction of a new, permanent facility to house the new food establishments and leasing additional space off the installation for the new food establishments. Construction of a new, permanent facility was eliminated due to it being more costly and time-consuming than using pre-built, pre-loaded modular structures. This project would have also resulted in more of an environmental impact, as construction activities for a permanent structure would have caused more disturbance (Selection Standard 3). Leasing additional space off the installation was eliminated due to its impracticality and the necessity to be close to military personnel for the benefit of mission accomplishment and the morale and welfare of installation personnel (Selection Standards 1 and 5).

2.3.2 Construct Replacement Pump House

One alternative was considered but eliminated for this project: renovating the existing pump house. However, this alternative was eliminated due to renovation not being possible as there is not enough space to fit the new, electric pump system (Selection Standard 1). The current diesel pumps are aging, and parts are becoming more difficult to locate.

2.3.3 Addition to Security Forces Facility

Three alternatives were considered but eliminated for this project, including leasing space in the local community, constructing a new building, and using a similarly suitable vacant building for occupancy. Leasing space was eliminated due to the need to keep squadron personnel and resources together and the need to keep sensitive material and equipment more secure on the installation (Selection Standards 1 and 4). Constructing a new building was eliminated due to its high cost and additional impact on the environment (Selection Standard 3). Using a similarly suitable vacant building was eliminated due to space being limited at Cannon AFB, and there not being another option close enough to the existing building (Selection Standards 1 and 4).

2.3.4 Construct Furnishing Management Warehouse

Two alternatives were considered but eliminated for this project, including renting storage units off the installation to store furnishings and acquiring a relocatable facility. Both alternatives were eliminated due to their high cost, logistical and operational challenges, as well as the need to ensure the security of inventory (Selection Standards 1 and 4).

2.3.5 Construct Constant Pressure Fuel System

Three alternatives were considered but eliminated for this project, including replacing the existing tanks, relocating the existing tanks, and extending the pipeline aboveground instead of underground. Replacing the existing tanks was eliminated due to the new system still needing to be relocated in proximity to the flightline (Selection Standard 1). Relocating the tanks was eliminated due to not having a location available close enough to the flightline (Selection Standards 1 and 4). Extending the pipeline underground was eliminated due to high costs and increased environmental concerns (Selection Standards 3 and 4).

2.3.6 Renovate DWTP

Two alternatives were considered but eliminated for this project, including forming a partnership with the Northeastern New Mexico Water Authority and constructing a new water supply building and laboratory. A partnership with the Northeastern New Mexico Water Authority was eliminated due to the waterline construction project to provide supplemental water to Cannon AFB, the city of Clovis, and several communities is incomplete, and the outdated conditions of Cannon AFB facilities would remain (Selection Standards 1 and 5). Construction of a new water supply building was eliminated due to high costs, and the construction of the facilities for the filtration equipment would still be required (Selection Standards 1 and 4).

2.3.7 Renovate WWTP

No additional alternatives were considered for this project because no other alternatives exist. Not only would the cost to construct a new WWTP be excessive, but there is also no available land on the site to construct a new plant.

2.3.8 Installation of Flightline Fence

Two alternatives were considered but eliminated for this project, including relocating the hangars that contain unmanned aircraft and installing cameras to monitor activity. Relocating the hangars was eliminated due to their impracticality and high costs (Selection Standards 1 and 4). Installing cameras was eliminated due to it not addressing the response time for addressing threats (Selection Standards 1 and 5).

2.4 COMPARATIVE SUMMARY OF IMPACTS

Table 2-1 below presents a summary of the impacts anticipated under the Proposed Action and No Action Alternative.

Table 2-1. Summary of Potential Impacts

Affected Resource	Proposed Action	No Action Alternative
Noise	Short-term, minor to moderate, adverse impacts on the ambient noise environment would result from noise generated during construction and demolition. Construction noise would not violate noise regulations, create levels of noise that would result in appreciable areas of incompatible land use, or result in negative public health effects. No long-term impacts on the noise environment.	Existing conditions would remain unchanged.
Air Quality	Short- and long-term, negligible, adverse, and beneficial impacts on air quality would be expected. Emissions of criteria pollutants and greenhouse gases (GHGs) would be produced from the operation of heavy equipment, demolition and construction activities, heavy-duty diesel vehicles hauling supplies and debris, workers commuting daily, and ground disturbance. The net annual air emission from construction would not exceed the insignificance thresholds for any criteria pollutant. Upgrade of the pump system would result in a net decrease in annual operational air emissions.	Existing conditions would remain unchanged.
Geological Resources	Short-term, negligible, adverse impacts on topography would be expected from demolition, site preparation, and construction and renovation projects. Short-term, negligible to minor, adverse impacts on soils from ground-disturbing activities could result in soil compaction, disturbance, and erosion. No impacts would occur on regional geology.	Existing conditions would remain unchanged.
Water Resources	Long-term, negligible to moderate, adverse, and beneficial impacts on groundwater would be expected. Soil disturbances would lead to increased sediment transportation during rainfall events. Erosion control measures would minimize impacts. Short-term, minor to moderate, adverse impacts on surface waters and wetlands would be expected. Standard stormwater protection measures and spill prevention and management would reduce potential impacts. Short-term, negligible to moderate, adverse impacts on the proposed 100- and 500-year floodplains would be expected. No impacts on Federal Emergency Management Agency (FEMA)-designated floodplains would be expected. Environmental control measures during construction would limit impacts such as sediment and surface runoff.	Long-term, minor to moderate adverse impacts on the DWTP and WWTP would occur.
Biological Resources	Short-term, negligible to minor, adverse impacts on grassland vegetation and species of concern would occur. However, long-term, negligible, beneficial impacts would result from the revegetation or landscaping of disturbed sites with native vegetation. The flightline fence project could directly impact burrowing owls and their habitat. Surveys would be conducted before construction, and a monitor would be on-site during construction. No impacts on federally or state-listed threatened or endangered species would occur, but short-term, negligible to minor, adverse impacts on the monarch butterfly have the potential to occur. No impacts on critical habitat would occur as none have been identified on the installation. Short-term, negligible, adverse impacts on avian species of concern, including the golden eagle, would occur.	Existing conditions would remain unchanged.

Affected Resource	Proposed Action	No Action Alternative
Cultural Resources	No effects on historic properties. No known archaeological sites are within the project areas.	Existing conditions would remain unchanged.
Hazardous Materials and Wastes, and Other Contaminants	Short- and long-term, negligible to minor, adverse impacts would occur from the use of hazardous materials, petroleum products, and the generation of hazardous wastes during the construction and maintenance of the project areas. Long-term, negligible adverse impacts on hazardous materials and petroleum products would occur. Short-term, negligible, adverse impacts on toxic substances would occur from the potential for exposure to asbestos cement piping. Short-term, negligible to minor, adverse impacts on polyfluoroalkyl substances would occur from the potential to encounter PFAS. Short-term, negligible to minor, adverse impacts on or from active Installation Restoration Program (IRP) sites could occur. Long-term, minor to moderate, beneficial impacts would result from the renovation of the WWTP.	Long-term, negligible to minor, adverse impacts would occur from the continued deterioration of the WWTP and non-compliance with the constant pressure hydrant refueling system criteria and anticipated USEPA PFAS guidance.
Infrastructure	Short- and long-term, negligible adverse impacts on the transportation system would occur. Short- and long-term, negligible to minor, adverse impacts on the electrical and natural gas systems would occur. Short- and long-term, negligible to moderate, adverse and beneficial impacts on the water supply and wastewater systems would occur. Once construction is complete, long-term, moderate, beneficial impacts on the water supply and wastewater systems, and solid waste management would occur. Construction activities would generate negligible amounts of solid waste, primarily recyclable and reusable building materials. Negligible beneficial impacts on the liquid fuel system would occur. Shut down of existing systems would result in the temporary trucking in of fuel.	Long-term, minor to moderate, adverse impacts would occur from the continued deterioration of the WWTP and non-compliance with the constant fuel pressure hydrant refueling system criteria and anticipated USEPA PFAS guidance.
Safety	Short-term, negligible, adverse impacts on contractor, military, and civilian personnel, and public safety would occur. Construction activities would comply with all applicable safety requirements and installation-specific protocols and procedures. Work sites would be limited to approved personnel only, and appropriate signage and barrier restrictions would be implemented to reduce safety risks. Long-term, moderate, beneficial impacts on the health and safety of those who live and work at Cannon AFB would occur due to renovations of the DWTP and WWTP systems. Additionally, fencing of the flightline would prevent unauthorized personnel from entering the restricted area of the flightline.	Long-term, minor to moderate, adverse impacts would occur due to facilities, infrastructure, and utilities remaining unable to meet operational and safety requirements needed for the protection of installation personnel and residents.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 SCOPE OF THE ANALYSIS

3.1.1 Resources Analyzed

Resources in the project area that were analyzed include noise, air quality, geological resources, water resources, biological resources, cultural resources, hazardous materials and wastes and other contaminants, infrastructure, and safety. The following sections provide a characterization of the affected environment and an analysis of the potential direct and indirect impacts each alternative would have on the affected environment. All potentially relevant resource areas were considered in this EA. The following discussion elaborates on the characteristics that might relate to impacts on resources:

- **Short-term or long-term.** These characteristics are determined on a case-by-case basis and do not refer to any rigid period. In general, short-term impacts are those that would occur only with respect to a particular activity, for a finite period, or only during the time required for construction or installation activities. Long-term impacts are those that are more likely to be persistent and chronic.
- **Direct or indirect.** A direct impact is caused by and occurs contemporaneously at or near the location of the action. An indirect impact is caused by a proposed action and might occur later or be farther removed in distance, but still be a reasonably foreseeable outcome of the action. For example, a direct impact of erosion on a stream might include sediment-laden waters near the action, whereas an indirect impact of the same erosion might lead to a lack of spawning and result in lowered reproduction rates of indigenous fish downstream.
- **Negligible, minor, moderate, or major.** These relative terms are used to characterize the magnitude or intensity of an impact. Negligible impacts are generally those that might be perceptible but are at a lower level of detection. A minor impact is slight but detectable. A moderate impact is readily apparent. A major impact is severely adverse or exceptionally beneficial.
- **Adverse or beneficial.** An adverse impact has unfavorable or undesirable outcomes on the man-made or natural environment. A beneficial impact has 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.
- **Significance.** In considering whether the effects of the Proposed Action are significant, agencies analyze the potentially affected environment (context) and the degree of the effects of the action (intensity).
- **Context.** The context of an impact can be localized or more widespread (i.e., regional).
- **Intensity.** The intensity of an impact is determined through consideration of several factors, including whether an alternative might harm the unique characteristics of an area (e.g., historical resources or ecologically critical areas), public health or safety, or endangered or threatened species or designated critical habitat. Intensity of impacts is also considered in terms of their potential for violation of federal, state, or local environmental laws; their controversial nature; the degree of uncertainty or unknown impacts, or unique or unknown risks; and if there are precedent-setting impacts.

Per NEPA and the DoD NEPA Implementing Procedures, the following evaluation of environmental impacts focuses on those resources and conditions potentially subject to impacts.

3.1.2 Resources Considered but Eliminated from Detailed Analysis

Based on the scope of the Proposed Alternative, environmental resources with few to no impacts were identified and removed from detailed analysis. The following describes those resource areas and why they were eliminated.

- **Airspace Management.** Under the Proposed Action, no changes to current airspace types, flight activities, or training would occur. Similarly, the No Action Alternative would not change any current flight patterns for aircraft in the area. Cannon AFB anticipates no short- or long-term impacts on airspace management resulting from the Proposed Action; therefore, airspace management has been eliminated from detailed analysis in this EA.
- **Socioeconomics.** Under the Proposed Action, no adverse impacts on socioeconomics would be expected as all proposed projects and activities would occur entirely within the boundaries of the installation. However, the Proposed Action would be anticipated to result in short-term, negligible, beneficial impacts on socioeconomics from increased payroll tax revenue and the purchase of construction materials from the surrounding area. Construction activities would only require a small number of personnel over the staggered construction periods. The temporary increase in personnel at Cannon AFB would represent a small increase in the total number of persons working on the installation, but no additional facilities (e.g., housing, schools) would be necessary to accommodate the workforce. Therefore, socioeconomics has been eliminated from detailed analysis in this EA.
- **Land Use.** Under the Proposed Action, no changes to current land use designations would occur. According to the 2016 Installation Development Plan, designated land use planning districts were set forth as guidance for future planning efforts. All proposed activities are located in areas and districts with land use designations that allow for each of the activities to occur. No short- or long-term impacts on land use at Cannon AFB would result from the Proposed Action; therefore, land use has been eliminated from detailed analysis in this EA.

3.2 NOISE

3.2.1 Definition of the Resource

Noise is defined as undesirable sound that 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 time of day. Sensitive noise receptors could include specific locations (e.g., churches, schools, hospitals) or an expansive area (e.g., nature preserves, conservation areas) in which occasional or persistent sensitivity to noise above ambient levels exists.

Sound intensity is quantified using a measure of sound pressure level called decibels (dB). The A-weighted decibel (dBA) is a measurement in which “A-weighting” is applied to the dB to deemphasize the higher and lower frequencies that the human ear does not perceive well, to approximate a frequency response representing the human perception

of sound. Day-night Sound Level (DNL) is the average sound energy in a 24-hour period with a 10 dB penalty added to the nighttime levels and can be used to represent the overall acoustic environment. The range of audible sound for humans is considered to be 1 to 130 dBA, and the threshold of audibility is generally within the range of 5 to 25 dBA (USEPA 1981a, USEPA 1981b). The threshold for perception of a noise change is 5 dBA. A sound level that increases by 10 dBA is perceived as being twice as loud, and a sound level that decreases by 10 dBA is perceived as being half as loud (USEPA 1971).

The Noise Control Act of 1972 (42 USC Section 4901 et seq.) directs federal agencies to comply with federal, state, and local noise control regulations. Neither the state of New Mexico nor Curry County maintains a noise ordinance. The city of Clovis, approximately 8 miles east of Cannon AFB, maintains a noise ordinance that prohibits disruptive sounds, especially from amplifiers, vehicles, and near sensitive areas, with specific distance, time, and location restrictions. However, the ordinance does not contain specific "not-to-exceed" noise levels (City of Clovis Code Chapter 9.40).

According to the USEPA, continuous and long-term noise exposure to levels in excess of 65 dB DNL is normally incompatible with noise-sensitive land uses such as residences, schools, churches, and hospitals (USEPA 1974). According to the US Department of Housing and Urban Development, residential units and other noise-sensitive land uses are "unacceptable" in areas where noise exposure exceeds 75 dB DNL, and "acceptable" in areas where noise exposure is 65 dB DNL or less (24 CFR Part 51).

3.2.2 Affected Environment

Cannon AFB is in rural eastern New Mexico, where ambient noise levels are estimated at 40 dBA in the daytime, 34 dBA at night, and 42 dB DNL overall (ANSI 2013). The ambient noise environment at Cannon AFB is influenced mainly by noise from military aircraft overflights. Noise from aircraft operations typically occurs beneath main approach and departure corridors and in areas immediately adjacent to runways, aircraft parking ramps, and aircraft staging areas. Aircraft noise is generally greatest during takeoff, which can cause a maximum sound exposure level of between 100 and 105 dBA for receptors on the apron. As aircraft take off and gain altitude, their contribution to the noise environment drops to indistinguishable levels from the background. Other existing noise sources at Cannon AFB include vehicular traffic, landscaping equipment, and routine grounds and infrastructure maintenance activities. Existing noise levels at the proposed project areas are shown in **Table 3-1**.

Table 3-1. Existing Noise Levels at the Proposed Project Areas

Project		Existing Noise Level
Site Preparation for Food Court and Recreational Area		65 to 70 dB DNL
Construct Replacement Pump House		80 to 85 dB DNL
Addition to Security Forces Facility		75 to 80 dB DNL
Construct Furnishing Management Warehouse		75 to 80 dB DNL
Construct Constant Pressure Fuel System		75 to 85 dB DNL
Renovate DWTP	Building 366	75 to 80 dB DNL
	Well 5	65 to 70 dB DNL
	Well 9	<65 dB DNL
	Chavez Plant	<65 dB DNL
Renovate WWTP		65 to 75 dB DNL
Installation of Flightline Fence		65 to 85 dB DNL

Source: CAFB 2016

Noise-sensitive receptors at Cannon AFB include residential areas, child development centers, the 27th Special Operations Medical Group medical campus, Whispering Winds Golf Course, and other outdoor recreational facilities. Nearby off-installation noise-sensitive receptors include residential areas. The noise-sensitive receptors closest to the project areas are identified in **Table 3-2**. Of the noise-sensitive receptors identified in **Table 3-2.** The unaccompanied housing at the intersection of Cochran Avenue and Air Commando Way, the recreational field, unaccompanied housing along Levitow Avenue, and the Chavez housing area are within 500 feet of any proposed project area. There are no noise-sensitive receptors within 0.5 mile of the Renovate DWTP and Renovate WWTP project areas. The only off-installation noise-sensitive receptor within 0.5 mile of the proposed project areas is a residence approximately 1,500 feet (0.28 mile) south of the Chavez Plant.

Table 3-2. Noise Sensitive Receptors Near the Proposed Project Areas

Noise Sensitive Receptor[1]	Existing Noise Level	Nearest Project	Distance to Project
Unaccompanied housing (Levitow Avenue)	65 to 70 dB DNL	Site Preparation for Food Court and Recreational Area	500 feet NW
Youth center	65 to 70 dB DNL	Site Preparation for Food Court and Recreational Area	1,100 feet NE
Community chapel	70 to 75 dB DNL	Site Preparation for Food Court and Recreational Area	950 feet NE
Unaccompanied housing (Cochran Avenue/Eagle Claw Boulevard)	65 to 75 dB DNL	Construct Furnishing Management Warehouse	1,000 feet W/NW
Community center	65 to 70 dB DNL	Construct Furnishing Management Warehouse	1,300 feet NW
Unaccompanied housing (Cochran Avenue/Air Commando Way)	75 to 80 dB DNL	Addition to the Security Forces Facility	50 feet NW
Unaccompanied housing (Cunningham Avenue)	65 to 75 dB DNL	Construct Furnishing Management Warehouse	800 feet NW
Recreational field	75 to 80 dB DNL	Construct Furnishing Management Warehouse	175 feet NE
Whispering Winds Golf Course	65 to 75 dB DNL	Renovate DWTP (Building 366)	650 feet NW
Accompanied housing (Courier Court and Invader Court)	65 to 70 dB DNL	Site Preparation for Food Court and Recreational Area	700 feet N
Accompanied housing (Chavez area)	<65 dB DNL	Renovate DWTP (Chavez Plant)	90 feet E
Community center (Chavez area)	<65 dB DNL	Renovate DWTP (Chavez Plant)	1,400 feet SW
Off-installation residences	<65 dB DNL	Renovate DWTP (Chavez Plant)	1,500 feet S

[1] Identifies noise-sensitive receptors within 0.5 mile of any project area.
Source: CAFB 2016

3.2.3 Environmental Consequences

The noise impact analysis considers changes to the ambient noise environment that would result from the Proposed Action. Noise impacts would be considered significant if the Proposed Action were to result in the violation of applicable federal, state, or local noise regulations; create appreciable areas of incompatible land use; or result in noise that would negatively affect the health of the community.

3.2.3.1 Proposed Action

Short-term, minor to moderate, adverse impacts on the ambient noise environment would result from noise generated during construction and demolition activities. The use of heavy construction equipment would generate intermittent, temporary increases in ambient noise levels during the construction and periods for the proposed projects. Noise levels associated with the equipment that is likely to be used for construction and demolition are listed in **Table 3-3**. Noise generated by heavy equipment typically exceeds ambient levels by up to 35 dBA in suburban areas or low-density neighborhoods. The use of exhaust mufflers and other noise-dampening components on construction equipment could reduce the sound level by up to 10 dBA (USEPA 1971). Noise beyond ambient levels would cease following the construction period. It is not anticipated that construction noise would violate noise regulations, create levels of noise that would result in appreciable areas of incompatible land use, or result in negative public health effects.

Table 3-3. Average Noise Levels for Common Construction Equipment

Equipment	Predicted Noise Level at 50 feet (dBA)	Predicted Noise Level at 250 feet (dBA)	Predicted Noise Level at 500 feet (dBA)	Predicted Noise Level at 1,000 feet (dBA)
Backhoe	71 to 93	57 to 79	51 to 73	45 to 67
Concrete Mixer	74 to 88	60 to 74	54 to 68	48 to 62
Crane	75 to 87	61 to 73	55 to 67	49 to 61
Front Loader	72 to 84	58 to 70	52 to 64	46 to 58
Paver	86 to 88	72 to 74	66 to 68	60 to 62
Tractor	76 to 96	62 to 82	56 to 76	50 to 70
Truck	83 to 94	69 to 80	63 to 74	57 to 68

Sources: USEPA 1971, TRS Audio 2025

Construction and demolition activities would require several pieces of equipment to be used simultaneously. In general, the addition of a piece of equipment with identical noise levels to another piece of equipment would add approximately 3 dB to the overall noise environment (USEPA 1971). Additive noise from multiple pieces of equipment operating simultaneously would increase the overall noise environment by a few dB over the noisiest equipment, depending on the noise levels.

Construction and demolition would occur within an active military installation, where noise levels from aircraft operations regularly exceed 65 dBA. Equipment noise would be limited to the immediate vicinity of the proposed project areas, where the primary receptors would be construction workers. Any noise generated would decrease with increasing distance from the construction activity, and these noise levels would noticeably attenuate to below 65 dBA between approximately 500 and 1,500 feet (0.09 and 0.28 miles) from the source.

All applicable noise laws and guidelines would be followed to reduce the effects of noise from construction and demolition. The Occupational Safety and Health Administration (OSHA) sets legal limits on construction noise exposure levels. Permissible noise exposure levels for construction workers must not exceed 90 dBA over 8 hours. The maximum allowable noise level to which construction workers can be constantly exposed is 115 dBA; however, exposure at this level must not exceed 15 minutes within 8 hours.

Construction contractors would adhere to all appropriate OSHA standards (29 CFR Section 1910.95) to protect the workforce from excessive noise. In addition, workers and personnel at DAF installations are required to use proper personal hearing protection, per Air Force Occupational Safety and Health Standard 48-20, *Operational Noise and Hearing Conservation Program*, to limit exposure to high noise levels. Because of the temporary nature of construction and demolition activities, noise beyond ambient levels would cease following the construction periods for the proposed projects.

During construction and demolition, increases in trucks traveling through Cannon AFB would occur; however, vehicular traffic is a common noise source at the installation, and the noise from additional truck traffic would be negligible. Construction equipment would remain at the project area during the construction period; therefore, increased noise levels from truck traffic noise levels would occur only when construction vehicles are required to enter and exit the project area.

Noise from construction would exceed 65 dBA at noise-sensitive receptors; however, noise exceeding 65 dBA would be intermittent and would not occur at the frequency or duration required to noticeably and permanently affect the overall noise environment. As shown in **Table 3-4,** noise from construction at the youth center, community chapel, unaccompanied housing at Cochran Avenue and Eagle Claw Boulevard, community center, Whispering Winds Golf Course, unaccompanied housing along Cunningham Avenue, and off-installation residences would be consistent with the existing ambient noise environment.

Table 3-4. Estimated Maximum Construction-Related Noise Level at Noise Sensitive Receptors

Noise Sensitive Receptor[1]	Existing Noise Level	Distance to Nearest Project	Maximum Noise Level at Receptor (dBA)
Unaccompanied housing (Levitow Avenue)	65 to 70 dB DNL	500 feet	76 dBA
Youth center	65 to 70 dB DNL	1,100 feet	69 dBA
Community chapel	70 to 75 dB DNL	950 feet	70 dBA
Unaccompanied housing (Cochran Avenue/Eagle Claw Boulevard)	65 to 75 dB DNL	1,000 feet	70 dBA
Community center	65 to 70 dB DNL	1,300 feet	68 dBA
Unaccompanied housing (Cochran Avenue/Air Commando Way)	75 to 80 dB DNL	50 feet	96 dBA
Unaccompanied housing (Cunningham Avenue)	65 to 75 dB DNL	800 feet	72 dBA
Recreational field	75 to 80 dB DNL	175 feet	85 dBA
Whispering Winds Golf Course	65 to 75 dB DNL	650 feet	74 dBA
Accompanied housing (Courier Court & Invader Court)	65 to 70 dB DNL	700 feet	73 dBA
Accompanied housing (Chavez area)	<65 dB DNL	90 feet	91 dBA
Community center (Chavez area)	<65 dB DNL	1,400 feet	67 dBA
Off-installation residences	<65 dB DNL	1,500 feet	66 dBA

[1] Identifies noise-sensitive receptors within 0.5 mile of any project area.
Sources: USEPA 1971, TRS Audio 2025

Because DNL represents a 24-hour average with added weighting for nighttime noise, the construction noise contribution must be averaged over the full day to assess its relative impact. The relative impact is also influenced by the existing ambient noise environment and the construction phase. Given that DNL accounts for long-term exposure, short-term construction noise impacts are lessened by their limited daily duration and weekday-only occurrence. Therefore, while construction would temporarily raise noise levels above the existing environment, the overall impact on the 24-hour average noise exposure would be minor, with the greatest impact occurring during the most active construction phases.

Construction noise at the unaccompanied housing along Levitow Avenue, unaccompanied housing on Cochran Avenue and Air Commando Way, recreational field, accompanied housing on Courier and Invader Courts, and the Chavez community center would be slightly above ambient levels. Assuming construction equipment operates consistently for 8 hours each weekday throughout the construction period, the time-averaged noise from construction translates to an approximate 24-hour equivalent noise level increase in overall DNL of up to 5 dBA during peak construction phases, such as the building phase. During other phases of construction, such as site preparation, paving, and site finishing (e.g., painting, landscaping), the increase in overall DNL may be less than 2 dBA. The increase of up to 5 dBA DNL would be limited to daytime hours. The increase in noise at these noise-sensitive receptors during the construction period would result in short-term, minor, adverse impacts.

Of the noise-sensitive receptors identified in **Table 3-4**, the Chavez housing area is expected to experience the greatest noise impact. The existing ambient noise environment at this noise-sensitive receptor is less than 65 dB DNL. Renovation of the Chavez DWTP would introduce noise levels of up to 91 dBA at the receptor, which translates to an estimated 8-hour equivalent continuous noise level of approximately 85 dBA during daytime hours. When averaged over 24 hours, the equivalent DNL noise level would be approximately 80 dB DNL, resulting in short-term, moderate, adverse impacts.

Noise from construction activities would be temporary and would last only during the construction periods for the proposed projects. To minimize impacts on the ambient noise environment and limit noise exposure at noise-sensitive receptors (e.g., the Chavez housing area), BMPs would be implemented and could include limiting construction to normal workdays and working hours (i.e., 7 a.m. to 5 p.m.); ensuring that all heavy equipment includes factory-equipped noise abatement components such as mufflers, engine enclosures, engine vibration isolators, or other sound-dampening supplements; turning off all idling equipment when not in use; and avoiding impulsive noises.

Operational activities at the new facilities would be consistent with the type and tempo of operations currently occurring at Cannon AFB. No new types of operational activities are proposed. Therefore, long-term impacts on the ambient noise environment would not occur.

3.2.3.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the existing conditions described in **Section 3.2.2** would remain unchanged. Therefore, no impacts on the noise environment would occur.

3.3 AIR QUALITY

3.3.1 Definition of the Resource

Air quality is defined by the concentration of various pollutants in the atmosphere at a given location. Under the Clean Air Act (42 USC Chapter 85), USEPA has established National Ambient Air Quality Standards (NAAQS) for the six pollutants that define air quality, called "criteria pollutants," which include carbon monoxide (CO), sulfur dioxide, nitrogen dioxide, ozone (O_3), suspended particulate matter (measured less than or equal to 10 microns in diameter [PM_{10}] and less than or equal to 2.5 microns in diameter [$PM_{2.5}$]), and lead. Volatile organic compounds (VOCs) and nitrogen oxides (NO_X) emissions are precursors of O_3 and are used to represent O_3 generation. Each state has the authority to adopt standards stricter than those established by USEPA. The state of New Mexico accepts the federal NAAQS (New Mexico Administrative Code [NMAC] Title 20, Chapter 2, Part 3).

Areas that are and have historically followed the NAAQS or have not been evaluated for NAAQS compliance are designated as attainment areas. Areas that exceed a NAAQS are designated as nonattainment areas. Areas that have transitioned from nonattainment to attainment are designated as maintenance areas. Nonattainment and maintenance areas are required to adhere to a State Implementation Plan to reach attainment or ensure continued attainment. The USEPA General Conformity Rule applies to federal actions occurring in nonattainment and maintenance areas. When the total emissions of nonattainment and maintenance pollutants (or their precursors) exceed specified thresholds (i.e., *de minimis* levels; specified at 40 CFR Section 93.153), a general conformity determination is required. The General Conformity Rule does not apply to federal actions occurring in attainment or unclassified areas.

GHGs. GHGs are gas emissions that trap heat in the atmosphere and include water vapor, carbon dioxide (CO_2), methane, nitrous oxide, tropospheric O_3, and several fluorinated and chlorinated gaseous compounds. GHGs are expressed relative to a reference gas, CO_2, based on their ability to trap heat in the atmosphere, and the results are added to calculate the total equivalent emissions of CO_2 (CO_2e).

USEPA implements the GHG Reporting Program, requiring certain facilities to report GHG emissions from stationary sources, if such emissions exceed 25,000 metric tons of CO_2e per year (40 CFR Part 98). Major source permitting requirements for GHGs are triggered when a facility exceeds the major threshold of 100,000 metric tons per year (tpy) for stationary source CO_2e emissions.

3.3.2 Affected Environment

Cannon AFB is in Curry County, New Mexico, which is within the Pecos-Permian Basin Intrastate Air Quality Control Region (40 CFR Section 81.242). USEPA Region 6 and the New Mexico Environment Department regulate air quality in New Mexico. USEPA has designated Curry County as in attainment or unclassified for all criteria pollutants (40 CFR Section 81.332). As a result, the General Conformity Rule does not apply to federal actions occurring in the county.

The New Mexico Environment Department (NMED) Air Quality Bureau oversees programs for permitting the construction and operation of new or modified stationary source air emissions in the state of New Mexico. Cannon AFB is considered a major source, as defined by NMAC 20.7.70, meaning the facility directly emits, or has the potential to emit, 100 tpy or more of any regulated air pollutant. As such, Cannon AFB maintains a Title V operating permit (Permit Number P119) for stationary emissions sources, as administered by NMED. Stationary sources of air emissions at the installation include internal combustion engines (e.g., emergency generators, fire pump engines), external combustion heating units, fuel storage tanks, and paint booths. Stationary air emissions sources within the project areas include three diesel-powered fire pump engines at the existing pump house (Building 127); one emergency generator at the Constant Pressure Fuel System site (Building 281); one emergency generator at the Security Forces Facility; one emergency generator at the main DWTP office (Building 336); one emergency generator at the Building 337 pump station; one emergency generator at the Chavez water pump plant (Building 9973); and one emergency generator at the existing headworks unit #1 (Building 4073). There are no stationary air emissions sources within any of the other project areas. Mobile sources of air emissions at Cannon AFB include aircraft flight operations, maintenance equipment, and vehicles.

Weather Trends and GHGs. Eastern New Mexico experiences hot, dry summers with temperatures often reaching the mid-90 degrees Fahrenheit (°F) and occasionally exceeding 100°F, especially during heat waves in July and August. Unlike more humid regions, the summer heat is typically accompanied by low humidity and strong winds. High winds on the installation are common due to the flat, open land, and regular gusts can exceed 30 miles per hour, with gusts at 12 miles per hour on average. Winters are generally mild, though cold fronts can bring brief periods of freezing temperatures, light snow, or freezing rain. Several inches of snowfall occur each winter, typically in January and February, often resulting in minor flooding. Spring and fall offer more moderate temperatures. Spring, especially April through June, is the peak season for severe weather, including thunderstorms, hail, and isolated tornadoes, as warm, moist air from the south mixes with drier air from the north. The area lies on the western edge of Tornado Alley, and the threat of severe weather is generally lower than that of central Texas and Oklahoma (CAFB 2016).

Between 1991 and 2020, the area had an average temperature of 78.8°F in the warmest month (July), with average high temperatures that exceeded 92.2°F, and an average temperature of 39.3°F in the coldest month (January), with average low temperatures that reached 26.0°F. Over the same period, the average annual precipitation was 20.08 inches. The wettest month of the year was August, with an average precipitation of 3.84 inches (NOAA 2021). Curry County has historically experienced an average of 23 days per year with a maximum temperature greater than 95°F, which is expected to increase to 59 days per year by 2065 and 70 days per year by the end of the century (CMRA 2025). Cannon AFB has a “moderate” vulnerability rating for flood risk, a “low” impact index for temperature rise, a relatively high vulnerability rating for tornadoes, and a “low” vulnerability rating for storm intensity (CAFB 2016).

In 2020, Curry County produced 461,594 tons of CO_2e, while New Mexico produced 43,256,594 tons of CO_2e. Curry County CO_2e emissions comprised approximately 1.1 percent of the state's CO_2e emissions in 2020. CO_2e emissions from stationary sources at Cannon AFB do not exceed the USEPA GHG Reporting program reporting threshold of 25,000 metric tpy; therefore, Cannon AFB is not required to report annual CO_2e emissions to USEPA (USEPA 2023).

3.3.3 Environmental Consequences

Impacts on air quality are evaluated by comparing the annual net change in emissions for each criteria pollutant against the General Conformity Rule *de minimis* level thresholds for nonattainment or maintenance pollutants, or against insignificance indicators as defined by the *Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II – Advanced Assessments*, for attainment pollutants. The DAF insignificance indicator is the 250 tpy Prevention of Significant Deterioration (PSD) major source threshold, as identified by USEPA, and is applied to emissions of all attainment/unclassified criteria pollutants, except lead. The PSD insignificance indicator for lead is 25 tpy. The PSD thresholds do not denote a significant impact; however, they do provide a threshold to identify actions that have insignificant impacts on air quality. Any action with net criteria pollutant emissions below the insignificant indicators is considered so insignificant that the action will not cause or contribute to an exceedance of one or more NAAQS. DAF applies the PSD major modification permitting threshold for GHG emissions of 75,000 tpy of CO_2e as an insignificance indicator for GHG impacts. Any action with net GHG emissions below the insignificance indicator is considered too insignificant on a global scale to warrant further analysis. Because Curry County is in attainment or unclassified for all criteria pollutants, the General Conformity Rule does not apply to the Proposed Action, and the air emissions from the Proposed Action were compared against the DAF insignificance thresholds.

The DAF Air Conformity Applicability Model (ACAM), version 5.0.24a, was used to estimate the annual air emissions from the Proposed Action. The potential for air quality impacts was assessed in accordance with DAF Manual (DAFMAN) 32-7002, *Environmental Compliance and Pollution Prevention*; the DoD NEPA Implementing Procedures; and the General Conformity Rule (40 CFR 93 Subpart B). The ACAM report with detailed emissions calculations is included in **Appendix B**.

3.3.3.1 Proposed Action

Short- and long-term, negligible, adverse and beneficial impacts on air quality would occur. Emissions of criteria pollutants and GHGs would be directly produced from the operation of heavy construction equipment, demolition and construction of buildings and infrastructure, heavy-duty diesel vehicles hauling supplies and debris to and from the project areas, workers commuting daily to and from the project areas in their vehicles, and ground disturbance. All such emissions would be temporary and produced only during the construction period. For this analysis, the construction period for all projects was assumed to occur within the same 1-year period to equate a worst-case scenario in which all air emissions occur in the same year. **Table 3-5** shows the estimated air emissions that would occur from project construction under the Proposed Action. The net annual air emissions from construction would not be expected to exceed the

insignificance thresholds for any criteria pollutant; therefore, short-term, adverse impacts on air quality would not be significant.

Table 3-5. Estimated Air Emissions from Construction for the Proposed Action

Project	NO_X (tpy)	VOC (tpy)	CO (tpy)	SO_X (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	Lead (tpy)	CO_2e (tpy)
Site Preparation for Food Court and Recreational Area	0.888	0.107	1.218	0.002	6.972	0.035	<0.001	194.2
Construct Replacement Pump House	0.510	0.080	0.778	0.001	0.059	0.018	<0.001	135.6
Addition to Security Forces Facility	0.509	0.177	0.765	0.001	0.120	0.019	<0.001	146.2
Construct Furnishing Management Warehouse	0.519	0.179	0.778	0.001	0.340	0.019	<0.001	144.2
Construct Constant Pressure Fuel System	0.480	0.058	0.770	0.001	0.105	0.015	<0.001	130.4
Renovate DWTP	0.433	0.182	0.690	0.001	0.017	0.015	<0.001	132.6
Renovate WWTP	0.441	1.324	0.701	0.001	0.027	0.015	<0.001	133.3
Installation of Flightline Fence	1.113	0.168	1.600	0.003	0.037	0.033	<0.001	346.1
Total	**4.894**	**2.276**	**7.300**	**0.012**	**7.676**	**0.170**	**<0.001**	**1,362.6**
Insignificance Threshold	**250**	**250**	**250**	**250**	**250**	**250**	**25**	**75,000**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Note: The analysis assumes construction for each project would occur over 1 year to equate a worst-case emissions scenario in which all activity for a single project occurs in the same year. The total emissions shown represent a worst-case scenario in which all projects occur in the same year; however, the actual construction period(s) may be different than what was assumed for the analysis.
Key: SO_X = sulfur oxides

Many criteria pollutants are produced from internal combustion engines, such as those found in gas-powered equipment and generators. Particulate matter, such as fugitive dust, is produced from earth-moving activities, demolition, and vehicle equipment traveling over paved and unpaved roads. Construction activities would incorporate best management practices (BMPs) and environmental control measures (e.g., wetting the ground surface, using diesel particulate filters in vehicles and equipment) to minimize fugitive dust and other criteria pollutant emissions.

As part of the project to replace the pump house, the three diesel-powered fire pump engines at the existing pump house (Building 127) would be removed and replaced with an electric pump system. The Title V permit for Cannon AFB would be amended to remove the three diesel fire pump engines at Building 127. However, the removal of these stationary sources would not reduce the installation's potential to emit below major source thresholds and as a result, the installation would continue to be subject to Title V permit requirements. As shown in **Table 3-6**, removal of the existing fire pump engines would result in a net decrease in annual operational air emissions at the installation, resulting in a long-term, negligible, beneficial impact on air quality.

Table 3-6. Estimated Net Annual Operational Air Emissions from the Proposed Action

Project	NO_X (tpy)	VOC (tpy)	CO (tpy)	SO_X (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	Lead (tpy)	CO_2e (tpy)
Construct Replacement Pump House: Remove Diesel Fire Pump Engines	-0.414	-0.100	-0.276	-0.085	-0.090	-0.090	<0.001	-47.9
Insignificance Threshold	**250**	**250**	**250**	**250**	**250**	**250**	**25**	**75,000**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Weather Trends and GHGs. As shown in **Table 3-5**, construction under the Proposed Action would produce an estimated total of 1,362.6 tons of CO_2e, which represents 0.3 percent of the 2020 annual CO_2e emissions in Curry County and less than 0.004 percent of the 2020 annual CO_2e emissions in New Mexico. By comparison, 1,362.6 tons of CO_2e is the approximate GHG footprint of 288 passenger vehicles driven for 1 year or 166 homes' energy use for 1 year (USEPA 2024a). Net operational CO_2e emissions would decrease by approximately 46.4 tons from the removal of the three diesel-powered fire pump engines at the existing pump house, which would result in beneficial impacts (see **Table 3-6**). By comparison, 46.4 tons of CO_2e is the approximate GHG footprint of 9.8 passenger vehicles driven for 1 year or 5.7 homes' energy use for 1 year (USEPA 2024a). As shown in **Table 3-5** and **Table 3-6**, the air emissions from construction and operations under the Proposed Action would not exceed the 75,000 tpy insignificance indicator for CO_2e; therefore, GHG emissions would be considered insignificant.

Ongoing weather trends in eastern New Mexico are described in **Section 3.3.2**. These trends are unlikely to affect DAF's ability to implement the Proposed Action and would likely only have negligible effects on the Proposed Action in the future. Replacement of old infrastructure and installation of new infrastructure would increase the installation's resiliency to future shifts in weather patterns, including severe weather events, high winds, and other extreme conditions. The Proposed Action is only indirectly dependent on any of the elements associated with these future weather conditions (e.g., meteorological changes). At the time of this analysis, no future weather scenario would have significant effects on any element of the Proposed Action.

3.3.3.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the air quality conditions described in **Section 3.3.2** would remain unchanged. Therefore, no impacts on air quality would occur.

3.4 GEOLOGICAL RESOURCES

3.4.1 Definition of the Resource

Geological resources are comprised of Earth's surface and subsurface materials. Within a given physiographic province, these resources are typically described in terms of geology, topography and physiography, soil quality, farmland productivity, and, where applicable, geologic hazards.

Geology is a synthesis of many sciences that study the Earth's composition and provide information on structural observations of surface and subsurface features. Field analyses

gather information on the configuration and characterization of such features and can be used to understand the processes that enacted themselves on the landscape during a generalized time. Different field techniques are used to gather information necessary to the area of study, such as boreholes or geophysical methods to understand subsurface bedrock and groundwater interactions, or soil methods that can determine the structural integrity of a landscape.

Soils are the unconsolidated materials overlying bedrock or other geologic parent material, and they were formed by chemical and physical weathering forces that modified rock and sediments by breaking them down into smaller and smaller debris. Over time, this debris is subject to different soil-forming processes, and soils then develop horizons, which are zones of material characterized by differing compositions of organic, clay, silt, and sand particles. All soils are usually described in terms of their complex type, slope, and physical characteristics. Their differences, however, are described in terms of their elasticity, strength, shrink-swell potential, drainage, and erosion potential, all of which affect their abilities to support certain applications or uses. In appropriate cases, soil properties must be examined for their compatibility with different types of land uses, such as construction activities.

When soils become so unconsolidated that they lose their structural integrity, whether it be to rainfall events, lack of vegetation, or temporal patterns of weathering, mass wasting events can occur. These events are classified as geological hazards and occur when mass amounts of soil and debris move downslope in one bulk mass due to gravity. All types of hazards, which can additionally include earthquakes and sinkholes, among others, can endanger human and animal lives and threaten property.

3.4.2 Affected Environment

Regional Geology. The project areas are within the Great Plains physiographic region of New Mexico. This region is characterized by flat “high plains,” bordered to the west by the Rocky Mountains. There is one distinct geologic unit underlying the entire installation, consisting of older alluvial deposits of upland plains and piedmont areas dating to the middle to lower Pleistocene epoch. This geologic unit also contains calcic soils and eolian cover sediments of the High Plains region, and although these calcic soils are common throughout the arid and semiarid parts of the southeastern United States, they do not appear to be found within the soils of Cannon AFB. Eolian cover sediments are wind-deposited materials with textural variances of sand or silt-sized particles (USGS 2025a).

Topography. The installation is flat topographically, and elevation is approximately 4,300 feet above mean sea level (msl) with very little topographic variance throughout the different project areas (Google Earth 2025).

Soils. Five different soil types are present within the installation, and the characteristics of these soils are provided in **Table 3-7**. Overall, soil associations found within the project areas can be divided into two distinct soil textural categories: soils with loamy components and soils with clay components. The three soils with loamy characteristics are considered farmland of statewide importance, indicating that if these soils were treated and managed according to acceptable farming methods, they could economically produce high yields of crops. In contrast, the Randall and Ranco clay soils within the project areas are within

playa floors, and their clay content causes water to pond frequently on the surface. Therefore, they do not have important farmland designations. Regardless of soil category, all five soils have depths to about 80 inches below ground surface (bgs) to restrictive subsoils (USDA 2025).

Table 3-7. Soil Characteristics

Map Unit	Soil Name	Depth (inches)	Farmland Designation	Soil Characteristics	Approx. acreage
AfA	Amarillo fine sandy loam, 0 to 1 percent slopes	0 to 80	Farmland of statewide importance	Fine sandy loam to sandy clay loam; well drained	4,143.0
AnB	Amarillo loamy fine sand, 0 to 3 percent slopes	0 to 80	Farmland of statewide importance	Loamy fine sand to sandy clay loam; well drained	86.1
EsB	Estacado loam, 1 to 3 percent slopes	0 to 80	Farmland of statewide importance	Loam to clay loam; well drained	84.2
RaA	Randall clay, 0 to 1 percent slopes, frequently ponded	0 to 80	Not prime farmland	Clay; poorly drained	13.7
RcA	Ranco clay, 0 to 1 percent slopes, frequently ponded	0 to 80	Not prime farmland	Clay; poorly drained	15.2
Total approximate acreage					**4,342.30**

Source: USDA 2025

Geologic Hazards. Rockfalls, sinkholes, and minor earthquakes are common in some areas of New Mexico. However, the lithology of the project areas is constituted by unconsolidated alluvial deposits, indicating that the historic material of these areas was transported by a river, either in the riverbed itself or on its floodplain and riverbanks (USGS 2025b). These alluvial sediments likely originated from the Rocky Mountains and were deposited in the area by east-flowing streams. Due to the unconsolidated nature of these alluvial sediments, the composition of these areas does not make the project areas susceptible to most geologic hazards. Although karstic landscapes exist within New Mexico, sinkholes are not common in the eastern portion of the state. Cannon AFB has experienced two voids within the installation boundaries; however, these can be attributed to poor compaction of the subgrade materials used during construction activities and were not caused by dissolution of carbonate rock at depth. Additionally, earthquakes are mildly common in New Mexico, but most of them occur along the Rio Grande rift in the south-central area of the state, not near Cannon AFB (NMBGMR 2009).

3.4.3 Environmental Consequences

Protection of unique geological features, minimization of soil erosion, and siting of facilities with potential geologic hazards are considered when evaluating the potential effects of a proposed action on geological resources. Generally, adverse effects can be avoided or minimized if proper techniques, erosion-control measures, and structural engineering designs are incorporated into project development.

Effects on geology and soils would be major and adverse if they would alter the lithology (i.e., the character of a rock formation), stratigraphy (i.e., the layering of sedimentary rocks), and geological structures that control groundwater quality, distribution of aquifers and confining beds, and groundwater availability; or change the soil composition, structure, or function within the environment.

3.4.3.1 Proposed Action

Regional Geology. No impacts on regional geology would be expected as a result of the eight projects under the Proposed Action. No activities would alter lithology, stratigraphy, or the geological structures underlying Cannon AFB.

Topography. Short-term, negligible, adverse impacts on the natural topography would be expected from demolition, site preparation (i.e., grading, excavating, and recontouring), and construction and renovation projects. The topography of Cannon AFB varies little, and only minor grading and excavation would be anticipated. Post-construction topography would not be expected to vary significantly from pre-construction topography.

Soils. Short-term, negligible to minor, adverse impacts on soils would be expected from ground-disturbing activities associated with the demolition, construction, and renovation projects. Ground-disturbing activities could result in soil compaction, disturbance, and erosion. In general, accelerated erosion of soils would be temporary, during construction activities, and minimized by appropriately siting and designing infrastructure, taking into consideration soil limitations, employing construction and stabilization techniques appropriate for the soil and climate, and implementing BMPs and erosion control measures. Potential BMPs could include the installation of silt fencing and sediment traps, application of water to disturbed soil to reduce dust, and revegetation of disturbed areas as soon as possible following ground disturbance, as appropriate. Preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) would be recommended to mitigate erosion during construction and maintenance.

3.4.3.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the existing conditions described in **Section 3.4.2** would remain unchanged. Therefore, no impacts on geological resources would occur.

3.5 WATER RESOURCES

3.5.1 Definition of the Resource

Water resources are natural and man-made sources of water that are available for use by, and for the benefit of, humans and the environment. Water resources relevant to Cannon AFB in New Mexico include groundwater, surface water, wetlands, and floodplains.

Groundwater. Groundwater is water that exists in the saturated zone beneath the Earth's surface that collects and flows through aquifers and is used for drinking, irrigation, and industrial purposes. Groundwater typically can be described in terms of depth from the surface, aquifer or well capacity, water quality, and recharge rates.

Surface Water and Wetlands. Surface water includes natural, modified, and man-made water confinement and conveyance features above groundwater that may or may not have a defined channel and discernible water flow. Stormwater is an important component of surface water systems because of its potential to introduce sediments and other contaminants that could degrade surface waters, such as lakes, rivers, or streams. The Energy Independence and Security Act Section 438 (42 USC Section 17094) establishes into law stormwater design requirements for federal development projects

that disturb a footprint of greater than 5,000 square feet. Under these requirements, pre-development site hydrology must be maintained or restored to the maximum extent technically feasible concerning temperature, rate, volume, and duration of flow.

The Clean Water Act (CWA) establishes federal limits for regulating point and non-point discharges of pollutants into Waters of the United States (WOTUS) and quality standards for surface waters. WOTUS has a broad meaning under the CWA and incorporates deep water aquatic habitats and special aquatic habitats (including wetlands and playas). EO 11990, *Protection of Wetlands*, requires federal agencies to determine whether a proposed action would occur within a wetland and to avoid new construction in wetlands wherever there is a practicable alternative. It is DAF policy to avoid construction within areas containing wetlands where possible per DAFMAN 32-7003, *Environmental Conservation*, and EO 11990 (24 May 1977), *Protection of Wetlands*.

Wetlands are considered jurisdictional WOTUS if they are deemed “navigable waters” as defined in the CWA as “the waters of the United States.” Jurisdictional WOTUS determinations are vested with the United States (US) Army Corps of Engineers. Under the CWA, the definition of WOTUS includes federal waterways and wetlands that are “relatively permanent, standing or continuously flowing bodies of water,” and also have a “continuous surface connection to bodies of water that are ‘waters of the United States’ in their own right.”

Floodplains. Floodplains are any land area that is susceptible to being inundated by floodwaters from any source (FEMA 2011). Flood potential is evaluated by FEMA, which defines the 100-year floodplain as an area within which there is a 1 percent chance of inundation by a flood event in a given year, or a flood event in the area once every 100 years. Similarly, a 500-year flood is defined as flood levels that have a 0.2 percent chance of occurring in any given year. EO 11988 (24 May 1977), *Floodplain Management*, requires federal agencies to determine whether a proposed action would occur within a floodplain and to avoid floodplains to the maximum extent possible wherever there is a practicable alternative. The Federal Flood Risk Management Standard requires agencies to prepare for and protect federally funded buildings and projects from flood risks. More specifically, it requires agencies to determine specific federal building or project dimensions (i.e., how high, wide, and expansive a building or project should be) to manage and mitigate any current or potential flood risks. Additionally, Directive-type Memorandum 22-003, *Flood Hazard Area Management for Department of Defense Installations*, directs the DoD to avoid development within a flood hazard area to the maximum extent practicable. It is DAF policy to avoid construction within a floodplain, if possible, per DAFMAN 32-7003 and EO 11988.

3.5.2 Affected Environment

Groundwater. Cannon AFB overlies the Curry County Groundwater Basin within the Southern High Plains Aquifer (Langman 2006). The Southern High Plains Aquifer underneath the installation is part of the larger High Plains Aquifer System, commonly referred to as the Ogallala Aquifer. The Ogallala Aquifer is the principal aquifer system underlying the region and provides the primary source of water for public supply, irrigation, and industrial purposes (Rawling 2016). The Ogallala Aquifer is located approximately 270 feet bgs and covers an area of approximately 174,000 square miles,

spanning eight states, including South Dakota, Wyoming, Nebraska, Kansas, Colorado, Oklahoma, Texas, and New Mexico (Taghvaeian et al. 2017). Due to extensive withdrawals for agricultural and municipal uses, as well as high evaporation rates and minimal recharge through precipitation, the Ogallala Aquifer continues to experience significant declines in water levels (Rawling 2016). The estimated recharge rate of the aquifer is less than 1 inch per year (Langman 2006, Hart and McAda 1985).

Regional groundwater flow direction of the Southern High Plains Aquifer is generally to the east and southeast (Langman 2006). Numerous cones of depression created by 50 years of groundwater pumping have modified and, in some cases, reversed groundwater flow gradients around heavily irrigated areas (Musharrafieh and Logan 1999).

Cannon AFB draws its water supply from the Ogalla Aquifer underlying the installation via wells located on the installation (CAFB 2016, CAFB 2025a). Water depth in these production wells ranges between 380 and 420 feet bgs. Cannon AFB holds water rights to approximately 2,450 acre-feet of groundwater. The groundwater supply in the source aquifer is diminishing primarily due to drawdown from irrigated agriculture and municipal consumption. Groundwater in certain areas of the aquifer has high concentrations of calcium, magnesium, and bicarbonate, as well as fluoride and chloride (Hart and McAda 1985).

The 2024 drinking water quality report shows that acceptable levels of contaminants are present in drinking water. The report noted that the Cannon AFB water system received a notice of exceedance for fluoride in July 2024, and the installation is looking for ways to regulate fluoride in the drinking water system. In August 2024, the installation received a violation for failing to meet lead and copper sampling requirements during the 2020 to 2022 compliance period and has returned to compliance. Additionally, in December 2024, the installation received a violation for failure to submit the required number of microbiological samples in accordance with an approved Revised Total Coliform Rule sampling plan for the month of October 2024. The installation has also returned to compliance regarding this violation (CAFB 2025a).

As noted in **Section 1.2.6**, a groundwater concern at Cannon AFB is PFAS contamination in groundwater sources, which poses serious health risks. Several significant issues were identified at the DWTP. Infrastructure deterioration and structural problems at the DWTP compromise the reliability and safety of the water supply system. These issues collectively threaten public health and the installation's operational readiness. The Proposed Action would improve water filtration and reduce PFAS exposure within the installation's drinking water system.

Surface Water and Wetlands. Surface waters at Cannon AFB are predominantly associated with playa wetland ecosystems. Fringe wetlands occur below the ordinary high-water marks along gently sloping areas bordering the North and South Playas. Playas lack a surface outlet, and any water they collect is ultimately lost through evaporation, infiltration, or absorbed by local flora and fauna. Due to limited annual precipitation and high evaporation rates, minimal or no surface water extends beyond the installation's boundaries (CAFB 2025b).

No naturally occurring surface water bodies, significant drainage channels, perennial streams, or jurisdictional waters are found on the installation. Water bodies and drainage systems within Cannon AFB are isolated and lack a connection to WOTUS, and thus are exempt from regulation under the CWA. Nevertheless, the installation features various artificial water bodies, including the North and South Playas (see **Figure 3-1**) which are periodically inundated. The North Playa, situated in the eastern portion of the installation, gathers stormwater runoff from the northeastern corner of the installation and a portion of the treated effluent from the WWTP. In contrast, the South Playa, located in the southwestern portion of the installation, is primarily sustained by surface water runoff from the impervious surfaces of the runways (CAFB 2025b).

Historically, the South Playa has received stormwater runoff from portions of the flightline area since 1943, which potentially included solvents, fuels, oils, greases, and aqueous film-forming foam (AFFF), potentially containing PFAS. Stormwater generally flows south and east across the installation. During precipitation events, significant amounts of surface water collect on the South Playa, forming temporary ponds. None of the proposed project areas fall within wetlands or surface waters.

Floodplains. Although no Federal Emergency Management Agency (FEMA) floodplains have been delineated on Cannon AFB, potential flood areas and planning resources addressing flooding problems around the installation were identified in a 2022 floodplain analysis conducted by Colorado State University. Based on the assessment, many installation assets including storage tanks, hazardous material and waste sites, and portions of the airfield were found to be within the proposed 100- and 500-year floodplains (CSU 2022). AFB. The Constant Pressure Fuel System, Renovate DWTP, Renovate WWTP, and Flightline Fence project areas fall within or immediately adjacent to the proposed 100- or 500-year floodplains (see **Figure 3-2**).

3.5.3 Environmental Consequences

3.5.3.1 Proposed Action

Groundwater. Short-term, negligible to minor, adverse, and long-term, minor to moderate, beneficial impacts would be expected. Impacts would be expected during construction due to ground disturbance from the use of heavy equipment. During construction, soil disturbances could lead to increased sediment transportation during rainfall events that could potentially accumulate in areas surrounding the disturbed areas. Implementation of BMPs and erosion control measures would minimize such impacts by controlling the movement of surface water runoff. BMPs could include the use of temporary barriers, such as fiber logs or silt fences, which would be placed based on site-specific evaluations on an as-needed basis.

Vehicles and equipment used during construction would increase the potential for petroleum or hazardous material spills, typically from leaks or accidents at the work site. Any such leaks or spills would be transported to the groundwater either by surface water runoff or by soil leaching. Proper housekeeping, maintenance of equipment, and containment of fuels and other potentially hazardous materials would be implemented to minimize the potential for the release of fluids. With the implementation of BMPs and minimal groundwater recharge in the area, implementation of the Proposed Action would not be expected to result in a significant impact on groundwater.

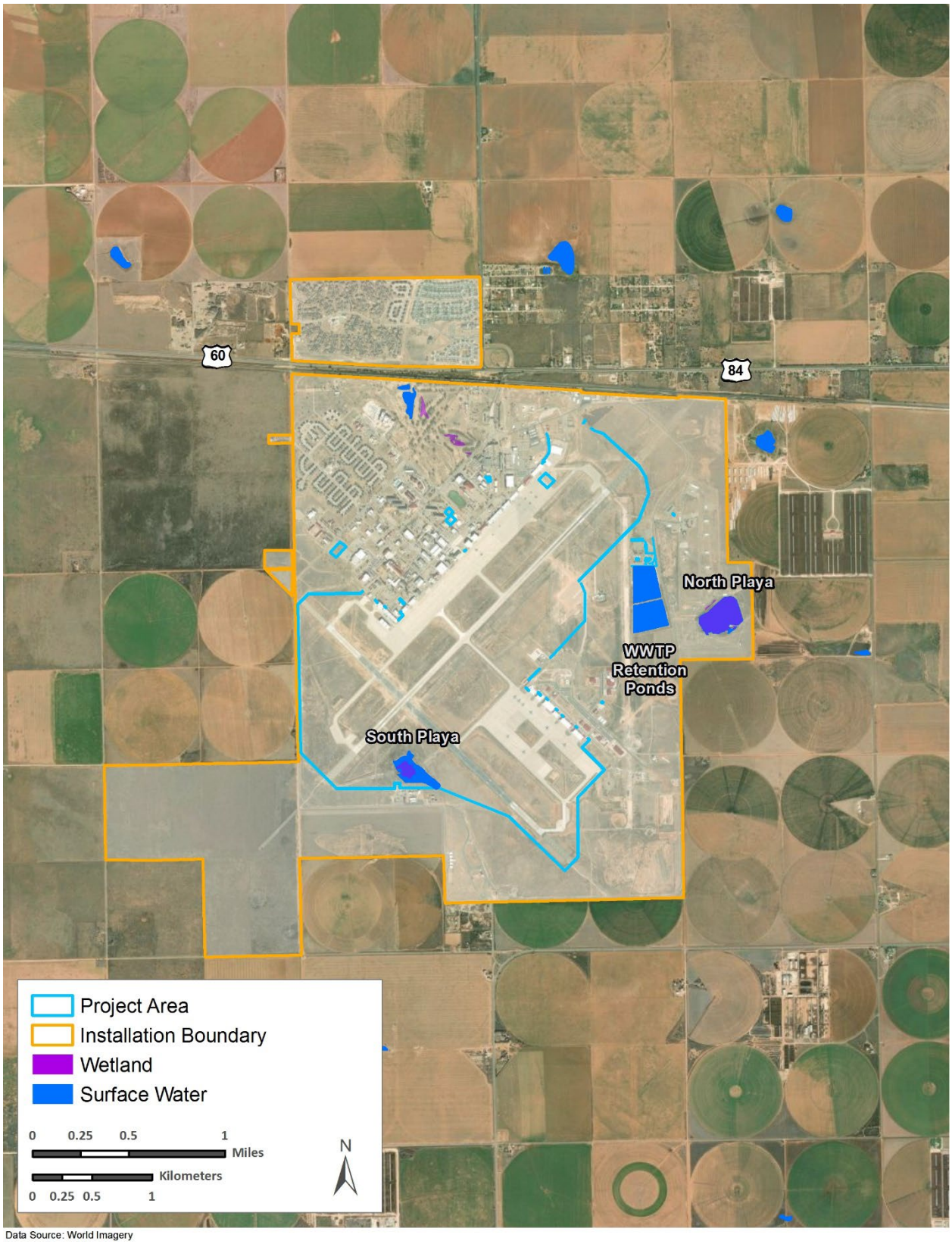


Figure 3-1. Surface Waters on Cannon AFB

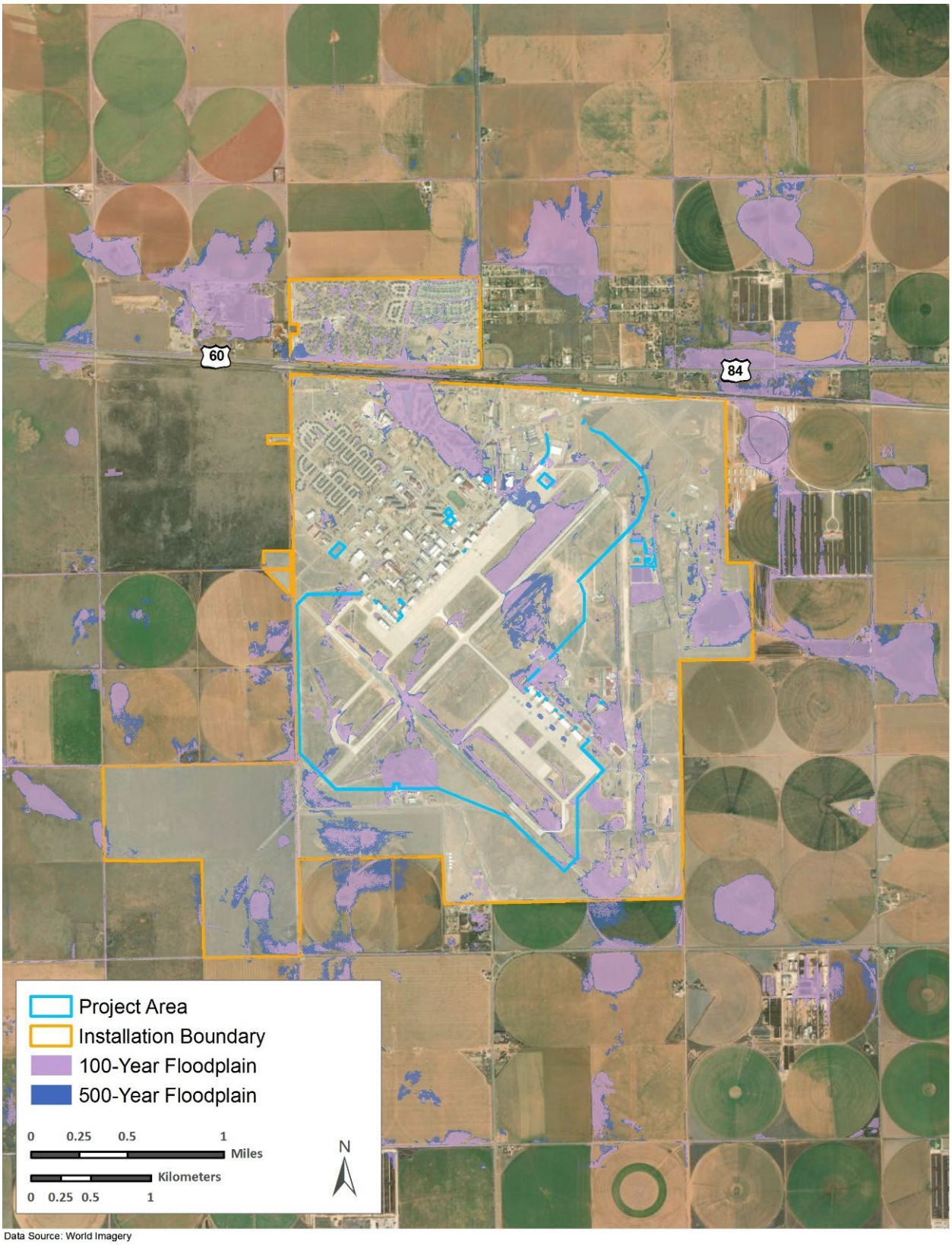


Figure 3-2. Proposed 100- and 500-year Floodplain Area and Exposed Infrastructure on Cannon AFB

Beneficial impacts would result from the improvements at the DWTP and WWTP. DWTP renovations include perimeter fence upgrades; installation of drinking water treatment filtration systems; interior and exterior refurbishment of the Chavez drinking water holding tank; and installation of GAC filtration systems at Buildings 336, 4672, and 5035. Such renovations would improve drinking water quality and reduce PFAS concentrations within drinking water wells. Contaminants of concern at the WWTP are PFC compounds, metals, and POL. The presence of PFC compounds permeating through the soil has resulted in temporary shutdowns of reclaimed-water irrigation activities at Cannon AFB in the past. Renovations at the WWTP would reduce contaminants entering groundwater and improve the reclaimed water supply at the installation.

Surface Water and Wetlands. Short-term, negligible to minor, adverse, and long-term, negligible to minor, beneficial impacts on surface waters and wetlands would be expected. Impacts from ground-disturbing activities could result in the transportation of additional sediment and other materials into the surface waters. Additionally, stormwater has the potential to carry sediment, construction debris, and hazardous substances into drainage ditches, which connect to various surface water bodies across the installation. However, implementation of standard stormwater protection BMPs and spill prevention and management plans, including a SWPPP, would reduce or eliminate any lasting detrimental effects on the quality of surface waters. As noted in **Section 3.5.2**, the surface water bodies on Cannon AFB do not have connections to jurisdictional waters outside the installation. Therefore, the Proposed Action is not expected to have an impact on water bodies beyond the installation's boundaries.

Adverse impacts would result from increased impervious surfaces in the Food Court and Recreational Area, Replacement Pumphouse, Security Forces Facility Addition, Furnishing Management Warehouse, and Constant Pressure Fuel System project areas. New construction of structures and concrete pads would ultimately reduce the pervious cover and alter the flow of stormwater runoff within the project areas. These impacts would be minimized through the design, siting, and implementation of environmental protection measures and stormwater management.

Long-term beneficial impacts would result from renovations at the WWTP. Improvements at the WWTP include aerator improvements, a new chlorine chamber, and equipment for filtration of chemicals and heavy metals. Contaminants, including PFCs, POLs, and PFAS, would be reduced in the runoff to the retention ponds and the nearby North Playa.

Floodplains. Short-term, negligible to moderate, adverse impacts on the proposed 100- and 500-year floodplains would be expected. Construction activities would directly increase obstructions within the floodplains. Implementation of appropriate BMPs during construction would limit short-term impacts such as sediment and surface runoff. No impacts on FEMA-designated floodplains would be expected as no FEMA floodplains have been officially designated on Cannon AFB.

The Constant Pressure Fuel System, Renovate DWTP, Renovate WWTP, and Flightline Fence project areas are within or immediately adjacent to the proposed 100- or 500-year floodplains and would directly increase obstructions and reduce pervious cover within the proposed floodplains. However, these impacts would be minimized through the design,

siting, and implementation of environmental protection measures and stormwater management.

3.5.3.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the existing conditions described in **Section 3.5.2** would remain unchanged. Connections from aircraft refueling would continue to not meet the constant-pressure hydrant refueling system criteria and continue to degrade until failure. Additionally, the current DWTP would become non-compliant with USEPA guidance on PFAS for drinking water, becoming effective in 2029, and the current WWTP would continue to be deficient. Long-term, minor to moderate, adverse impacts on water resources would be expected from the continued deterioration of the WWTP and non-compliance with the constant pressure hydrant refueling system criteria and anticipated USEPA PFAS guidance.

3.6 BIOLOGICAL RESOURCES

3.6.1 Definition of the Resource

Biological resources include native or naturalized plants and animals, the habitats in which they occur, and native or introduced species found in landscaped or disturbed areas. Protected species are listed as threatened, endangered, proposed, or candidate for listing by the USFWS or NMDGF. The ESA does not protect federal species of concern and candidate species; however, these species could become listed and therefore are given consideration when addressing impacts on biological resources.

Section 7 of the ESA of 1973 requires all federal agencies to use their authorities to conserve endangered and threatened species in consultation with the USFWS. The ESA gives the Secretary of the Interior the responsibility of deciding whether a species' survival has been so jeopardized that it warrants conservation actions. Authority for administering the ESA has been delegated to the USFWS. Under the ESA, when a species is formally "listed" (i.e., added to the Federal List of Endangered and Threatened Wildlife and Plants), federal agencies are directed to use their legal authorities to carry out conservation programs to support the continued survival of the species. The New Mexico Wildlife Conservation Act (17-2-40.1 New Mexico Statutes Annotated 1978) has similar provisions and covers species that are native to New Mexico.

Sensitive habitats include those areas designated by the USFWS as critical habitat under the ESA and sensitive ecological areas as designated by state or federal rulings. Sensitive habitats also include wetlands and playas, as well as plant communities that are unusual or have a limited distribution, and important seasonal use areas for wildlife (e.g., migration routes, breeding areas, and crucial summer or winter habitats). Additionally, the DAF is responsible for the protection of migratory birds under the MBTA and EO 13186 (10 January 2001), *Responsibilities of Federal Agencies to Protect Migratory Birds*.

3.6.2 Affected Environment

The Integrated Natural Resources Management Plan (INRMP) for Cannon AFB and Melrose Air Force Range is the guidance document for management of natural resources on the installation when planning and implementing proposed activities. The INRMP is a

comprehensive plan for natural resource conservation and management at the installation and aims to manage and steward natural resources to meet conservation and stewardship requirements while supporting military operations (CAFB 2025b).

3.6.2.1 Ecoregion

Cannon AFB encompasses 3,789 acres in a rural area of Curry County, New Mexico, and is located within the High Plains Ecoregion. This ecoregion is higher and drier than the Central Great Plains to the east. In contrast to the mostly grassland of the Northwestern Great Plains to the north, much of the High Plains is characterized by smooth to slightly irregular plains with a high percentage of cropland (USEPA 2013). Thousands of playas, ranging in size from a few acres to over 200 acres, occur in this region and serve as recharge areas for the important Ogallala Aquifer. Playas are shallow lakes that collect water during rain events and often contain wetland or hydrophytic vegetation during wet seasons. Playas play an essential role in this region and are important waterfowl wintering grounds for the North American Central Flyway. Cannon AFB also falls within a sub-ecoregion of the High Plains known as the Llano Estacado or "Staked Plains." This name is believed to refer to the first European settlers who drove stakes into the ground to help guide them across the featureless region. These early pioneers found a vast carpet of short grasses that were home to enormous herds of buffalo (*Bison bison*) and pronghorn antelope (*Antilocapra americana*) (TPWD 2025).

Cannon AFB is located on a southeast-sloping regional plateau known as the Southern High Plains. Within this area of the plateau, the topography is characterized by flat, featureless terrain having almost no relief. Characteristically, the High Plains have a smooth and gently sloping or undulating surface on which scattered, normally dry, flat-bottomed depressions are the dominant relief feature. The highest elevation on Cannon AFB is 4,330 feet above msl in the northwestern portion of the installation, and the lowest point is 4,260 feet above msl in the southeastern portion. The natural land surface is flat, sloping to the southeast. The only topographical features are several small, shallow playas. The climate is arid to semiarid, with light precipitation, a high percentage of clear days, low relative humidity, and a relatively large change in diurnal temperatures (Karelus et al. 2021).

3.6.2.2 Vegetation

The High Plains Ecoregion has been described as a sea of waving grasslands. Classified as mixed plain and short-grass prairie, vegetation in this ecoregion varies and is highly dependent on location. The original character of the ecoregion has been forever changed by agriculture; however, some unique areas remain. Meager water sources along the Canadian and Red Rivers once sustained lush growths of tall willows (*Salix* sp.) and cottonwoods (*Populus* sp.). Russian olive (*Elaeagnus angustifolia*) and tamarisk (*Tamarix* sp.), two introduced species from the Old World, now replace these native trees along the rivers, altering the natural habitat of kingbirds (*Tyrannus* sp.) and phoebes (*Sayornis* sp.). Grasses provide cover and nesting habitats for a myriad of other birds, and belts of trees planted in the 1930s provide shelter to a large diversity of wildlife (TPWD 2025). The vegetation of Cannon AFB is a mix of prairie, heavily shrub-invaded grasslands, and formerly grazed rangelands.

3.6.2.3 Wildlife Species and Habitat

While gray wolves (*Canis lupus*) and elk (*Cervus canadensis*) no longer occur in the High Plains Ecoregion, mountain lions (*Puma concolor*), coyotes (*Canis latrans*), red-tailed hawks (*Buteo jamaicensis*), and swift foxes (*Vulpes velox*) now crown the food chain. While greatly reduced, scattered populations of the lesser prairie-chicken (*Tympanuchus pallidicinctus*) can still be found across the region, and flocks of lark buntings (*Calamospiza melanocorys*) and horned larks (*Eremophila alpestris*) can still be seen overhead (TPWD 2025).

Most of Cannon AFB is highly modified from its natural state. Despite this fact, the installation provides habitat to a variety of resident, transitory, and migrant wildlife species. Large animals are seldom present on Cannon AFB due to several factors, primarily a fence constructed around the installation to prevent unauthorized access. Large animals present a hazard if they wander onto the runways. Pronghorn (*Antilocapra americana*) and mule deer (*Odocoileus hemionus*) have been photographed along the boundary fence and sometimes find their way onto the installation. Cannon AFB does not contain suitable mule deer habitat, but if they, or any other large animal, do wander onto the installation, they are removed to eliminate runway hazards (CAFB 2025b).

3.6.2.3.1 Federally Listed Threatened and Endangered Species

According to USFWS Information for Planning and Consultation data, no federally listed threatened or endangered species has the potential to occur on the installation. However, the monarch butterfly (*Danaus plexippus*), a proposed threatened species under the ESA, has been observed on the installation (USFWS 2025a). It should be noted that proposed species have no legal protections under the ESA, but federal agencies are required to confer with the USFWS if an action could jeopardize the proposed species. To ensure no significant impacts, an updated species list from the USFWS would be required to be obtained within 90 days of starting any repair activities. Only the monarch butterfly has been observed on Cannon AFB (Dixon 2023).

The monarch butterfly is among the most easily recognizable of the butterfly species in North America. Their wings are a deep orange with black borders and veins, and white spots along the edges. Monarch butterflies are found across North America wherever suitable feeding, breeding, and overwintering habitat exists. Whether monarchs are present in a given area within their range depends on the time of year. They are one of the few migratory insects, traveling great distances between their summer breeding habitat and winter habitat, where they spend several months inactive. As caterpillars, monarchs feed exclusively on the leaves of milkweed. As adults, monarchs feed on nectar from a wide range of blooming native plants, including milkweed (NWF 2025). Milkweed is present on the South Playa, and monarch butterflies have recently been observed in the area (Dixon 2023).

3.6.2.3.2 State Listed Threatened and Endangered Species

According to the NMDGF Biota Information System of New Mexico data, three species listed as threatened or endangered have the potential to occur on the installation (BISON-M 2025). These species include the peregrine falcon (*Falco peregrinus*), least shrew (*Cryptotis parva*), and western ribbon snake (*Thamnophis proximus*). However, the results of biological surveys conducted from 2015 to 2016 on Cannon AFB did not

document these species on the installation (CAFB 2025b). Species listings are frequently reviewed and updated; however, continued surveying of the installation is a priority. Furthermore, the mobility of avian species could allow for incidental or migratory occurrences of listed avian species on the installation.

3.6.2.3.3 Critical Habitat

Critical habitats are those areas of land, air, and/or water that are essential for maintaining or restoring threatened or endangered plant or animal populations. Neither the NMDGF nor the USFWS has designated critical habitat on Cannon AFB. Although not considered critical habitat, surveys and literature indicate that important habitats on the installation include prairie dog towns, which provide nesting habitat for the Western burrowing owl (BUOW) (*Athene cunicularia)* (Pence et al. 2022).

3.6.2.3.4 Sensitive Species

Three New Mexico Species of Greatest Conservation Need (SGCN) are also known to be present on the installation, including the black-tailed prairie dog (BTPD) (*Cynomys ludovicianus*), BUOW, and plains leopard frog (*Lithobates blairi)*. Golden eagles (*Aquila chrysaetos*) (protected by the Bald and Golden Eagle Protection Act [BGEPA], MBTA, and Lacey Act) have also been observed on the installation (CAFB 2025b).

BTPD. The BTPD is one of the most visible species and is present across much of the installation. Their abandoned burrows are used by BUOWs, cottontail rabbits, snakes, lizards, and other wildlife. BTPDs shape the landscape through the creation of communal habitats known as “prairie dog towns.” BTPD populations vary drastically from year to year with births, deaths, disease, and precipitation. These towns provide habitat for numerous other species through the creation of burrows and relatively vegetation-free areas that are exploited by numerous other species. Killdeer (*Charadrius vociferus*) prefer the openness of these areas for nesting, rearing young, and obtaining food. BUOWs almost exclusively use abandoned burrows for nesting and brood rearing. Desert cottontails (*Sylvilagus audubonii*), plus numerous small mammals and reptiles, utilize the areas for their numerous abandoned burrows. Prairie dog towns attract predators such as the American badger (*Taxidea taxus*), coyote, gray fox (*Urocyon cinereoargenteus*), ferruginous hawk (*Buteo regalis*), and red-tailed hawk (CAFB 2025b).

According to the *Western Burrowing Owl and Black-tailed Prairie Dog Assessment, Cannon Air Force Base and Melrose Air Force Range, New Mexico*, BTPD population estimates declined roughly 55 percent on Cannon AFB from 2021 to 2022. The decline of prairie dogs observed in this period (332 to 149 individuals) is presumably a result of population control measures enacted by the Civil Engineering Squadron to maintain infrastructure integrity and mission safety, as well as a lack of population-supporting environmental factors. Known control measures implemented on Cannon AFB include deployment of bait containing Rozol and habitat manipulation discouraging the expansion of colonies. With BTPDs actively consuming vegetation and the establishment and expansion of their colonies, the current airfield management practice of shredding vegetation to a height no greater than 14 inches may facilitate increased occupancy by prairie dogs. Should this vegetation maintenance practice be continued, chemical and mechanical control methods should continue to be enacted as necessary to protect infrastructure and mission activities (Pence et al. 2022). There are no known prairie dog

towns within the project areas (see **Figure 3-3**); therefore, no adverse impacts are anticipated (CAFB 2025b).

Western BUOW. The BUOW is a small ground owl that is very closely associated with prairie dog colonies on the installation, as they use abandoned prairie dog burrows for nesting. The owls generally occur on Cannon AFB between March and October before migrating south, although a few birds may remain on the installation during mild winters. BUOWs are found within developed areas where grasses are less dense. According to the *Western Burrowing Owl and Black-tailed Prairie Dog Assessment, Cannon Air Force Base and Melrose Air Force Range, New Mexico*, BUOW populations on Cannon AFB declined roughly 77 percent from 2021 to 2022 (48 to 11, respectively). This decline could be due to natural population fluctuations, but is more likely an unintended result of prairie dog control measures or high-intensity disturbance incurred during infrastructure development. Five towns from 2021 were active in 2022, with the addition of Town 11 near the southwestern corner of the airfield (see **Figure 3-3**). BUOWs frequently exhibit annual site and burrow fidelity, so the potential return of owls that fledge from towns on Cannon AFB could occur if conditions on the installation become favorable for rearing young and could result in future increases in population counts and nesting attempts (Pence et al. 2022). Since no prairie dog towns are known to exist within the project areas, it is unlikely that BUOWs would inhabit the areas (CAFB 2025b). BUOW sightings have, however, been recorded near the South Playa (see **Figure 3-3**).

Plains Leopard Frog. The plains leopard frog is common in or near water in the Southern Great Plains of the United States, from eastern Colorado and New Mexico to northwestern Indiana, from southern South Dakota to Texas, and along the Mississippi River to Missouri. The species is found in a variety of aquatic habitats, including streams, reservoirs, ponds, marshes, wetlands, and irrigation ditches in prairie, former prairie, and desert grasslands. Plains leopard frogs are more tolerant of dry landscapes than other leopard frogs and occasionally travel short distances across land, especially after rain. Some individuals will migrate across upland and riparian habitats to new breeding areas. They are generally found within 3 miles of perennial water (NMDGF 2025). The plains leopard frog was not observed on Cannon AFB during the most recent 2015 to 2016 surveys. Due to the lack of suitable habitat, they would not be expected to inhabit the South Playa. The species could potentially inhabit the areas near the golf course impoundments; however, it would not be a preferred habitat.

Golden Eagle. Golden eagles, along with bald eagles (*Haliaeetus leucocephalus*), are protected by three federal laws: the BGEPA, MBTA, and Lacey Act. These laws prohibit the possession, use, and sale of eagles or their feathers and parts. Several other activities, including the transportation of eagles, feathers, and parts that have been illegally obtained, are also prohibited under these laws. The BGEPA has prohibited the take of bald eagles since 1940 and golden eagles since 1962. Take means to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb. Such restrictions help to ensure the future viability of eagles in the wild (USFWS 2025b).

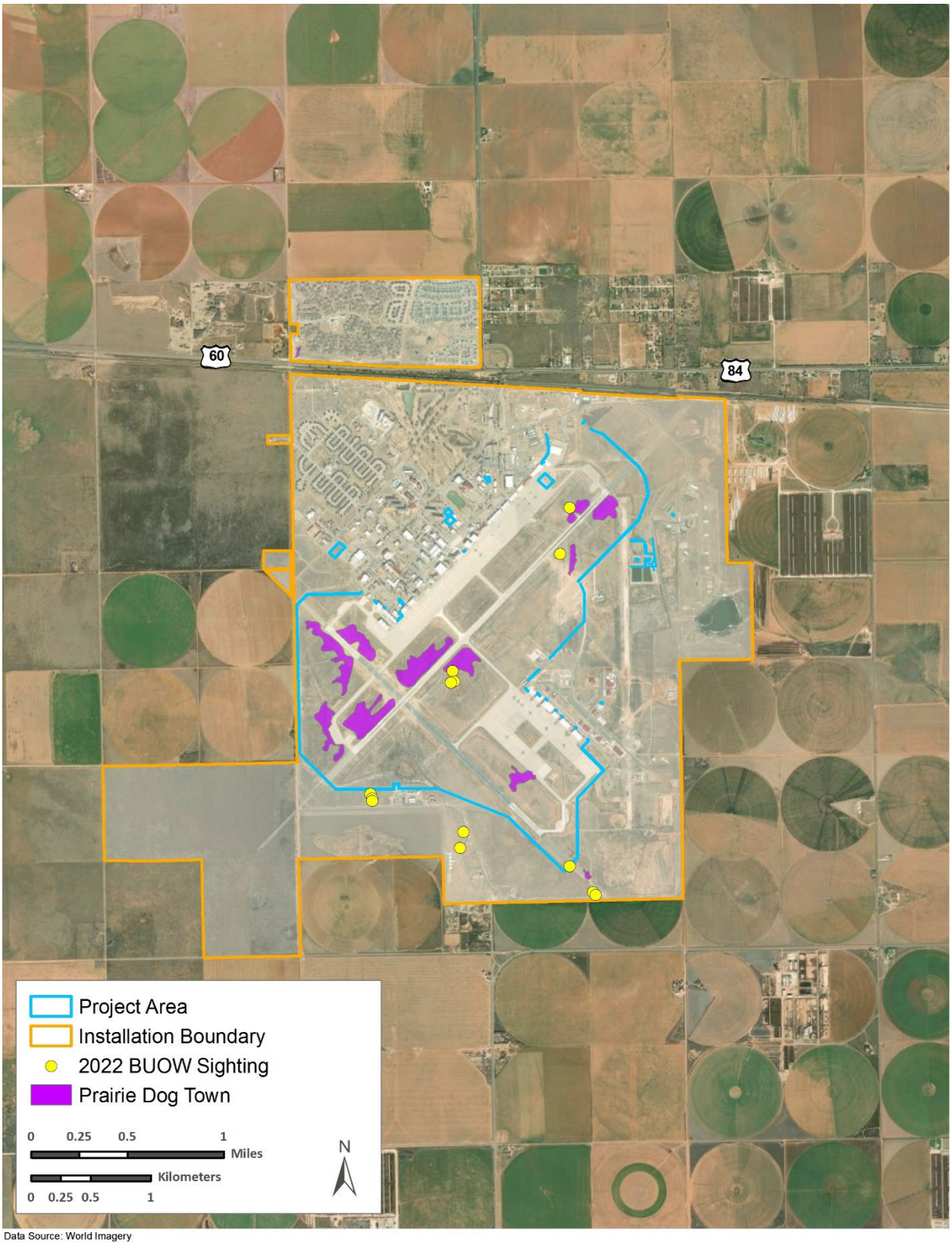


Figure 3-3. 2022 BUOW Sightings on Cannon AFB

Since 2007, Cannon AFB has been conducting aerial surveys to determine the presence/absence of golden eagles and bald eagles on the installation. These surveys allow comprehensive coverage and include potential feeding areas (e.g., carcasses). Surveys are conducted by flying a standardized grid pattern over the entire installation. The last aerial surveys were conducted in spring 2016 and fall 2016. During the spring 2016 survey, four detections of golden eagles were recorded. During the fall 2016 survey, two detections of two golden eagles and four additional observations that were likely one or more golden eagles were recorded (noted as "unknown large raptor" during flight; subsequent discussions post flight revealed unanimous agreement that these detections were likely golden eagles based on size). Additionally, migratory bird surveys in 2020 and 2021 detected four golden eagle individuals on three different point count routes (CAFB 2025b). In the fall of 2020, one golden eagle was observed on Cannon AFB defending its meal from three ferruginous hawks (Dixon 2023). There is a potential for this species to occur within the project areas. However, due to the lack of suitable habitat, it is unlikely that the species would nest within the project areas.

Table C-1 in **Appendix C** summarizes the species identified as federally and/or state-listed, as well as species of concern potentially occurring at Cannon AFB.

3.6.3 Environmental Consequences

3.6.3.1 Proposed Action

3.6.3.1.1 Vegetation

Short-term, negligible to minor, adverse impacts on grassland vegetation would occur. Direct effects on vegetation from removal and crushing, and indirect effects from soil compaction and the potential for establishment of invasive species would occur. However, long-term, negligible, beneficial impacts would result from revegetation or landscaping of disturbed sites with native species, supporting the native plant community on the installation.

Crushing and soil compaction occur when vehicles and equipment access, park, and maneuver around the project areas during construction activities. Additionally, ground disturbance and transportation of construction equipment could increase the potential for the establishment of invasive plant species. Adverse impacts on vegetation would be minimized with the use of appropriate BMPs, such as cleaning construction equipment before entering the project areas. Per EO 13112 (8 February 1999), *Invasive Species*, active measures would be implemented to help prevent and control the dissemination of invasive plant species during ground-disturbing activities. Revegetation of disturbed sites with native vegetation would further reduce the establishment of invasive species.

3.6.3.1.2 Wildlife Species and Habitat

Short-term, negligible to minor, adverse impacts on the species of concern listed in **Section 3.6.2.3** could occur. Ground-disturbing construction activities for the flightline fence project could directly impact BUOWs and their habitats, and construction would result in both temporary and permanent, minor degradation of habitat. To help mitigate these impacts, Cannon AFB would conduct surveys before any construction, have a monitor onsite during construction to observe the owls' response to construction activities and ensure their safety, and add traffic signage for speeding. Species should be relocated only as a last resort and is the responsibility of the US Department of Agriculture Animal and Plant Health Inspection Service. To mitigate any impacts, an updated species list from the USFWS is required to be obtained within 90 days of starting any construction activities.

Temporary displacement of mobile wildlife from noise, lighting, and other disturbances would occur from repair activities. High-impact activities that require heavy equipment could cause more mobile mammals, reptiles, and birds, including breeding migratory birds, to temporarily relocate to nearby similar habitats. This disturbance is expected to be minor, and it is assumed that displaced wildlife would return soon after activities concluded. However, to avoid nest abandonment and other adverse impacts, and under the authority of the MBTA, surveys would be conducted before the start of repair activities. Should proposed project activities require trimming, pruning, tree removal, or any other type of arboriculture activity, the installation's Natural Resources Program Manager must complete a tree survey prior to the start these activities to determine the presence of migratory species nesting. If active nests are found in the project area, they would be avoided until nesting is complete. Additionally, project activities would be scheduled to occur outside of the nesting season (1 March to 30 September) to reduce impacts on migratory birds. Impacts would be short-term, and BMPs would be implemented to minimize adverse impacts.

Individuals of smaller, less mobile species could be inadvertently killed or injured during ground-disturbing activities or transportation of equipment and personnel. Burrowing animals, such as rodents and reptiles, could be impacted. However, vehicles associated with repair activities would be used primarily on established roads, which limits the potential for impacts on burrowing species.

Construction activities could result in a temporary increase in fugitive dust in the area, which can hinder plant growth and have an overall negative impact on wildlife foraging habitat. Dust suppressants or adhesive soil stabilizers, covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means of reducing airborne dust would be implemented whenever possible to reduce or eliminate this impact. Additionally, chemical spills or leaks, including those of petroleum products or other hazardous materials used during construction, could kill or contaminate wildlife if they leach into the soil and surface water sources. However, impacts on wildlife in the surrounding area or adjacent open space areas are not anticipated. Any impacts on wildlife from the Proposed Action, such as impacts from chemical spills or lighting, would be restricted to the area immediately surrounding the project areas and would not extend into off-site habitat.

An increase in traffic in the general vicinity of the project areas during construction could increase animal-vehicle collisions. This would affect mainly small mammals (as larger mammals are not usually found in the installation for reasons previously stated) as well as avian species. The increase in traffic and associated animal-vehicle collisions is expected to be short-term and negligible.

Federally Listed Threatened and Endangered Species. No impacts on federally listed threatened or endangered species would occur from the Proposed Action, as none have been identified within any of the project areas. However, short-term, negligible to minor, adverse impacts on the monarch butterfly, a proposed threatened species under the ESA, have the potential to occur. Cannon AFB would closely monitor the species status under the ESA and implement BMPs whenever possible. With the implementation of these BMPs, such impacts would be expected to be negligible. Potential BMPs could include the following:

- Avoid conducting culvert repair activities during the year when the South Playa is in use by monarchs (1 November through 1 April).
- Survey the project area for the presence of eggs and larvae before undertaking culvert repair activities.
- Establish protective buffers around areas identified as important for monarch breeding and nectar sources.
- Maintain a variety of disturbance states in monarch breeding habitat so that habitat structure (trees and shrubs for shade, and water), host plants (milkweed), and nectar plants are maintained across the installation.
- Include milkweed in revegetation planting/seed mix.

State Listed Threatened and Endangered Species. No impacts on state-listed threatened or endangered species would occur from the Proposed Action, as none have been identified within any of the project areas.

Critical Habitat. No impacts on any critical habitat would occur from the Proposed Action, as none have been identified on the installation.

Sensitive Species. Short-term, negligible to minor, adverse impacts on the sensitive species of concern listed in **Section 3.6.2.3** could occur. The noise and increased human activity on the South Playa from repair activities could directly impact nearby BUOWs and cause temporary, minor degradation of their habitat. To help mitigate these impacts on BUOWs, Cannon AFB would implement the following BMPs whenever possible:

- Conduct BUOW surveys during the breeding season, and if found, implement one of the following mitigation measures (1) seasonal avoidance measures until owls have vacated the affected burrows (i.e., repair activities to not occur during the breeding season of 1 March to 1 August), (2) spatial buffers of at least 0.25 miles from repair activities, or (3) relocation activities using USFWS-recommended relocators.
- Have a biological monitor onsite during repair activities to observe the owls' response and ensure their safety.
- Add traffic signage for speeding.

Short-term, negligible, adverse impacts on avian species of concern, including the golden eagle, could occur. While there is a potential for this species to occur within the project areas, due to the lack of suitable nesting habitat, it is unlikely that the species would nest in these areas. To mitigate any impacts on these sensitive species, an updated species list from the USFWS would be required to be obtained within 90 days of starting any repair activities.

3.6.3.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the existing conditions described in **Section 3.6.2** would remain unchanged. Therefore, no impacts on biological resources would occur.

3.7 CULTURAL RESOURCES

3.7.1 Definition of the Resource

Cultural resources are any prehistoric or historic remains or indicators of past human activities, including artifacts, sites, structures, landscapes, and objects of importance to a culture or community for scientific or traditionally important reasons. Inventories of the following resources are maintained by the installation:

- Archaeological sites
- Buildings and structures
- Traditional cultural properties and sacred sites
- Cultural landscapes

Archaeological resources comprise areas where human activity has measurably altered the earth or deposits of physical remains are found (e.g., projectile points and bottles) but standing structures do not remain. Architectural resources include standing buildings, bridges, dams, other structures, and designed landscapes of historic or aesthetic significance. Resources of traditional, religious, and cultural importance can include archaeological resources, sacred sites, structures, neighborhoods, prominent topographic features, habitat, plants, animals, or minerals considered essential for the preservation of traditional culture.

The National Register of Historic Places (NRHP) defines historic properties as buildings, structures, sites, districts, or objects listed in or eligible for listing in the NRHP. Historic properties are generally 50 years of age or older, are historically significant, and retain sufficient integrity to convey their historic significance. Such resources might provide insight into the cultural practices of previous civilizations, or they might retain cultural and religious significance to modern groups. Resources less than 50 years of age may be eligible for NRHP listing if they meet NRHP criteria and are exceptionally significant. Cultural resources listed as National Historic Landmarks are historic properties of exceptional national significance.

Cultural resources management includes compliance with applicable historic preservation laws and regulations. Federal laws that pertain to cultural resources management include the NHPA (1966), Archeological and Historic Preservation Act (1974), American Indian Religious Freedom Act (1978), Archaeological Resources

Protection Act (1979), and Native American Graves Protection and Repatriation Act (1990). Under Section 110 of the NHPA, federal agencies are required to locate, inventory, and nominate to the NRHP all resources eligible for inclusion in the NRHP under their jurisdiction. The Integrated Cultural Resources Management Plan (ICRMP) for Cannon AFB and Melrose Air Force Range is the guidance document for cultural resources for planning and proposed activities at Cannon AFB (CAFB 2022).

Under Section 106 of the NHPA, federal agencies must consider the effect of their undertakings on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. Under this process, the federal agency evaluates the NRHP eligibility of resources within the proposed undertaking's APE and assesses the possible effects of the proposed undertaking on historic properties in consultation with the SHPO and other consulting or interested parties, including the public.

The APE is defined as the geographic area or areas within which an undertaking (project) may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The APE is defined as the combined eight project areas associated with the Proposed Action.

3.7.2 Affected Environment

Cannon AFB is a 4,362-acre installation that consists of a developed landscape with operational buildings, housing areas, flightline, and recreational areas. The installation is on the western edge of the Southern High Plains of the Llano Estacado, an expansive mesa stretching from eastern New Mexico to the middle of the Texas Panhandle. The landscape bears rich cultural resources spanning over 12,000 years. Archaeologists typically organize the archaeological record of the Llano Estacado into five major periods:

- Paleo-Indian: 10,000–5500 BC
- Archaic: 5500 BC–AD 900
- Ceramic: AD 600–1540
- Protohistoric: 1540–1650
- Historic 1650–present

An overview of the prehistory and history of Cannon AFB, as well as a list of recorded resources and previous cultural resource investigations, is provided in the 2025 ICRMP for Cannon AFB and Melrose Air Force Range (CAFB 2025c).

A review was conducted of the New Mexico Cultural Resources Inventory System database as well as Cannon AFB records to identify all historic properties within the APE. According to the installation's ICRMP, approximately 75 percent of Cannon AFB has been surveyed or is highly developed. Archaeological investigations on the installation were completed in 1981, 1988, 1994, 2012, 2014, 2015, 2016, 2017, 2018, and 2022. These investigations have documented seven archaeological sites on Cannon AFB. These include two prehistoric lithic artifact scatters (LA 64777, LA 64779), two historic homesteads (LA 161297, LA 172689), one historic military feature (LA 173359), and two historic artifact scatters (LA 64778, LA 181842). Of these, two sites (LA 161297 and LA 173359) have been determined eligible for listing in the NRHP, and four sites have been

determined not eligible for NRHP-listing under Criterion D. None of these recorded archaeological resources are within the APE, but two recorded sites are within the vicinity of the APE.

The proposed flightline fence is approximately 140 feet (42 meters) from archaeological site LA 161295 and approximately 215 feet (55 meters) from site LA 64777. Site LA 64777 has been determined not eligible for listing in the NRHP. Site LA 161295 is outside of the Cannon AFB installation boundaries and has not been evaluated. The site is separated from the proposed fence line by an existing road right-of-way. Therefore, there are no previously surveyed archaeological sites within the APE for the Proposed Action.

Architectural inventories of Cannon AFB were completed in 1996, 1997, 1999, 2004, 2005, 2006, 2021, 2022, and 2023. Portions of the Flightline Fence project area overlaps one previously surveyed structure, Facility 22328, a sewage septic tank built in 1972, which was surveyed in 2022 (recorded as SHPO Historic Cultural Properties Inventory Number 53837) and recommended not eligible for listing in the NRHP. According to the ICRMP, one built environmental resource, the bowling alley, was determined eligible for listing in the NRHP (CAFB 2025c). The bowling alley is not located within the undertaking's APE. Therefore, there are no previously surveyed historic properties within the APE for the Proposed Action.

Consultations to comply with Section 106 of the NHPA are currently underway. Seven federally recognized American Indian Tribes have historical connections with the southern plains of eastern New Mexico and the Texas Panhandle and may consider themselves affiliated with lands controlled or used by Cannon AFB. Previous consultations with the tribes have not identified any traditional cultural properties or cultural landscapes within the APE. Cannon AFB will continue to consult with the tribes regarding their concerns about properties of traditional cultural and religious importance that may be present.

3.7.3 Environmental Consequences

3.7.3.1 Proposed Action

Six of the eight proposed projects are anticipated to have no effects on historic properties. These projects would occur in areas where existing facilities would be renovated and repaired or within previously disturbed areas. Significant new ground disturbance is not anticipated in these areas. However, the Food Court and Recreational Area and portions of the Flightline Fence project areas have the potential to occur on undisturbed lands. Therefore, these proposed projects could require a cultural resource survey to ensure no cultural resources are within the project areas. Under the ICRMP guidelines, archaeological surveys should be conducted every 10 years to account for the current understanding of archaeology in the region and environmental changes that may alter or uncover new archaeological sites. Although areas of the APE have not been surveyed in the last 10 years, no archaeological sites are within the APE, and the probability of encountering archaeological deposits is low based on the nature of and location of the activities associated with the Proposed Action.

Should accidental or unanticipated discoveries of archaeological resources occur during project activities, the standard operating procedures for inadvertent discoveries outlined in the installation's ICRMP would be implemented to minimize damage to these

resources. The DAF or contractor personnel who make or become aware of a potential archaeological discovery on installation lands would immediately cease all potentially damaging activities and notify the installation's Cultural Resources Program Manager.

3.7.3.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the existing conditions discussed in **Section 3.7.2** would remain unchanged. Therefore, no impacts on cultural resources would occur.

3.8 HAZARDOUS MATERIALS AND WASTES AND OTHER CONTAMINANTS

3.8.1 Definition of the Resource

Hazardous Materials, Petroleum Products, and Hazardous Wastes. Hazardous materials, as defined by 49 CFR Section 171.8, are hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (49 CFR Section 172.101), and materials that meet the defining criteria for hazard classes and divisions in 49 CFR Part 173. Petroleum products include crude oil or any derivative thereof, such as gasoline, diesel, or propane. They are considered hazardous materials because they present health hazards to users in the event of incidental releases or extended exposure to their vapors. Hazardous wastes are defined by the Resource Conservation and Recovery Act (RCRA) at 42 USC Section 6903(5), as amended by the Hazardous and Solid Waste Amendments, as "a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating, reversible illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed." Certain types of common hazardous wastes are subject to special management provisions intended to ease the management burden and facilitate the recycling of such materials. These are called universal wastes, and the standards for managing them are established in 40 CFR Part 273. Wastes covered under the universal waste standards include batteries, pesticides, mercury-containing equipment, lamps, and aerosol cans.

Evaluation of hazardous materials, petroleum products, and hazardous wastes focuses on the storage, transportation, handling, and use of hazardous materials and petroleum products, as well as the generation, storage, transportation, handling, and disposal of hazardous wastes. In addition to being a threat to humans, the improper release or storage of hazardous materials, hazardous wastes, and petroleum products can threaten the health and well-being of wildlife species, habitats, soil systems, and water resources.

Toxic Substances. Toxic substances are substances that might pose a risk to human health and are addressed separately from hazardous materials and hazardous wastes. Toxic substances include asbestos-containing materials (ACMs), lead-based paint (LBP), and polychlorinated biphenyls (PCBs), all of which are typically found in buildings and utility infrastructure.

Asbestos is regulated by the USEPA under the Clean Air Act, Toxic Substances Control Act, and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The USEPA has established that any material containing more than 1 percent

asbestos by weight is considered an ACM. The USEPA implemented several bans on various ACMs between 1973 and 1990, so ACMs are most likely found in older buildings (i.e., constructed before 1990). LBP was commonly used before its ban in 1978; therefore, buildings constructed before 1978 may contain LBP. PCBs are man-made chemicals that persist in the environment and were widely used in building materials (e.g., caulk) and electrical products before 1979. Structures constructed before 1979 potentially include PCB-containing building materials.

Polyfluoroalkyl Substances. The DoD has identified certain PFAS as emerging contaminants of concern that have affected Air Force installations. PFAS are a class of synthetic compounds that possess a chemical structure that gives them unique properties, including thermal stability and the ability to repel both water and oil. This class of chemicals was developed in the 1940s and includes the chemicals perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA), perfluorobutanesulfonic acid (PFBS), perfluorononanoic acid, and perfluorohexane sulfonate. AFFF containing PFAS was developed in the early 1960s and used at airports, municipal fire stations, petroleum facilities, and in other industries in the United States to extinguish hydrocarbon-based fires effectively. Firefighters at military installations regularly used AFFF in emergencies or were trained with AFFF in an unconfined manner. The Air Force began using PFAS in 1970. The latest regulation established by the USEPA designates PFOA and PFOS as hazardous substances under CERCLA. Additionally, the latest regulation by the USEPA establishes Maximum Contaminant Levels for six PFAS in drinking water (USEPA 2024b).

ERP. CERCLA governs response or cleanup actions to address releases of hazardous substances, pollutants, and contaminants into the environment. Congress formally established the Defense Environmental Restoration Program in 1986 to provide for the cleanup of DoD property at active installations, Base Realignment and Closure installations, and formerly used defense sites throughout the United States and its territories. The two significant restoration programs under the Defense Environmental Restoration Program are the IRP and the Military Munitions Response Program (MMRP). The IRP addresses contaminated sites, while the MMRP addresses nonoperational military ranges and other sites suspected or known to contain unexploded ordnance, discarded military munitions, or munitions constituents. Each site at Cannon AFB is investigated under RCRA, and appropriate remedial actions are taken under the supervision of applicable federal and state regulatory programs. When no further remedial action is necessary for a given site, the site is closed, and it no longer represents a threat to human health.

3.8.2 Affected Environment

Hazardous Materials, Petroleum Products, and Hazardous Wastes. Contractors proposing to use hazardous materials on the installation are required to coordinate with the 27th Special Operations Civil Engineer Squadron (SOCES)/Civil Engineering Installation Environmental (CEIE) Hazardous Materials Program Manager. Hazardous materials and petroleum products are used throughout Cannon AFB for various functions and include POL, solvents, pesticides and herbicides; paints and thinners; antifreeze; deicing compounds; and acids. All pesticides, including herbicides, used at Cannon AFB must be on the DoD Approved Pesticides List or approved by the Installation Pest

Management Consultant. All DAF pest management personnel who apply or supervise the application of pesticides at Cannon AFB must comply with the installation's Integrated Pest Management Plan (IPMP) and be DoD certified within 2 years of employment. Additionally, DoD-certified pest management personnel monitor all contractor pesticide applications, and chemical utilization is reported. Pesticide use is conducted in strict accordance with the manufacturer's label and applied by certified personnel (CAFB 2023).

The Cannon AFB Spill Prevention and Response (SPR) Plan documents storage locations of POL and provides inspection, testing, and maintenance procedures for proper handling. Additionally, to minimize adverse impacts, the plan outlines procedures for reporting and responding to a spill (CAFB 2017a).

The 27 SOCES/CEIE is responsible for implementing the hazardous waste management program at Cannon AFB through waste characterization, establishing collection sites, receiving and processing hazardous waste for turn-in, reporting, tracking logs, and manifesting; regulatory interface; recordkeeping; and hosting and conducting inspections (CAFB 2017b). The installation's Hazardous Waste Management Plan (HWMP) establishes procedures to comply with applicable federal, state, and local standards for solid waste and hazardous waste management. Cannon AFB is a large quantity generator of hazardous waste (USEPA ID #NM7572124454). No hazardous materials, petroleum products, or hazardous wastes are stored or generated within the project areas.

Three internal combustion fire pump engines with two diesel aboveground storage tanks (ASTs) with secondary containment are present near Building 127, which is proposed for demolition under the Replacement Pump House project. One generator with a double-walled AST containing diesel is present within the footprint of the proposed addition to the Security Forces Facility (Building 575). One generator with a diesel AST with secondary containment is present at the Constant Pressure Fuel System project area (Building 281); two generators, each with a double-walled AST containing diesel, are present within the Renovate DWTP project area (Buildings 336 and 337); and two generators, each with a double-walled AST containing diesel, are present within the Renovate WWTP project area (Buildings 4063 and 4086) (CAFB 2017a).

Toxic Substances. None of the buildings proposed for renovation or demolition is anticipated to contain toxic substances. However, there is a potential for asbestos cement piping to be encountered in the Food Court and Recreational Area, Renovate DWTP, and Renovate WWTP project areas. Asbestos on Cannon AFB is handled in accordance with the installation's Asbestos Management and Operations Plan (AMOP). The AMOP establishes management and organizational responsibilities and procedures for ensuring that ACMs are appropriately managed (CAFB 2021).

Polyfluoroalkyl Substances. AFFF use at Cannon AFB began in 1970. It was used for on-installation fire training exercises and suppressing aircraft and other fires. The Air Force began phasing out AFFF containing PFAS in August 2016. The phase out of AFFF containing PFAS at Cannon AFB was completed in August 2018 (AFCEC 2021). Through investigations under CERCLA, the Air Force has identified 10 potential AFFF release areas on Cannon AFB for the potential presence of PFAS in the soil and/or groundwater (AFCEC 2023). Five of the potential AFFF release areas are within or immediately

adjacent to the Renovate WWTP and Flightline Fence project areas (see **Figure 3-4**). These PFAS sites are described below:

- AFFF Area 4 hangars are general storage warehouses/hangars with multiple accidental AFFF releases. There is a potential that AFFF migrated to grassy areas and infield soil adjacent to both hangars. Media evaluated during the Site Inspection (SI) included surface and subsurface soils. PFOS was detected above screening levels, PFOA was detected below screening levels, and PFBS was not detected in the surface soil samples. PFBS was detected below screening levels, and PFOS and PFOA were not detected in the subsurface soil samples (AFCEC 2018, AFCEC 2023).
- AFFF Area 5, Former Sewage Lagoons, consists of two unlined surface impoundments that received sanitary and industrial waste before the construction of the installation's WWTP. The former sewage lagoons would have received any AFFF that entered the sanitary sewer systems from 1966 to 1998. Media evaluated during the SI included surface and subsurface soils. PFOS was detected above screening levels, and PFOA and PFBS were detected below screening levels in the subsurface soil samples (AFCEC 2018, AFCEC 2023).
- AFFF Area 7, South Playa Lake Outfall, serves as the installation's primary stormwater collection pond and has received stormwater runoff from portions of the flightline area since 1943. Solvents, fuels, oils, greases, and AFFF are potential contaminants that could have been discharged from the flightline area. Additionally, documented releases of AFFF in the hangars resulted in AFFF entering storm drains, with liquid subsequently being routed to South Playa Lake. Media evaluated during the SI included surface and subsurface soil. Nine soil samples were collected for PFAS analysis during the SI. PFOS and PFOA were detected in soil at concentrations below screening levels. PFBS was not detected in surface or subsurface soil (AFCEC 2018, AFCEC 2023).
- AFFF Area 9 hangar is a parking and general maintenance hangar with two accidental AFFF releases. Approximately 500 gallons of AFFF were released to a floor trench and eventually the WWTP, and 20 to 30 gallons of AFFF were released outside of the hangar and allowed to evaporate. Media evaluated during the SI included surface and subsurface soil samples. PFOS was detected above screening levels, and PFOA and PFBS were not detected in the surface soil samples. PFOS, PFOA, and PFBS were not detected in the subsurface soil samples (AFCEC 2018, AFCEC 2023).
- AFFF Area 11/Area of Concern (AOC) JJJ, Active Fire Training Area (FTA), is a circular, lined burn pit with a mockup of a large aircraft, propane tank, control tower, and lined evaporation pond. The FTA has been in use since 1997, with training exercises occurring approximately once per month. AFFF was used during training activities until approximately 2010/2011, when AFFF use was discontinued. The fire department also conducted vehicle foam checks by spraying AFFF from vehicles into the burn pit until there was a consistent spray pattern. Media evaluated during the SI included surface and subsurface soil and groundwater (AFCEC 2018, AFCEC 2023).

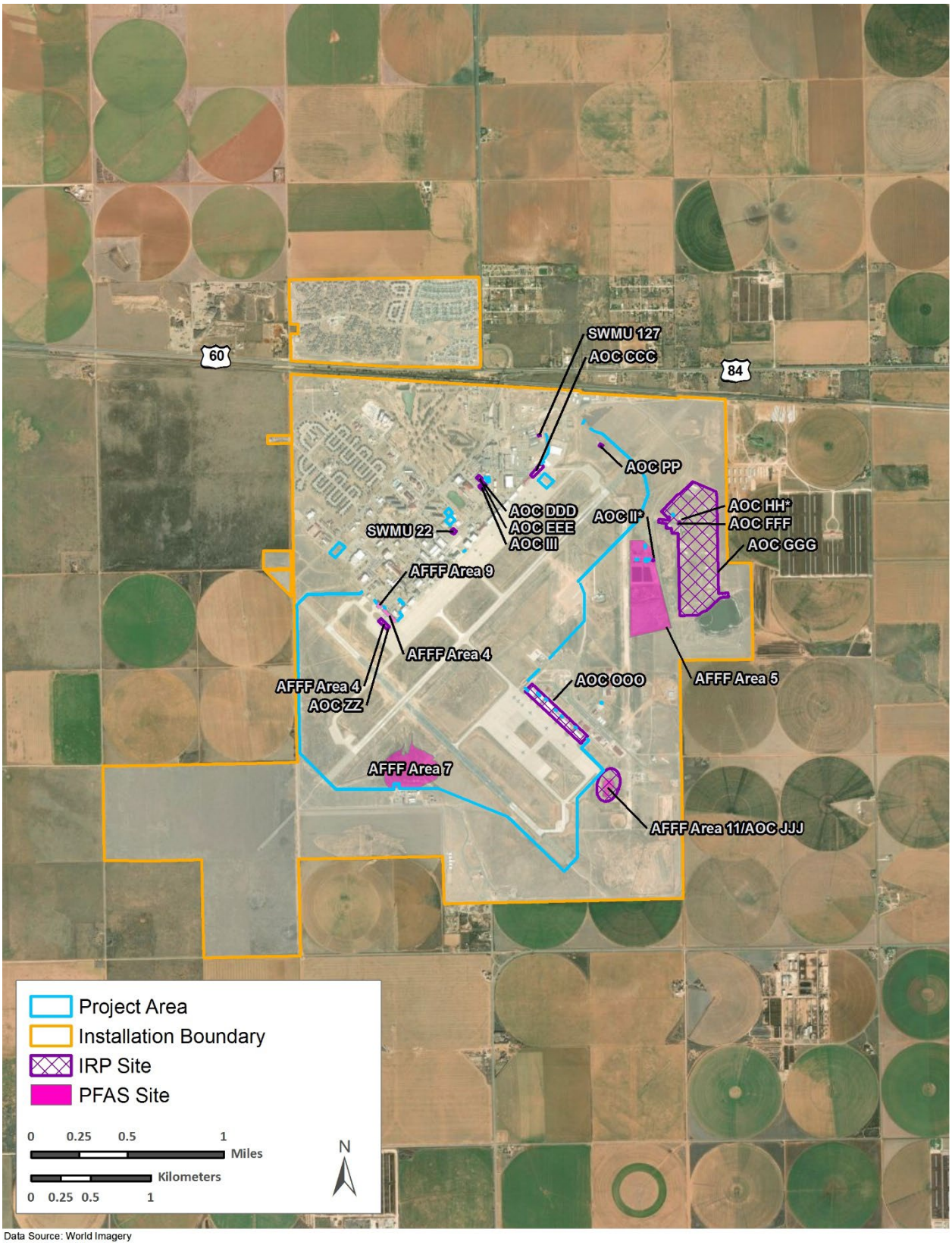


Figure 3-4. Active PFAS and IRP Sites within and adjacent to Project Areas

ERP. The 2018 NMED RCRA Permit for Cannon AFB lists 38 active IRP sites that include known and suspected soil and groundwater contamination associated with POL storage areas, oil/water separators, drainage areas, septic systems, fire training areas, and spill areas. Of these, 14 are in "deferred" status, which means these sites are deferred from full investigation or remediation until the sites are no longer in use and can be investigated and remediated as applicable (NMED 2018). Fifteen active IRP sites are within or adjacent to the footprint of the proposed projects. Portions of the Renovate DWTP project occur within or immediately adjacent to AOCs DDD, EEE, and GGG; the Renovate WWPT project occurs immediately adjacent to AOC II*; and the Flightline Fence project occurs within or immediately adjacent to AOCs CCC, JJJ, and OOO. No groundwater monitoring wells are present within or adjacent to the proposed project areas. Additionally, there are no active MMRP sites on Cannon AFB; therefore, MMRP is not discussed further in this EA.

Table 3-8 provides the status of the IRP sites that occur within the vicinity of the proposed project areas under the Proposed Action.

Table 3-8. Status of Active IRP Sites Within or Adjacent to the Proposed Projects

IRP Site No.	Site Title	Site Status	Approximate Distance and Direction to Project Area
Addition to Security Forces Facility			
SWMU 22	Building 593 – Non-Destructive Inspection Lab Developer Tank	Deferred	310 feet south
Construct Furnishing Management Warehouse			
SWMU 22	Building 593 – Non-Destructive Inspection Lab Developer Tank	Deferred	492 feet south
Construct Constant Pressure Fuel System			
AOC CCC	Corrosion Control Hangar 199	Deferred	246 feet west
Renovate DWTP			
AOC DDD	Vehicle Maintenance Facility Building 335	Deferred	Immediately west of Building 366
AOC EEE	Vehicle Maintenance Facility Building 379	Deferred	Immediately south of Building 366
AOC FFF	Munitions Wash Rack Facility 2153	Deferred	280 feet southeast of Well 5
AOC GGG	98-Acre Munitions Storage Area	Deferred	Well 5 within
AOC HH*	POL Storage Tank Building 2110	CAC without controls recommended on 28 February 2022	251 feet southeast of Well 5
AOC III	Vehicle Maintenance Facility Building 375	Deferred	200 feet south of Building 366
AOC OOO	C-130 Aircraft Hangar/Maintenance Facility (Buildings 4605, 4606, 4607, 4608, 4609, and 4610)	Deferred	0.2 mile west of Well 9
Renovate WWTP			
AOC II*	POL Storage Tank Building 2160	Additional investigation recommended on 28 February 2022	Immediately east

IRP Site No.	Site Title	Site Status	Approximate Distance and Direction to Project Area
Installation of Flightline Fence			
AOC CCC	Corrosion Control Hangar 199	Deferred	Within
AOC JJJ	Active FTA and Adjacent Ponding Area	Deferred	Within
AOC OOO	C-130 Aircraft Hangar/Maintenance Facility (Buildings 4605, 4606, 4607, 4608, 4609, and 4610)	Deferred	Within
AOC PP	POL Storage Tank Building 2309	Additional investigation recommended on 28 February 2022	0.2 mile southwest
AOC ZZ	NSAv Maintenance Hangar 133	Deferred	152 feet southeast
SWMU 127	Oil/Water Separator near Tank 4095 and Leach Field	Additional investigation recommended 17 April 2022	230 feet west

Sources: NMED 2018, AFCEC 2020, AFCEC 2022a, AFCEC 2022b
Notes: Sites shown in **bold** are within or immediately adjacent to a project area.
CAC = corrective action complete, SWMU = Solid Waste Management Unit

AOCs CCC, DDD, EEE, GGG, II*, JJJ, and OOO, which occur within or immediately adjacent to project areas, are discussed below:

- AOC CCC, Corrosion Control Hangar 199, was added to the 2018 RCRA Hazardous Waste Permit with a status of deferred because Building 199 was listed as a facility to be demolished or repurposed in the 2016 Installation Development Plan (IDP). Operations at Building 199 ceased in approximately 2013, and the former paint booth was removed, and the associated ductwork was remediated in 2016. For NMED to determine AOC CCC, the permittee must provide information about key building components such as paint booths, wash racks, cleaning compound bulk storage tanks, parts washers, ASTs, underground storage tanks (USTs), oil/water separators (OWSs), waste treatment and collection systems, paint mixing rooms, and hazardous or solid waste storage and accumulation areas not previously documented (NMED 2018).
- AOC DDD, Vehicle Maintenance Facility Building 335, was added to the 2018 RCRA Hazardous Waste Permit with a status of deferred because Building 335 was listed as a facility to be demolished or repurposed in the 2016 IDP. For NMED to decide regarding AOC DDD, the permittee must provide information about hazardous waste generation and any associated components such as parts washers, ASTs, USTs, OWS, grease traps, and hazardous waste accumulation and storage areas not previously documented (NMED 2018).
- AOC EEE, Vehicle Maintenance Facility Building 379, was used for heavy vehicle maintenance operations. Used oil and antifreeze were stored at the facility. AOC EEE was added to the 2018 RCRA Hazardous Waste Permit with a status of deferred because Building 379 was listed as a facility to be demolished or repurposed in the 2016 IDP. For NMED to decide regarding AOC EEE, the permittee must provide information about hazardous waste generation and any associated components such as parts washers, ASTs, USTs, OWS, grease traps, and hazardous or solid waste accumulation and storage areas not previously documented (NMED 2018).

- AOC GGG, 98-Acre Munitions Storage Area (MSA), was added to the 2018 RCRA Hazardous Waste Permit with a status of deferred because the MSA was listed as a facility that could be relocated with a potential for decommissioning or repurposing in the 2016 IDP. Concerns with the area include unaccounted storage, treatment, and disposal areas associated with abandoned, discarded, deteriorating, or damaged munitions as well as other operations associated with munitions such as hazardous or solid waste generation, management, and storage areas such as wash pads, loading facilities, and any storage bunkers, magazines, or igloos slated for decommissioning or demolition. For NMED to decide regarding AOC GGG, information about current or prior storage, treatment, and disposal of abandoned, discarded, deteriorating, or damaged military munitions and any release associated with the MSA and associated functional areas must be submitted to NMED before demolition or reconfiguration of the area (NMED 2018).
- AOC II*, POL Storage Tank Building 2160, was identified as a 550-gallon diesel UST; however, it was later determined that the tank was an AST that was likely removed during the demolition of Building 2160 in 1984. Because NMED does not have a record of the tank and Cannon AFB has no current records regarding AOC II, Cannon AFB recommended additional investigation of the site in the 28 February 2022 Release Assessment Report (AFCEC 2022b).
- AOC JJJ, Active FTA and Adjacent Ponding Area, consists of a circular lined burn pit with a mockup of a large aircraft. Associated site components include a propane fuel tank, control panel, and lined evaporation pond. NMED noted that prior activities and overflow events associated with the evaporation pond were noted in the AFFF Investigation Work Plan. Additionally, the Work Plan indicated evaporation pond integrity issues and overflow events likely resulted in the release of AFFF to the environment. Therefore, because the FTA is an active area, AOC JJJ was listed as deferred (subject to regulatory change) in the 2018 NMED RCRA Hazardous Waste Permit (NMED 2018). AFFF Area 11 is within AOC JJJ.
- AOC OOO, C-130 Aircraft Hangar/Maintenance Facility (Buildings 4605, 4606, 4607, 4608, 4609, and 4610), is a maintenance hangar for C-130 aircraft. Waste accumulation points are primarily located in the new corrosion control hangar and the structural maintenance hangar. All hazardous waste streams generated from area activities are managed in accordance with the installation's HWMP, and all requirements for control of hazardous materials and wastes and protection of human health and the environment are adhered to. Because AOC OOO is a newly constructed hangar facility, the site was listed as deferred in the 2018 NMED RCRA Hazardous Waste Permit. For NMED to decide regarding AOC OOO, the permittee must provide information about aircraft maintenance, corrosion control, and other operations and any associated components such as parts washers, ASTs, USTs, floor drains, ponding areas, OWSs, grease traps, paint booths, wash racks, cleaning compound bulk storage tanks, waste treatment and collection systems, paint mixing rooms, and hazardous or solid waste accumulation and storage areas not previously documented (NMED 2018).

3.8.3 Environmental Consequences

3.8.3.1 Proposed Action

The Proposed Action would result in short-term, negligible to moderate, adverse and long-term, negligible, adverse and beneficial impacts on hazardous materials and waste management.

Hazardous Materials, Petroleum Products, and Hazardous Wastes. Short- and long-term, negligible to minor, adverse impacts would occur from the use of hazardous materials and petroleum products and the generation of hazardous wastes during the construction and maintenance of the project areas. Hazardous materials that could be used include concrete, solvents, pesticides and herbicides, preservatives, and sealants. Petroleum products such as hydraulic fluid, oils, lubricants, diesel, and gasoline would be used in vehicles and equipment supporting construction. Implementation of BMPs and environmental protection measures would reduce the potential for an accidental release of these materials. All construction equipment would be maintained according to the manufacturer's specifications, and drip mats would be placed under parked equipment as needed. Additionally, all hazardous materials; petroleum products; and hazardous, universal, and petroleum wastes used or generated during construction and maintenance would be contained, stored, and managed in accordance with the installation's HWMP; SPR Plan; and federal, state, and local regulations to minimize the potential for releases (e.g., secondary containment, inspections, spill kits).

The two internal combustion fire pump engines and associated ASTs near Building 127 would be relocated if they are present in the area of disturbance for the demolition of Building 127. The generator and associated AST within the footprint of the addition to the Security Forces Facility would be relocated before construction activities. Additionally, the generators and associated ASTs within the Constant Pressure Fuel System, Renovate DWTP, and Renovate WWTP project areas would be relocated if they are present in the area of disturbance for project activities. The ASTs would be drained and the contents disposed of in accordance with the installation's HWMP before relocation.

Should previously unknown, potentially hazardous wastes be discovered or unearthed during construction, contractors would immediately cease work, contact appropriate installation personnel, and await sampling results before taking further action. Any unknown wastes determined to be hazardous would be managed and disposed of in accordance with applicable laws and regulations. As noted in **Section 1.2.7**, all disturbed soil within the Renovate WWTP project area would undergo hazardous waste characterization.

Long-term, negligible, adverse impacts on hazardous materials and petroleum products are expected from the operation of the newly constructed facilities. The use of hazardous materials and petroleum products would be handled in accordance with the installation's SPR Plan. Maintenance of the project areas could include the use of pesticides and herbicides. All pesticides and herbicides used would be on the DoD Approved Pesticides List or approved by the Installation Pest Management Consultant. Application of pesticides and herbicides would be conducted by certified applicators, either contractors or Cannon AFB personnel, in accordance with the installation's IPMP and all federal, state, and local regulations. If pesticides or herbicides are applied by a contractor, DoD-

certified pest management personnel would monitor all applications, and chemical utilization would be reported. The contractor would wear appropriate personal protective equipment (PPE) and dispose of excess pesticides, pesticide containers, pesticide residue, pesticide rinse water, and any pesticide-contaminated article according to federal, state, and local regulations at an authorized off-installation disposal facility. Should a pesticide spill occur, the applicator would clean up the spill in accordance with the installation's SPR Plan.

Toxic Substances. Short-term, negligible, adverse impacts would result from the potential for exposure to ACM. As noted in **Section 3.8.2**, there is a potential for asbestos cement piping to be encountered in the Food Court and Recreational Area, Renovate DWTP, and Renovate WWTP project areas. The removal of ACM would be performed by a certified contractor to ensure that appropriate measures are taken to reduce the potential for exposure to and release of asbestos. Contractors would wear appropriate PPE and adhere to the installation's AMOP and all federal, state, and local regulations. All ACM-contaminated debris would be disposed of at a USEPA-approved landfill. New construction is not likely to include the use of toxic substances because federal policies and laws limit their use in building construction applications. No long-term adverse impacts from toxic substances are expected from the operation and maintenance of the new infrastructure.

Polyfluoroalkyl Substances. Short-term, negligible to minor, adverse impacts could occur from the potential to encounter PFAS in AFFF Areas 4, 5, 6, 7, 9, and 11 during ground-disturbing activities within the Renovate WWTP and Flightline Fence project areas. As noted in **Section 1.2.7**, all disturbed soil within the Renovate WWTP project area would undergo PFAS sampling. If PFAS is present, the 4 March 2025 DAF PFAS disposal guidance would be adhered to. The contractor would coordinate with the installation's ERP personnel and adhere to all guidelines established by the installation. Additionally, measures would be taken to reduce the potential for exposure and release of sediment or soil, and contractors would wear appropriate PPE and adhere to the installation's HWMP and all federal, state, and local regulations. Long-term, minor to moderate, beneficial impacts would result from the renovations at the WWTP. The renovations would reduce the potential for soil and groundwater contamination from PFCs and PFAS.

ERP. Short-term, negligible to minor, adverse impacts on or from AOCs CCC, DDD, EEE, GGG, II*, JJJ, and OOO could result from ground-disturbing activities within the Renovate DWTP, Renovate WWPT, and Flightline Fence project areas. Before ground-disturbing activities within or immediately adjacent to an IRP site, the contractor would coordinate with the installation's ERP personnel and adhere to all guidelines established by the installation.

3.8.3.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and existing conditions described in **Section 3.8.2** would remain unchanged. Connections for aircraft refueling would continue to not meet the constant-pressure hydrant refueling system criteria and continue to degrade until failure. Additionally, the current DWTP would become non-compliant with USEPA guidance on PFAS for drinking water, becoming effective in 2029, and the current WWTP would continue to be deficient. Long-term,

negligible to minor, adverse impacts would be expected from the continued deterioration of the WWTP and non-compliance with the constant pressure hydrant refueling system criteria and anticipated USEPA PFAS guidance.

3.9 INFRASTRUCTURE

3.9.1 Definition of the Resource

Infrastructure encompasses the fundamental systems that provide water, sewer, and electrical and heating/cooling capability, as well as roads, parking, paths, and land. Most infrastructure maintenance is supervised by the 27th Special Operations Mission Support Group and local private utility systems with whom Cannon AFB has partnered.

Infrastructure consists of the man-made systems and physical structures that enable a population in a specified area to function effectively. Infrastructure components at Cannon AFB include transportation, utilities, and solid waste management. Transportation includes major and minor roadways that feed into the installation, as well as the security gates, roadways, parking areas, and pedestrian networks on the installation. Utilities include electrical supply, liquid fuel supply, natural gas supply, water supply, sanitary sewer and wastewater systems, stormwater drainage, communications systems, and solid waste management.

3.9.2 Affected Environment

Transportation. There are approximately 70 miles of paved roads and 0.5 miles of unpaved roads at Cannon AFB. In the 2016 IDP, deteriorated primary pavement was noted and identified as requiring future remediation at the following locations: Aderholt Loop, Chindit Boulevard, Eagle Claw Boulevard, Ingram Boulevard, Liberator Avenue, and several MSA pavements. There are currently two gated entrances to Cannon AFB. Vehicles enter and exit the installation through the Main and Portales Gates. The Main Gate is immediately south of US Highway 60/84 and connects the off-installation housing area and the US Highway 60/84 traffic to the installation. The Portales Gate is on the south side of the installation and is the designated commercial gate and performs commercial/contractor access vehicle inspections (CAFB 2016).

Electrical System. Electrical power is provided to Cannon AFB by a local utility. A 115-kilovolt transmission circuit is energized by substations east and south of the installation. At capacity, 56 megawatts (MW) of electricity can be supplied to Cannon AFB. Peak electrical energy demand averages 12.5 MW and occurs during the summer (CAFB 2016).

Natural Gas System. Natural gas is supplied to Cannon AFB through the Public Service of New Mexico transmission/distribution pipeline system. There is a network of natural gas lines, comprised of 1- to 6-inch polyethylene pipes, on the western side of the flightline. Natural gas is delivered to the installation's master meter at approximately 55 to 60 pounds per square inch. There are three natural gas storage facilities located on the installation. The current daily-average demand at Cannon AFB is 44.4 million cubic feet (mcf). Most of the annual natural gas demand is consumed in January, with the peak demand of 10,800 mcf. The annual average demand is 16,000 mcf. The capacity provided by the Public Service of New Mexico is unknown; however, they are generally able to provide the required demand. Distribution mains follow the installation roadway network (CAFB 2016).

Liquid Fuels System. Liquid fuel is delivered to the installation by commercial tank truck. Liquid fuels at Cannon AFB are primarily used to power military aircraft and ground-based vehicles. Liquid fuels are stored at the fuel storage complex, which is located on the north side of the installation. The fuel storage complex includes three Jet A Aviation (JAA) fuel tanks, one motor gasoline tank, one ethanol gasoline tank, and two ultra-low-sulfur diesel tanks. A 6-inch JAA pipeline exists between the city of Clovis and Cannon AFB, but it has not been used since the mid-1990s, and it is no longer in serviceable condition (CAFB 2016). Construction equipment and vehicles would not utilize the installation's fuel supply.

Water Supply System. Cannon AFB is independent from outside water sources. Water is supplied via seven potable water wells on the installation. The wells draw water from the Ogallala Aquifer, which provides the groundwater supply to the surrounding South Plains region. Average current demand is 571,600 gallons per day (gpd), with the peak demand being 1,671,000 gpd (CAFB 2016).

Wastewater System/Collection System. The wastewater treatment and collection system at Cannon AFB is comprised of 13 lift stations, 14 septic tank systems, 584 sewer manholes, and 57.59 miles of collection pipeline. Domestic and industrial wastewater is discharged to an on-site WWTP through a gravity sewer system. Up to 7,500 gpd of domestic wastewater is authorized to be discharged to septic systems and holding tanks. The WWTP has an average daily flow of 165,000 gpd with a peak flow of 1.13 million gpd. Reclaimed water from the WWTP is regulated by DP-873 and discharged into the North Playa and the golf course impoundments (CAFB 2016).

Stormwater Discharge/Collection System. Stormwater runoff on Cannon AFB is controlled by a drainage system. Surface runoff is directed to a network of culverts, storm sewers, and ditches. Stormwater runoff generated on the installation primarily drains to the south and southwest and collects at the South Playa, where it is allowed to infiltrate and evaporate via natural processes. Developed areas on the installation have underground storm drainage piping with associated catch basins, drain inlets, manholes, and similar drainage appurtenances. Surface runoff from the flightline is conveyed through storm sewers on the southwestern and northeastern portions of the installation and enters natural stormwater watercourses (CAFB 2016).

The 2009 drainage study noted the flooding issues that Cannon AFB experiences during intense rainfall events. The following recommendations were made in the report on stormwater infrastructure at Cannon AFB (CAFB 2009):

- Evaluate problematic stormwater sub-basins and collect data to prepare a stormwater drainage system model.
- Model the stormwater drainage system to identify those areas requiring maintenance, upgrade, or replacement.
- Develop an inventory and operations, and maintenance plan for stormwater pumps.

Heating/Cooling Distribution Systems. There are no centralized heating and cooling systems in place at Cannon AFB. Facilities are served by localized heating/cooling systems. There is an Energy Management Control System; however, not all facilities are compatible with this system and rely instead on localized control systems (CAFB 2016).

The Proposed Action is not anticipated to result in any changes to the installation's heating and cooling systems. Therefore, the heating/cooling distribution systems are not discussed further.

Communications System. The communication network at Cannon AFB consists of telephone, unclassified network, classified network, and defense messaging systems. There are diverse paths for critical voice and data circuits in place. A wireless/wired network is in place at all dormitories (CAFB 2016).

Solid Waste Management. Reducing waste streams minimizes environmental compliance requirements, disposal and transportation costs, and long-term liabilities. Solid wastes can be solid, semi-solid, liquid, or a contained gas. Nonhazardous solid wastes include household solid waste, construction and demolition debris, inert sludge, worn-out materials, discarded products, and manufacturing byproducts. Nonhazardous solid waste is collected by a contractor and transported to the Clovis Regional Landfill (CAFB 2017b). Hazardous waste is discussed in **Section 3.8.**

3.9.3 Environmental Consequences

3.9.3.1 Proposed Action

Transportation. Short- and long-term, negligible, adverse impacts on the transportation system would occur. Construction activities associated with the Proposed Action would be expected to result in intermittent, short-term, negligible, adverse impacts on area roadways from a temporary increase in the number of construction-related vehicles accessing the installation. However, early coordination with Cannon AFB organizations would ensure necessary safety precautions are taken and would allow ample advance notice to affected commuters and personnel. If any intermittent road closures are required for construction activities, closures and potential installation-wide traffic changes would be communicated to installation staff via electronic signs, bulletins, and memos. Additionally, construction-related traffic would be timed to not occur during peak travel periods. Typical construction-related traffic would include delivery trucks, haul trucks, and passenger vehicles. Long-term impacts on transportation would include increased traffic would be expected within the project areas, including commuters and personnel, delivery vehicles (potentially including semi-tractor-trailer traffic), and maintenance vehicles. Additional traffic to newly constructed roads, driveways, and vehicle parking areas for construction equipment and contractor vehicles as part of the Proposed Action would also be expected. These impacts are anticipated to be negligible.

Electrical System. Short- and long-term, negligible to minor, adverse impacts on the installation's electrical system would occur. The Proposed Action would require the installation of new electrical lines to connect the newly constructed buildings to the electrical grid. Interruptions to the electrical system could occur during the connection of the newly constructed facilities to the installation's electrical distribution system. The anticipated impact from the installation of these new lines is expected to be negligible. Additionally, because Cannon AFB purchases power from Xcel Energy, the net change to the global electrical power grid is expected to be negligible.

Natural Gas System. Short- and long-term, negligible to minor, adverse impacts on the installation's natural gas and propane system would occur. The newly constructed facilities would be connected to the installation's natural gas distribution system using

existing lines, or additional lines would be added. The net change in total natural gas consumption due to the new facilities is expected to be minor. Interruptions to the natural gas system could occur during connection of the newly constructed facilities to the installation's natural gas distribution system.

Liquid Fuels System. Short-term, minor adverse and beneficial impacts on the installation's liquid fuels system would occur. Construction of three aboveground tanks would temporarily shut off the existing system to allow for replacement, resulting in a portion of time during which liquid fuel resources would not be accessible on the installation and would require operators to truck fuel to aircraft that otherwise rely on the liquid fuel system. After construction, the existing transfer pipeline located at the pig launch/receipt pad would tie into the new constant-pressure fuel system, and utilization of the area would be restored. Upgrades to the system would result in beneficial impacts through faster and more efficient fueling of aircraft.

Water Supply System. Short-term, negligible, adverse and long-term, moderate, beneficial impacts on the installation's water supply system would occur. Existing water supply lines from wells present on the installation would be accessed to provide water to the newly constructed facilities. The additional water supply lines to these facilities would not add significant infrastructure to the installation's water supply system. Brief interruptions to the water supply system could occur during connection of the newly constructed facilities to the installation's water distribution system. The new system would be constructed while the previous system remains operational. Once construction is complete, the new system would replace the old resulting in long-term, beneficial impacts from the renovation of the DWTP.

Wastewater System/Collection System. Long-term, moderate, beneficial impacts on the sanitary sewer and wastewater system would result from renovation of the WWTP. The Proposed Action would require the integration of sanitary sewer and wastewater systems with the utilities that would be associated with the project areas. This would increase the sanitary sewer and wastewater system infrastructure at the installation. Wastewater from the newly constructed facilities would increase the total sanitary sewer and wastewater generated by the installation. However, current sanitary sewer and wastewater discharge from Cannon AFB is below the maximum supply capacity. The increase in wastewater generated from the operation of the facilities would not increase the sanitary sewer and wastewater generation to the maximum allowable limit for the installation.

Stormwater Discharge/Collection System. Short- and long-term, negligible, adverse impacts on stormwater handling at Cannon AFB. Construction activities could result in adverse impacts on stormwater handling by disruption of natural drainage patterns, contamination of stormwater discharge, and heavy sediment loading. The increase in impervious surfaces, including facilities and supporting facilities associated with the Proposed Action, would result in long-term, minor, adverse impacts on stormwater handling. These potential impacts would include increased runoff, erosion, and sedimentation, and changes in downstream direction and volume of stormwater, which could affect the topography and soil resources. Disturbed and bare areas would be revegetated following the Cannon AFB Sustainable Landscape Development Plan to reduce impacts.

Communications System. Short- and long-term, negligible, adverse impacts on the installation's communications system. New communications lines would need to be installed from the existing communications lines to the newly constructed facilities. Interruptions to the communications system may occur during connection of the newly constructed facilities to the installation's communications system. The Proposed Action would potentially need to address both physical (e.g., storage capacity) and logistical (e.g., below or aboveground connections) considerations to ensure security and capacity of the communications system are adequate. Although new communications lines would increase the overall communications infrastructure at the installation, the overall impact is expected to be negligible.

Solid Waste Management. Short- and long-term, negligible, adverse impacts on solid waste management would occur. Construction activities would generate negligible amounts of solid waste, primarily recyclable and reusable building materials (e.g., concrete, metals). Waste disposal would be conducted following all federal, state, and local laws and regulations. To reduce the amount of waste disposed of at the landfill, materials that could be recycled or reused would be diverted from landfills to the greatest extent possible. The weights of all materials diverted for recycling or reuse would be reported to the Cannon AFB Quality Recycling Program to be credited toward the DoD-mandated construction and demolition diversion rate of 60 percent. Currently, Cannon AFB has a construction debris diversion rate of 92 percent (CAFB 2016).

Nonhazardous construction waste that is not recyclable or reusable would be disposed of at an off-site permitted landfill facility, which would have a long-term, negligible, adverse impact on solid waste management. Whenever possible, clean construction debris (e.g., concrete, asphalt) would be reused for fill and road work, rather than disposed of in a landfill. The Proposed Action would negligibly increase the overall amount of solid waste generated at Cannon AFB and would not significantly alter the existing waste streams managed by the installation.

3.9.3.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the existing conditions described in **Section 3.9.2** would remain unchanged. Connections for aircraft refueling would continue to not meet the constant-pressure hydrant refueling system criteria and continue to degrade until failure. The DWTP would become non-compliant with USEPA PFAS guidelines in 2029, and its infrastructure would continue to deteriorate. The DWTP would not be able to provide long-term safe drinking water without improvements. The WWTP would continue to be deficient, and the components beyond their service life would not be addressed. Long-term, minor to moderate, adverse impacts would be expected from the continued deterioration of the WWTP and non-compliance with the constant fuel pressure hydrant refueling system criteria and anticipated USEPA PFAS guidance.

3.10 SAFETY

3.10.1 Definition of the Resource

A safe environment is one in which there is no, or an optimally reduced, potential for death, serious bodily injury, illness, or property damage. Human health and safety address workers' and public health and safety during and following all aspects of the Proposed Action.

Site safety requires adherence to regulatory requirements imposed for the benefit of employees and the public. Site safety includes the implementation of engineering and administrative practices that aim to reduce risks of illness, injury, death, and property damage. The health and safety of onsite military and civilian workers are safeguarded by numerous DoD and military branch-specific requirements designed to comply with standards issued by the federal OSHA, USEPA, and state occupational safety and health (OSH) agencies. These standards specify health and safety requirements, the amount and type of training required for workers, the use of PPE, administrative controls, engineering controls, and permissible exposure limits for workplace stressors.

Health and safety hazards can often be identified and reduced or eliminated before an activity begins. Necessary elements for an accident-prone situation or environment include the presence of the hazard itself, together with the exposed (and possibly susceptible) population or public. The degree of exposure depends primarily on the proximity of the hazard to the population. Hazards include transportation, maintenance, repair activities, and the creation of a noisy environment. The proper operation, maintenance, and repair of vehicles and equipment carry important safety implications. Noisy environments can also mask verbal or mechanical warning signals such as sirens, bells, or horns.

3.10.2 Affected Environment

Contractor Safety. All contractors performing construction activities would be responsible for adhering to federal, state, and local regulations and conducting activities in a manner that does not increase health and safety risks to workers or the public. Additionally, contractors would be required to submit a Safety Plan detailing how safety requirements would be implemented before beginning work.

New Mexico is one of several states that administer their own OSH program according to the provisions of the federal OSH Act of 1970, which permits a state to administer its own OSH program if it meets all federal requirements regarding the program's structure and operations. The New Mexico Occupational Health and Safety Bureau has the responsibility of enforcing OSH regulations within the state. Its jurisdiction includes all private and public entities, such as city, county, and state government employees. Federal employees are excluded as they are covered by federal OSHA regulations.

OSH programs address the health and safety of people at work. OSH regulations cover potential exposure to a wide range of chemical, physical, and biological hazards, and ergonomic stressors. The regulations are designed to control these hazards by eliminating exposure to the hazards via administrative or engineering controls, substitution, or the use of PPE. Occupational health and safety are the responsibility of each employer, as applicable. Employer responsibilities are to review potentially

hazardous workplace conditions; monitor exposure to workplace chemical (e.g., asbestos, lead, hazardous substances), physical (e.g., noise propagation, falls), and biological (e.g., infectious waste, wildlife, poisonous plants) agents, and ergonomic stressors; recommend and evaluate controls (e.g., prevention, administrative, engineering, PPE to ensure exposure to personnel is eliminated or adequately controlled; and ensure a medical surveillance program is in place to perform occupational health physicals for those workers subject to the use of respiratory protection or engaged in hazardous waste, asbestos, lead, or other work requiring medical monitoring.

The nearest facility that offers emergency services and inpatient care for the general public, to include civilian and construction contractor personnel, is the Presbyterian Plains Regional Medical Center (PRMC) in Clovis, New Mexico. PRMC also offers primary care, specialty care, and a same-day care clinic (PRMC 2025).

Military and Civilian Personnel Safety. Each branch of the military has its policies and regulations that act to protect its workers, despite their work location. DAFI 91-202, *The Department of the Air Force (DAF) Mishap Prevention Program*, "establishes mishap prevention program requirements, assigns responsibilities for program elements, and contains program management information." To meet the goals of minimizing loss of DAF resources and protecting military and civilian personnel, mishap prevention programs should address groups at increased risk for mishaps, injury, or illness; a process for tracking incidents; funding for safety programs; metrics for measuring performance; safety goals; and methods to identify safety BMPs.

The DAF host and tenant safety offices are responsible for implementing DAFI 91-202. The Wing Safety Office implements mishap prevention programs and processes for all 27 SOW programs on Cannon AFB. Safety staff at all levels assist with the implementation and integration of operational risk management in all DAF operations and missions. Detailed standard operating procedures fulfill many health and safety requirements, and personnel involved with different test equipment are instructed on the proper use of equipment and PPE. Surface danger zones are delineated for all small arms and explosives ranges to protect personnel operating inside and outside those ranges while they are active.

Cannon AFB has its own emergency services department that provides the installation with fire suppression, crash response, rescue, emergency medical response, hazardous substance protection, and emergency response planning and community health and safety education. The nearest medical facility for military personnel is the installation's Medical Clinic, which is operated by the 27th Special Operations Medical Group. The Cannon AFB Medical Clinic takes daily appointments and offers immunizations and general medical care to active duty and retired military personnel (27 SOMDG 2025).

Public Safety. The Clovis Fire Department provides fire suppression, technical rescue, hazardous materials spill/release mitigation, emergency medical services, life safety and enforcement services, and emergency preparedness for the citizens of Clovis (City of Clovis 2025a). Within the department, 75 well-trained and highly skilled professionals spanning emergency operations, community risk reduction, and administrative services attend to six fire stations (City of Clovis 2024) that serve over 123,665 residents within 26 square miles (City of Clovis 2025a). The City of Clovis Police Department has

approximately 200 employees, of which 105 are police officers, who provide law enforcement services through their patrol, education and training, police communications, property and evidence, and records divisions (City of Clovis 2025b).

3.10.3 Environmental Consequences

Any increase in safety risks would be considered an adverse impact on health and safety. An impact would be considered major and adverse if a proposed action were to do the following:

- Substantially increase risks associated with the safety of construction personnel, Cannon AFB personnel, or the local community.
- Substantially hinder the ability to respond to an emergency.
- Introduce a new health or safety risk for which Cannon AFB does not have adequate management and response plans in place.

3.10.3.1 Proposed Action

Contractor Safety. Short-term, negligible, adverse impacts on contractor safety would occur during construction activities; however, construction site safety is largely a matter of adherence to regulatory requirements imposed for the benefit of employees and implementation of operational practices. OSHA and USEPA standards specify the amount and type of training required for workers on site, the use of protective equipment and clothing, engineering controls, and maximum exposure limits for workplace stressors. Contractors would be required to establish and maintain safety programs at the separate project sites.

Military and Civilian Personnel Safety. Short-term, negligible, adverse impacts on the health and safety of military and civilian personnel who work near the project areas would occur. Construction activities would comply with all applicable safety requirements and installation-specific protocols and procedures, including appropriately marking potentially hazardous areas and posting warning signs and barriers to limit access to approved construction and oversight personnel only.

Long-term, moderate, beneficial impacts would also be expected on the health and safety of those who live and work at Cannon AFB, as renovations to both the DWTP and WWTP would safeguard installation personnel from present deficiencies. As noted in **Section 1.2.6**, one of the most pressing concerns is PFAS contamination in groundwater sources. In addition, infrastructure deterioration includes aging electrical systems, inadequate HVAC units, and corroded storage tanks. Structural problems in buildings housing the wells and pump stations, such as corroded piping and non-compliant safety equipment, further compromise the reliability and safety of the water supply system. These issues collectively threaten public health and the installation's operational readiness. Therefore, with the implementation of the Proposed Action, these issues would be resolved, and the health and safety of installation personnel would be ensured. Additionally, fencing of the flightline would prevent unauthorized personnel from entering the restricted area of the flightline.

Public Safety. Short-term, negligible, adverse impacts on public health and safety would be expected during construction activities. To minimize impacts, project activities would comply with all applicable safety requirements and installation-specific protocols. Work

sites would be limited to approved construction and oversight personnel only, and appropriate signage and barrier restrictions would be implemented to further reduce public safety risks. Moreover, new or unusual safety risks would not be introduced under the Proposed Action as the project areas are currently, and will remain, closed to the public.

3.10.3.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and the existing conditions described in **Section 3.10.2** would remain unchanged. The No Action Alternative would maintain the current state of the installation, with key facilities, infrastructure, and utilities remaining unable to meet operational and safety requirements necessary for the protection of installation personnel and residents. Additionally, the current DWTP would become non-compliant with USEPA guidance on PFAS for drinking water, becoming effective in 2029, and the current WWTP would continue to be deficient. Therefore, long-term, minor to moderate, adverse impacts on the health and safety of installation personnel would be expected.

3.11 RELATIONSHIP BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

The relationship between short-term uses and the enhancement of long-term productivity from the implementation of the Proposed Action is evaluated from the standpoint of short-term effects and long-term effects. Short-term effects would be those associated with the construction of the new infrastructure and renovation of the DWTP and WWTP. The long-term effects would be those associated with the maintenance of the new infrastructure and implementation of the Proposed Action.

The Proposed Action represents an enhancement of long-term productivity and enhanced capability for mission success at Cannon AFB. The negative effects of short-term impacts from replacement and repair activities would be minor compared to the long-term positive impacts by enabling the AFSOC mission at Cannon AFB to continue to grow and evolve as warfare grows more technologically advanced and specialized.

3.12 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Irreversible and irretrievable resource commitments are related to the use of non-renewable resources and the impacts that the use of these resources would have on future generations. Irreversible impacts primarily result from the use or destruction of a specific resource that cannot be replaced within a reasonable timeframe (e.g., energy and minerals). The irreversible and irretrievable commitments of resources that would result from the implementation of the Proposed Action involve the consumption of material resources used for construction, energy resources, biological resources, and human labor resources. The use of these resources is considered to be permanent.

Material Resources. Material resources used for the Proposed Action would potentially include construction materials, concrete and asphalt, and various construction materials and supplies. Materials that would be consumed are not in short supply, would not limit other unrelated construction activities, and would not be considered significant.

Energy Resources. Energy resources, including petroleum-based products (e.g., gasoline and diesel), used for the Proposed Action would be irretrievably lost. During construction and maintenance activities, gasoline and diesel would be used for the operation of vehicles and construction equipment. However, consumption of these energy resources would not place a significant demand on their availability in the region. Therefore, less than significant impacts would be expected.

Human Resources. The use of human resources for construction and maintenance activities is considered an irretrievable loss only in that it would preclude such personnel from engaging in other work activities. However, the use of human resources for the Proposed Action represents employment opportunities and is considered beneficial.

Biological Resources. The Proposed Action would result in a permanent, moderate loss of vegetation and wildlife habitat. However, the loss would not be considered significant; therefore, a less than significant impact on the irretrievable loss of vegetation and wildlife habitat is expected.

4.0 REASONABLY FORESEEABLE ACTIONS AND EFFECTS

4.1 REASONABLY FORESEEABLE ACTIONS AND EFFECTS

Reasonably foreseeable actions consist of activities that have been approved and can be evaluated with respect to their effects. **Table 4-1** lists the reasonably foreseeable actions that were considered for this analysis. The projects were identified by Cannon AFB, news releases, published media reports, and publicly available information and reports from federal, state, and local agencies. These actions were considered due to their potential to have reasonably foreseeable significant adverse effects on the environment as a result of the incremental effects of the action when combined with those described in **Section 1.2**. Projects that do not occur in proximity (i.e., within several miles) or were negligible maintenance actions that would not contribute to a reasonably foreseeable adverse effect were not included for this analysis.

This analysis summarizes expected environmental impacts from the combined impacts of reasonably foreseeable actions. The geographic scope of impact analysis on resources such as soils and vegetation is narrow and focused on the location of the resource. The geographic scope of air quality, wildlife, and sensitive species is much broader and considers more county or region-wide activities. Effects from reasonably foreseeable actions can result from individually minor but collectively significant actions taking place over a period of time.

Table 4-1. Present or Reasonably Foreseeable Future Actions

Name of Action	Location	Project Description
Temporary Simulator Facility for 27 SOSS	Building 724 parking lot	This project would include the arrival of two flight simulators to support training activities until construction of the permanent facility is complete. Grading and leveling activities would be expected to prepare the site for the arrival of a temporary relocatable facility that would house the two flight simulators. The temporary facility would include fire suppression with underground utility lines being run for water.
Construct Deployed Aircraft Ground Response Element (DAGRE) Facility	Directly adjacent to Combat Arms Training and Maintenance Facility	This project would construct an approximately 8,025 square foot DAGRE facility. Grading and leveling activities would be expected for the installation of a concrete foundation and floor slab, as well as the construction of supporting utility infrastructure, pavements, communications, and other facility support features.
Construct Deployment Processing Center (DPC) and Mobility Aerial Delivery (MAD) Facility	Southeast Ramp	This project would construct an approximately 50,000 square foot DPC and an approximately 33,000 square foot MAD Facility. Grading and leveling activities would be expected for the pouring of reinforced concrete foundations and floor slabs. Ground disturbance would be expected from grading, leveling, and installation of plumbing, electrical, environmental controls, and supportive utilities such as parking lots and pavement. Construction and ground-disturbing activities for the MAD facility would include pouring a reinforced concrete foundation and floor slab. Additional supportive facilities include a 10-ton bridge crane, utilities, sidewalks, parking spots, and open storage for special-purpose vehicles.

The eight installation development projects are not expected to cause any reasonably foreseeable adverse effects, beyond those already discussed for the Proposed Action in this EA. Of the projects listed in **Table 4-1**, only the repairs and replacement of critical WWTP supportive facilities and functions would have a close causal relationship with one of the eight installation development projects of the Proposed Action. Long-term, beneficial effects on water resources, hazardous materials and wastes and other contaminants, infrastructure, and safety would result from the WWTP repairs when combined with the WWTP renovation project of the Proposed Action. These beneficial impacts would result from the overall improvements at the WWTP, which is currently deficient with many plant components being either inoperable or beyond their service life. Repair and renovation of the WWTP would reduce contaminants entering groundwater and surface waters on the installation, potentially resulting in soil and groundwater contamination. Additionally, the WWTP would no longer be deficient, and the health and safety of installation personnel would be ensured. No other environmental resources would experience combined effects from the WWTP repairs and the WWTP renovation project of the Proposed Action.

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APPENDIX A

INTERAGENCY AND INTERGOVERNMENTAL COORDINATION FOR ENVIRONMENTAL PLANNING AND PUBLIC INVOLVEMENT MATERIALS

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Appendix A

Interagency and Intergovernmental Coordination for Environmental Planning and Public Involvement Materials

Federal, State, and Local Agencies – Scoping Letter Distribution List

The Honorable Martin Heinrich
Senator, New Mexico
United States Senate
303 Hart Senate Office Building
Washington DC 20510-0001

The Honorable Ben Ray Luján
Senator, New Mexico
United States Senate
498 Russell Senate Office Building
Washington DC 20510-0001

The Honorable Gabe Vasquez
State Representative, New Mexico
United States House of Representatives
1517 Longworth House Office Building
Washington DC 20515-0001

The Honorable Melanie Stansbury
State Representative, New Mexico
United States House of Representatives
1421 Longworth House Office Building
Washington DC 20515-0001

The Honorable Teresa Leger Fernandez
State Representative, New Mexico
United States House of Representatives
1432 Longworth House Office Building
Washington DC 20515-0001

Dr. Earthea Nance, Regional Administrator
US Environmental Protection Agency
Region 6
1201 Elm Street, Suite 500
Dallas TX 75270-2162

Ms. Cheryl Prewitt
Regional Environmental Coordinator
US Forest Service, Southwestern Region
333 Broadway Boulevard SE
Albuquerque NM 87102-3426

Mr. Rob Lowe, Regional Administrator
Federal Aviation Administration
Southwest Region
10101 Hillwood Parkway
Fort Worth TX 76177-1524

Ms. Patricia Mattingly, Regional Director and Regional Environmental Specialist
Bureau of Indian Affairs
Southwest Regional Office
1001 Indian School Road NW
Albuquerque NM 87104-2303

Ms. Sabrina Flores, District Manager
Bureau of Land Management
Albuquerque District Office
100 Sun Avenue NE
Pan American Building, Suite 330
Albuquerque NM 87109-4676

Ms. Becky Collins, Regional Environmental Officer
Office of Environmental Policy and Compliance, Albuquerque Region
US Department of the Interior
1001 Indian School Road NW, Suite 348
Albuquerque NM 87104-2303

Ms. D'Llaynn Bruce, District Conservationist
Natural Resources Conservation Service Clovis Service Center
918 Parkland Drive
Clovis NM 88101-4432

Mr. Matt Wunder, Chief
Ecological & Environmental Planning
New Mexico Department of Game and Fish
One Wildlife Way
Santa Fe NM 87507-9210

Ms. Danielle Galloway, Chief
Environmental Resources Section
US Army Corps of Engineers - Albuquerque District
4101 Jefferson Plaza NE
Albuquerque NM 87109-3435

Board of Directors
Mid-Region Council of Governments
809 Copper Avenue NW
Albuquerque NM 87102-3009

Mr. Jeff M. Witte, Director/Secretary
New Mexico Department of Agriculture
PO Box 30005, MSC 3189
Las Cruces NM 88003-8005

Mr. Bruce Baizel, Director
Office of Compliance and Enforcement,
New Mexico Environment Department
PO Box 5469
Santa Fe NM 87502-5469

Ms. Stephanie Garcia Richard
Commissioner of Public Lands
New Mexico State Land Office
310 Old Santa Fe Trail
Santa Fe NM 87501-2708

Ms. Melanie A. Kenderdine, Cabinet Secretary Designate
New Mexico Energy, Minerals and Natural Resources Department
Wendell Chino Building
1220 South St. Francis Drive
Santa Fe NM 87505-4225

Mr. Lance A. Pyle
Curry County Manager
Curry County Manager's Office
417 Gidding Street, Suite #100
Clovis NM 88101-7500

Mayor Vong Mouanoutoua
City of Clovis
PO Box 760
Clovis NM 88101-0760

Mr. Robert Murphy
Groundwater Quality Bureau
New Mexico Environment Department
PO Box 5469
Santa Fe NM 87502-5469

Federal, State, and Local Agencies – Example Scoping Letter

DEPARTMENT OF THE AIR FORCE
27TH SPECIAL OPERATIONS WING (AFSOC)
CANNON AIR FORCE BASE NEW MEXICO

24 June 2025

Colonel Robert L. Johnston
Commander
27 Special Operations Wing
511 North Chindit Blvd
Cannon AFB NM 88103-5214

The Honorable Martin Heinrich
United States Senate
303 Hart Senate Office Building
Washington DC 20510–0001

Dear Senator Heinrich

In accordance with the National Environmental Policy Act (NEPA) of 1969, Council on Environmental Quality regulations, and United States Air Force (USAF) NEPA regulations, the USAF is preparing an Environmental Assessment (EA) to evaluate potential environmental impacts associated with implementing eight separate projects in support of installation development at Cannon Air Force Base (AFB). These projects include (1) conducting site preparation for a food court and recreational area, (2) constructing a replacement pump house and demolishing the old pump house, (3) constructing an addition to the existing Security Forces Facility, (4) constructing a Furnishing Management Warehouse, (5) constructing a constant pressure fuel system, (6) renovating the existing drinking water treatment plant (DWTP), (7) renovating the existing wastewater treatment plant, and (8) fencing the flightline. Each of these projects would support Air Force Special Operations Command (AFSOC) mission requirements by improving the facilities, infrastructure, and utilities for current and future use by personnel and residents at Cannon AFB. If current deficiencies are not addressed, mission effectiveness would deteriorate as mission and regulatory demands outpace installation capabilities. Further, certain projects (specifically the DWTP renovation) could cause Cannon AFB to shut down as upgrades are required to meet new EPA water regulations by 2029.

If you have additional information regarding impacts of the Proposed Action on the natural environment or other environmental aspects of which we are unaware, we would appreciate receiving such information for inclusion and consideration during the NEPA compliance process. A copy of the *Final Description of the Proposed Action and Alternatives for the Environmental Assessment Addressing Installation Development at Cannon Air Force Base, New Mexico* is available at https://www.cannon.af.mil/Environmental/. A hardcopy can also be provided upon request. We look forward to and welcome your participation in this process. Please respond within 30 days of the date of this letter to ensure your concerns are adequately addressed in the EA.

THE STEADFAST LINE

Please send your written responses to Ms. Shannon Prior, 27th Special Operations Civil Engineer Squadron, 506 North Air Commando Way, Cannon AFB, NM 88103-5108, or by email to 27SOCES.CEIE.Environmental@us.af.mil. Thank you in advance for your assistance in this effort.

Sincerely

ROBERT L. JOHNSTON, Colonel, USAF
Commander

Attachment:
Map of Proposed Project Locations

THE STEADFAST LINE

Federal, State, and Local Agencies – Scoping Letter Responses

From: Salano, Erin, DGF
To: 27 SOCES/CEIE Environmental
Cc: DGF-EEP-TG
Subject: [Non-DoD Source] EA to evaluate potential environmental impacts associated with implementing eight separate projects in support of installation development at Cannon Air Force Base
Date: Tuesday, June 3, 2025 10:30:37 AM
Attachments: image001.png

> You don't often get email from erin.salano@dgf.nm.gov. Learn why this is important

The New Mexico Department of Game and Fish has submitted the EA to evaluate potential environmental impacts associated with implementing eight separate projects in support of installation development at Cannon Air Force Base, dated 19 May 2025, into our Environmental Review Tool (ERT). In addition to the auto-generated project report (attached) containing several recommendations regarding potential impacts on wildlife/wildlife habitats from your project, the Department has the following recommendations.

The proposed construction activities indicate that there will be trenching involved to complete the project. Please note that open trenches excavated for underground water or oil and gas pipelines, powerlines, or fiber optic communication lines can unintentionally entrap and cause the unnecessary mortality of amphibians, reptiles, and small mammals, and can cause injury to large mammals. Trapped animals can die from exposure, starvation, crushing from pipe-laying, entombment from trenching and backfilling, drowning, and predation. This unnecessary wildlife mortality can be avoided by implementing conservation measures, including concurrent trenching, pipe-laying, and backfilling operations to minimize the amount of trench left open overnight or longer; construction escape ramps; and employing biological monitors to remove trapped animals. Periods of highest activity for amphibians and reptiles vulnerable to entrapment include summer months and wet weather, and they can be active both day and night. Small mammals subject to entrapment are active year-round and generally most active at night.

Implementing the general trenching conservation measures outlined in the Department's *Trenching Project Guidelines* will help minimize unnecessary mortality of wildlife. Best management practices should include, at least, the following mitigation measures.

- Whenever possible, locate trenching activities within previously disturbed areas, such as existing road or pipeline rights-of-way. To the extent possible, avoid trenching in undisturbed habitat.
- Trench during the cooler months (October – March).
- Utilize concurrent trenching, pipe- or cable-laying, and backfilling. Keep trenching,

pipe- or cable-laying, and backfilling crews as close together as possible to minimize the amount of open trench at any given time. When trenching activities are temporarily halted (e.g., overnight, weekends, holidays, weather shutdowns), protect wildlife from accessing any open trench between digging and backfilling operations by using one or more of the methods described below.

- Avoid leaving trenches open overnight. When trenches cannot be backfilled immediately, escape ramps should be constructed at least every 90 meters and preferably every 30 meters. Escape ramps can be constructed parallel or perpendicular to the existing trench. The escape ramp slope should be less than 45 degrees (1:1). If pipe or cable has been installed but backfilling has not occurred, escape ramps may need to be constructed on both sides of the trench, since, unless the pipe is elevated enough to allow animals to move underneath it, the pipe or cable may block access of amphibians, reptiles, and small mammals to the ramps if only constructed on one side.
- Trenches that have been left open overnight should be inspected the following day by a qualified biological monitor and trapped animals removed as soon as possible, especially where state- or federally listed threatened or endangered amphibians, reptiles, or small mammals occur. Untrained personnel should not attempt to remove trapped wildlife because of the potential to injure animals and the possibility of injury from venomous snakes. Required tools for removal will include snake tongs for removing snakes and a dip net for capturing and removing amphibians and small mammals. Many animals trapped in a trench will burrow under loose soil. To the extent possible, the biological monitor should disturb loose soil in the trench to uncover and remove trapped animals. Animals should be relocated at least 50 meters away from the open trench in an undisturbed habitat.
- When the pipe has been laid in the trench, end caps should be placed on the open end(s) of the pipe to preclude animals from entering. Pipes staged outside the trench should be capped until placed in the trench or checked for wildlife before being placed into the trench.
- Most wildlife can be protected by constructing a silt fence completely around the open trench. A silt fence should be supported from sagging by t-posts, rebar, or stakes and buried at the base to preclude animals from moving below the fence. If construction of a silt fence is a required best management practice for erosion control, then, to preclude the need for a biological monitor, escape ramps, and concurrent backfilling, the guidelines for silt fence installation and maintenance in the *Trenching Project Guidelines* should be followed.

Information regarding the renovation of the existing wastewater treatment plant, the

Department provides the following information for the proposed work related to a new or existing Wastewater Treatment Plant (WWTP).
Surface water pollution can occur when WWTP effluent is not properly treated and is discharged into surface waters. Untreated water might contain high levels of bacteria (e.g., *E. coli*); total suspended solids (TSS), including human waste; and nutrients, such as nitrogen and phosphorus. Nutrient pollution, which involves excess nitrogen and phosphorus added to the environment, can cause algae to grow rapidly, creating algal blooms. These blooms decrease the dissolved oxygen in the water, creating conditions that are unsuitable for fish and other aquatic life to survive. Additionally, algal blooms can increase toxins and harmful bacteria in the water, threatening terrestrial wildlife that comes in contact with the contaminated water or aquatic species. To ensure WWTP operation and construction do not negatively impact any wildlife and aquatic ecosystems in the surrounding environment, the Department offers the following recommendations and resources:

- Ensure that the wastewater discharged from your WWTP meets New Mexico Water Quality Standards.
- Use the New Mexico Surface Water Quality Bureau's websites on Point Source Discharges and Stormwater Discharge, the latter of which provides links to informative documents and references to facilitate the planning and design of WWTP facilities.
- Design WWTP treatment systems with peak wet weather flows in mind to avoid overwhelming your treatment system during wet weather events, which can lead to untreated water being released into surface waters. More information can be found on the Environmental Protection Agency's (EPA's) website on Peak Flows at Sewage Treatment Plants.
- Utilize the EPA's *Climate Resilience Evaluation and Awareness Tool (CREAT)* and *Resilient Strategies Guide for Water Utilities* to assess, better understand, and identify strategies to mitigate climate change risks for your WWTP.
- Refer to EPA reports that offer technical guidance and reviews of available treatment processes and equipment, such as the *Life Cycle and Cost Assessments of Nutrient Removal Technologies in Wastewater Treatment Plants* report, *Nutrient Control Design Manual: State of Technology Review Report*, and the *Biological Nutrient Removal Processes and Costs* report. The EPA's *Paseo Real Wastewater Treatment Plant* life cycle assessment offers a New Mexico-specific example of evaluating upgrade options to improve nutrient removal.
- Participation in the EPA's Integrated Planning Framework offers municipalities the chance to achieve clean water while also considering infrastructure improvements, including green infrastructure, and changes in rainfall and

population patterns.

If tree/vegetation removal is necessary for the completion of the project, please note that all migratory birds are protected against direct take under the federal Migratory Bird Treaty Act (16 U.S.C. Sections 703-712). Hawks, falcons, vultures, owls, songbirds, and other insect-eating birds are protected under New Mexico State Statutes (17-2-13 and 17-2-14 NMSA) unless permitted by the applicable regulatory agency. To minimize the likelihood of adverse impacts to migratory birds, nests, eggs, or nestlings, the Department recommends that ground disturbance and vegetation removal activities be conducted outside of the primary migratory bird breeding season of April 15-September 1. Breeding season may begin earlier for raptors or when working in low-elevation habitats such as deserts. Suppose ground disturbing and clearing activities must be conducted during the breeding season. In that case, the area should be surveyed for active nest sites (with birds or eggs present in the nesting territory) and avoid disturbing active nests until young have fledged. For active nests, establish adequate buffer zones to minimize disturbance to nesting birds. Buffer distances should be at least 100 feet from songbird and raven nests; 0.25 miles from most raptor nests; and 0.5 miles for ferruginous hawk (*Buteo regalis*), golden eagle (*Aquila chrysaetos canadensis*), peregrine falcon (*Falco peregrinus*), and prairie falcon (*Falco mexicanus*) nests. Active nest sites in trees or shrubs that must be removed should be mitigated by qualified biologists or wildlife rehabilitators. Department biologists are available to consult on nest site mitigation and can facilitate contact with qualified personnel.

The list of New Mexico SGCN (see link, page 14, table 5) and the federal list of Birds of Conservation Concern should be reviewed to fully evaluate the potential effects on migratory birds from your proposed project. Federal agencies are also required under Executive Order 13186 to implement standards and practices that lessen the amount of unintentional take attributable to agency actions. These conservation measures are strongly recommended to ensure the persistence of migratory bird species whose populations are small and/or declining within New Mexico.

Since the old pump house is being demolished, the Department recommends conducting pre-demolition surveys for any roosting bats that might be using the structure as a summer breeding site or a winter hibernation site. Demolition can often be performed in spring or fall when bats are not regularly using abandoned structures either for breeding or hibernating.

Thank you for collaborating with the agency to protect the state's wildlife. Please reach out with any further questions or comments.

Best,

Erin Salano (She/Her)
Terrestrial Habitat Specialist

Phone 505.321.5485 Email erin.salano@dgf.nm.gov
1 Wildlife Way, Santa Fe, NM 87507

Conserving New Mexico's Wildlife for Future Generations.

Federal, State, and Local Agencies – Example NOA Letter

DEPARTMENT OF THE AIR FORCE
27TH SPECIAL OPERATIONS WING (AFSOC)
CANNON AIR FORCE BASE NEW MEXICO

8 December 2025

Colonel Robert L. Johnston
Commander
27th Special Operations Wing
511 North Chindit Boulevard
Cannon AFB NM 88103-5214

Mr. Matt Wunder
Chief of Ecological & Environmental Planning
New Mexico Department of Game and Fish
One Wildlife Way
Santa Fe NM 87507-9210

Dear Mr. Wunder

In accordance with the National Environmental Policy Act (NEPA) of 1969 and Department of Defense (DoD) NEPA Implementing Procedures, the USAF has prepared a Draft Environmental Assessment (EA) evaluating potential environmental impacts associated with implementing eight separate projects in support of installation development at Cannon Air Force Base (AFB). These projects include (1) conducting site preparation for a food court and recreational area, (2) constructing a replacement pump house and demolishing the old pump house, (3) constructing an addition to the existing Security Forces Facility, (4) constructing a Furnishing Management Warehouse, (5) constructing a constant pressure fuel system, (6) renovating the existing drinking water treatment plant (DWTP), (7) renovating the existing wastewater treatment plant, and (8) fencing the flightline. Each of these projects would support Air Force Special Operations Command mission requirements by improving the facilities, infrastructure, and utilities for current and future use by personnel and residents at Cannon AFB. If current deficiencies are not addressed, mission effectiveness would deteriorate as mission and regulatory demands outpace installation capabilities. Further, certain projects (specifically the DWTP renovation) could cause Cannon AFB to shut down as upgrades are required to meet anticipated United States Environmental Protection Agency water regulations by 2029.

In accordance with Executive Order 12372, *Intergovernmental Review of Federal Programs*, we request your participation and feedback on the Draft EA. If, after reviewing the Draft EA and proposed Finding of No Significant Impact/Finding of No Practicable Alternative, you have additional information regarding impacts of the Proposed Action on the natural environment or other environmental aspects of which we are unaware, we would appreciate receiving such information for inclusion and consideration during the NEPA process.

THE STEADFAST LINE

A copy of the *Draft Environmental Assessment Addressing Installation Development at Cannon Air Force Base, New Mexico* is available at https://www.cannon.af.mil/Environmental/. A hard copy can also be provided upon request. We look forward to and welcome your participation in this process.

Please respond no later than 30 days from the date of this letter to ensure your concerns are adequately addressed in the Final EA. Please send your written responses to Ms. Shannon Prior, 27th Special Operations Civil Engineer Squadron, 506 North Air Commando Way, Cannon AFB, NM 88103-5108, or by email to 27SOCES.CEIE.Environmental@us.af.mil. Thank you in advance for your assistance in this effort.

Sincerely

ROBERT L. JOHNSTON, Colonel, USAF
Commander

Attachment:
Map of Proposed Project Locations

THE STEADFAST LINE

Map of Proposed Project Locations

THE STEADFAST LINE

State Historical Preservation Office – Scoping Letter Distribution List

Ms. Michelle Ensey, State Historic Preservation Officer and Director
New Mexico Historic Preservation Division
Department of Cultural Affairs
Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe NM 87501-2834

State Historical Preservation Officer – Scoping Letter

DEPARTMENT OF THE AIR FORCE
27TH SPECIAL OPERATIONS WING (AFSOC)
CANNON AIR FORCE BASE NEW MEXICO

24 June 2025

Colonel Robert L. Johnston
Commander
27 Special Operations Wing
511 North Chindit Blvd
Cannon AFB NM 88103-5214

Ms. Michelle Ensey, State Historic Preservation Officer
New Mexico Historic Preservation Division
Department of Cultural Affairs
Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe NM 87501-2834

Dear Ms. Ensey

In accordance with the National Historic Preservation Act (NHPA) of 1966, and 36 Code of Federal Regulations (CFR) Part 800, the United States Air Force (USAF) would like to consult with your office on the Area of Potential Effect (APE) for installation development at Cannon Air Force Base (AFB), New Mexico. The proposed projects include (1) conducting site preparation for a food court and recreational area, (2) constructing a replacement pump house and demolishing the old pump house, (3) constructing an addition to the existing Security Forces Facility, (4) constructing a Furnishing Management Warehouse, (5) constructing a constant pressure fuel system, (6) renovating the existing drinking water treatment plant (DWTP), (7) renovating the existing wastewater treatment plant, and (8) fencing the flightline. Each of these projects would support Air Force Special Operations Command (AFSOC) mission requirements by improving the facilities, infrastructure, and utilities for current and future use by personnel and residents at Cannon AFB. If current deficiencies are not addressed, mission effectiveness would deteriorate as mission and regulatory demands outpace installation capabilities. Further, certain projects (specifically the DWTP renovation) could cause Cannon AFB to shut down as upgrades are required to meet new EPA water regulations by 2029.

The USAF has determined that the Area of Potential Effects (APE) for this undertaking consists of the eight geographically separate project areas (see Table 1 and Attachment). Pursuant to Section 106 of the NHPA of 1966 (36 CFR Part 800), as amended, the USAF would like to initiate consultation to allow you and your designee the opportunity to identify any comments, concerns, and suggestions relevant to the NEPA compliance process concerning the Proposed Action.

THE STEADFAST LINE

Table 1. Proposed Project Areas

Project Type	Proposed Project Name	Area
Construction	Food Court and Recreational Area	74,112.3 ft^2
Construction	Replacement Pump House	2,065.0 ft^2
Demolition	Demolish Old Pump House	1,354.2 ft^2
Construction	Addition to Security Forces Facility	4,378.2 ft^2
Construction	Furnishing Management Warehouse	24,162.4 ft^2
Construction	Constant Pressure Fuel System	15,113.8 ft^2
Construction	Renovate Drinking Water Treatment Plant	9,761.3 ft^2
Construction	Renovate Wastewater Treatment Plant	295,756.7 ft^2
Construction	Flightline Fence Installation	5.58 miles

Notes: ft^2=square feet

A copy of the *Final Description of the Proposed Action and Alternatives for the Environmental Assessment Addressing Installation Development at Cannon Air Force Base, New Mexico* is available at https://www.cannon.af.mil/Environmental/. There is one known cultural site (LA 64777) within the APE. This site is 60.5 meters east of a portion of the proposed flightline fence installation project. LA 64777 is a small prehistoric surface scatter consisting of lithic debitage; however, it was determined in 2016 that the integrity of the site had been destroyed by mechanical grading. Therefore, the site was recommended not eligible for listing in the National Register of Historic Places and SHPO concurrence with this determination was received on 9 January 2017. However, due to the high probability of buried cultural resources on Cannon AFB, this undertaking does have the potential to effect cultural resources. To ensure any potential buried site is appropriately accounted for, all work will cease if cultural resources are discovered. The site will be recorded, and a new determination of effects and eligibility will be performed in accordance with 36 CFR Part 800.5, Assessment of Adverse Effects.

As noted above, the USAF would like to initiate consultation pursuant to Section 106 of the NHPA concerning this undertaking and is seeking concurrence on the APE, as defined. Please send your written responses to Ms. Shannon Prior, 27th Special Operations Civil Engineer Squadron, 506 North Air Commando Way, Cannon AFB, NM 88103-5108, or by email to 27SOCES.CEIE.Environmental@us.af.mil. Please contact Ms. Taylor McCoy (575) 904-6739, taylor.mccoy.2@us.af.mil or Ms. Alicia Washington (575) 904-6747, alicia.washington.2@us.af.mil if you have any technical questions. Thank you in advance for your assistance in this effort.

Sincerely

ROBERT L. JOHNSTON, Colonel, USAF
Commander

Attachment:
Map of Proposed Project Locations

THE STEADFAST LINE

State Historical Preservation Officer – Scoping Letter Response

From: Reycraft, Richard, DCA <richard.reycraft@dca.nm.gov>
Sent: Thursday, June 5, 2025 9:28 AM
To: MCCOY, TAYLOR J CIV USAF AFSOC 27 SOCES/CEIE <taylor.mccoy.2@us.af.mil>
Subject: [Non-DoD Source] Log#125564-installation development of Cannon AFB Food court, and Rec Area, Replacement of Pump house,

Dear Ms. McCoy,

Thank you for submitting this project to the State Historic Preservation Officer (SHPO).

The SHPO concurs with Canon AFB that, with the utilization of the new archaeological discovery stipulation , this project will have no effect on historic properties.

Sincerely

Richard Reycraft

Richard. Reycraft, Ph.D.
New Mexico Historic Preservation Division
407 Galisteo Street, Suite 236
Santa Fe, New Mexico 87501
505-827-6162

State Historical Preservation Officer – NOA Letter

DEPARTMENT OF THE AIR FORCE
377TH AIR BASE WING (AFGSC)

8 December 2025

Colonel Robert L. Johnston
Commander
27 Special Operations Wing
511 North Chindit Blvd
Cannon AFB NM 88103-5214

Ms. Michelle Ensey, State Historic Preservation Officer
New Mexico Historic Preservation Division
Department of Cultural Affairs
Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe NM 87501-2834

Dear Ms. Ensey

In accordance with the National Environmental Policy Act (NEPA) of 1969 and Department of Defense (DoD) NEPA Implementing Procedures, the USAF has prepared a Draft Environmental Assessment (EA) evaluating potential environmental impacts associated with implementing eight separate projects in support of installation development at Cannon Air Force Base (AFB). These projects include (1) conducting site preparation for a food court and recreational area, (2) constructing a replacement pump house and demolishing the old pump house, (3) constructing an addition to the existing Security Forces Facility, (4) constructing a Furnishing Management Warehouse, (5) constructing a constant pressure fuel system, (6) renovating the existing drinking water treatment plant (DWTP), (7) renovating the existing wastewater treatment plant, and (8) fencing the flightline. Each of these projects would support Air Force Special Operations Command mission requirements by improving the facilities, infrastructure, and utilities for current and future use by personnel and residents at Cannon AFB. If current deficiencies are not addressed, mission effectiveness would deteriorate as mission and regulatory demands outpace installation capabilities. Further, certain projects (specifically the DWTP renovation) could cause Cannon AFB to shut down as upgrades are required to meet new United State Environmental Protection Agency water regulations by 2029.

We initiated consultation under Section 106 of the National Historic Preservation Act (36 Code of Federal Regulations Part 800) with a letter dated 19 May 2025, in which we defined the Area of Potential Effect (APE). The APE has been surveyed, and there is one known cultural site within the APE (LA 64777). This site is 55 meters east of a portion of the proposed flightline fence installation project. LA 64777 is a small prehistoric surface scatter consisting of lithic debitage; however, it was determined in 2016 that the integrity of the site had been destroyed by mechanical grading and the site was recommended not eligible for listing in the National

THE STEADFAST LINE

Register of Historic places. State Historic Preservation Office concurrence with this determination was received on 5 June 2025. The proposed projects are anticipated to have no effects on historic properties. Project components would occur in areas where existing facilities would be renovated and repaired or within previously disturbed areas. Significant ground disturbance is not anticipated. Should accidental or unanticipated discoveries of archaeological resources occur during project activities, the standard operating procedures for inadvertent discoveries outlined in the installation's Integrated Cultural Resources Management Plan would be implemented to minimize damage to these resources. Documentation supporting these findings is contained in the Draft EA. A copy of the *Draft Environmental Assessment Addressing Installation Development at Cannon Air Force Base, New Mexico* is available at https://www.cannon.af.mil/Environmental/. A hard copy can also be provided upon request. We look forward to and welcome your participation in this process.

Cannon AFB requests your concurrence with the determination or your comments. We welcome your comments on the Draft EA no later than 30 days from the date of this correspondence. Please address your correspondence to Ms. Shannon Prior, 27th Operations Civil Engineer Squadron, 506 North Air Commando Way, Cannon AFB, NM 88103-5108, or by email to 27SOCES.CEIE.Environmental@us.af.mil. Thank you in advance for your assistance in this effort.

Sincerely

ROBERT L. JOHNSTON, Colonel, USAF
Commander

Attachment:
Map of Proposed Project Locations

US Fish and Wildlife Service - Scoping Letter Distribution List

Ms. Amy Lueders, Regional Director
US Fish and Wildlife Service
Southwest Regional Office
500 Gold Avenue SW
Albuquerque NM 87102-3118

US Fish and Wildlife Service – Scoping Letter

DEPARTMENT OF THE AIR FORCE
27TH SPECIAL OPERATIONS WING (AFSOC)
CANNON AIR FORCE BASE NEW MEXICO

27 June 2025

Colonel Robert L. Johnston
Commander
27 Special Operations Wing
511 North Chindit Blvd
Cannon AFB NM 88103-5214

Ms. Amy Lueders, Regional Director
US Fish & Wildlife Service
Southwest Regional Office
500 Gold Avenue SW
Albuquerque NM 87102-3118

Dear Ms. Lueders

In accordance with the National Environmental Policy Act (NEPA) of 1969, Council on Environmental Quality regulations, and United States Air Force (USAF) NEPA regulations, the USAF is preparing an Environmental Assessment (EA) to evaluate potential environmental impacts associated with implementing eight separate projects in support of installation development at Cannon Air Force Base (AFB). These projects include (1) conducting site preparation for a food court and recreational area, (2) constructing a replacement pump house and demolishing the old pump house, (3) constructing an addition to the existing Security Forces Facility, (4) constructing a Furnishing Management Warehouse, (5) constructing a constant pressure fuel system, (6) renovating the existing drinking water treatment plant (DWTP), (7) renovating the existing wastewater treatment plant, and (8) fencing the flightline. Each of these projects would support Air Force Special Operations Command (AFSOC) mission requirements by improving the facilities, infrastructure, and utilities for current and future use by personnel and residents at Cannon AFB. If current deficiencies are not addressed, mission effectiveness would deteriorate as mission and regulatory demands outpace installation capabilities. Further, certain projects (specifically the DWTP renovation) could cause Cannon AFB to shut down as upgrades are required to meet new EPA water regulations by 2029.

Pursuant to Section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 United States Code 1531, et seq.), Cannon AFB conducted an effect determination for the Proposed Action. All interrelated and interdependent actions were analyzed during that review. The United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) Official Species and Habitat List was received on 19 November 2024 under Consultation Code 2025-0021412. The USFWS IPaC tool listed two federally listed threatened, endangered, or candidate species with the potential to occur within the project area, the lesser prairie-chicken (*Tympanuchus pallidicinctus*) and monarch butterfly (*Danaus plexippus*). There is a potential for the monarch butterfly to be impacted; however, best management practices

THE STEADFAST LINE

would be implemented to minimize any potential impacts. An updated species list from USFWS is required to be obtained within 90 days of starting construction activities.

The environmental analysis for the Proposed Action is being conducted by the USAF in accordance with the Council of Environmental Quality guidelines pursuant to NEPA of 1969. In accordance with Executive Order 12372, *Intergovernmental Review of Federal Programs*, we solicit your comments concerning the proposal and any potential environmental consequence of the action. If you have additional information regarding impacts of the Proposed Action on the natural environment or other environmental aspects of which we are unaware, we would appreciate receiving such information for inclusion and consideration during the NEPA compliance process. A copy of the *Final Description of the Proposed Action and Alternatives for the Environmental Assessment Addressing Installation Development at Cannon Air Force Base, New Mexico* is available at https://www.cannon.af.mil/Environmental/. A hardcopy can also be provided upon request. We look forward to and welcome your participation in this process. Please respond within 30 days of the date of this letter to ensure your concerns are adequately addressed in the EA.

Please send your written responses to Ms. Shannon Prior, 27th Special Operations Civil Engineer Squadron, 506 North Air Commando Way, Cannon AFB, NM 88103-5108, or by email to 27SOCES.CEIE.Environmental@us.af.mil. Thank you in advance for your assistance in this effort.

Sincerely

ROBERT L. JOHNSTON, Colonel, USAF
Commander

Attachment:
Map of Proposed Project Locations

US Fish and Wildlife Service - NOA Letter Distribution List

Mr. Stewart Jacks, Acting Regional Director
US Fish and Wildlife Service
Southwest Regional Office
500 Gold Avenue SW
Albuquerque NM 87102-3118

US Fish and Wildlife Service – NOA Letter

DEPARTMENT OF THE AIR FORCE
27TH SPECIAL OPERATIONS WING (AFSOC)
CANNON AIR FORCE BASE NEW MEXICO

8 December 2025

Colonel Robert L. Johnston
Commander
27th Special Operations Wing
511 North Chindit Boulevard
Cannon AFB NM 88103-5214

Mr. Stewart Jacks, Acting Regional Director
US Fish and Wildlife Service
Southwest Regional Office
500 Gold Avenue SW
Albuquerque NM 87102-3118

Dear Mr. Jacks

In accordance with the National Environmental Policy Act (NEPA) of 1969 and Department of Defense (DoD) NEPA Implementing Procedures, the USAF has prepared a Draft Environmental Assessment (EA) evaluating potential environmental impacts associated with implementing eight separate projects in support of installation development at Cannon Air Force Base (AFB). These projects include (1) conducting site preparation for a food court and recreational area, (2) constructing a replacement pump house and demolishing the old pump house, (3) constructing an addition to the existing Security Forces Facility, (4) constructing a Furnishing Management Warehouse, (5) constructing a constant pressure fuel system, (6) renovating the existing drinking water treatment plant (DWTP), (7) renovating the existing wastewater treatment plant, and (8) fencing the flightline. Each of these projects would support Air Force Special Operations Command mission requirements by improving the facilities, infrastructure, and utilities for current and future use by personnel and residents at Cannon AFB. If current deficiencies are not addressed, mission effectiveness would deteriorate as mission and regulatory demands outpace installation capabilities. Further, certain projects (specifically the DWTP renovation) could cause Cannon AFB to shut down as upgrades are required to meet anticipated United States Environmental Protection Agency water regulations by 2029.

For this consultation, Cannon AFB has integrated the requirements of NEPA and the Endangered Species Act (ESA) so that all procedures run concurrently. As such, in accordance with 50 Code of Federal Regulations Section 402.06(a), Cannon AFB intends to have the EA stand as the biological resources review for threatened and endangered species that could be affected by the project. A copy of the *Draft Environmental Assessment Addressing Installation Development at Cannon Air Force Base, New Mexico* is available at https://www.cannon.af.mil/Environmental/. A hard copy can also be provided upon request. We look forward to and welcome your participation in this process.

THE STEADFAST LINE

As previously stated in a letter to your office dated 19 May 2025, pursuant to Section 7(a)(2) of the ESA, as amended (16 United States Code Section 1531, et seq.), Cannon AFB conducted an effect determination for the Proposed Action. All interrelated and interdependent actions were analyzed during that review. The United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) Official Species and Habitat List was received on 19 November 2025 under Consultation Code 2025-0021412. The USFWS IPaC tool listed a total of two federally listed threatened, endangered, or candidate species with the potential to occur within the project area, the lesser prairie-chicken (*Tympanuchus pallidicinctus*) and monarch butterfly (*Danaus plexippus*). There is a potential for the monarch butterfly to be impacted; however, best management practices would be implemented to minimize any potential impacts. An updated species list from USFWS is required to be obtained within 90 days of starting construction activities.

We request your concurrence with the finding of no adverse effect and welcome your comments on the Draft EA no later than 30 days from the date of this correspondence. Please address all questions and comments to Ms. Shannon Prior, 27th Special Operations Civil Engineer Squadron, 506 North Air Commando Way, Cannon AFB, NM 88103-5108, or by email to 27SOCES.CEIE.Environmental@us.af.mil.

Sincerely

ROBERT L. JOHNSTON, Colonel, USAF
Commander

Attachment:
Map of Proposed Project Locations

Map of Proposed Project Locations

Native American Tribes – Scoping Letter Distribution List

Chairman Timothy L. Nuvangyaoma
The Hopi Tribe
PO Box 123
Kykotsmovi AZ 86039-0123

President Adrian Notsinneh
Jicarilla Apache Nation
PO Box 507
Dulce NM 87528-0507

Madam President Thora Walsh-Padilla
Mescalero Apache Tribe
PO Box 227
Mescalero NM 88340-0227

Governor E. Michael Silvas
Ysleta del Sur Pueblo
119 S Old Pueblo Road
PO Box 17579
El Paso TX 79907-7579

Chairman Durell Cooper
Apache Tribe of Oklahoma
PO Box 1330
Anadarko OK 73005 -1330

Chairman Lawrence SpottedBird
Kiowa Indian Tribe of Oklahoma
PO Box 369
Carnegie OK 73015-0369

Chairman Forrest Tahdooahnippah
Comanche Nation of Oklahoma
PO Box 908
Lawton OK 73502-0908

Native American Tribes – Example Scoping Letter

DEPARTMENT OF THE AIR FORCE
27TH SPECIAL OPERATIONS WING (AFSOC)
CANNON AIR FORCE BASE NEW MEXICO

27 June 2025

Colonel Robert L. Johnston
Commander
27 Special Operations Wing
511 North Chindit Blvd
Cannon AFB NM 88103-5214

Chairman Durell Cooper
Apache Tribe of Oklahoma
PO Box 1330
Anadarko OK 73005-1330

Dear Chairman Cooper

In accordance with the National Environmental Policy Act (NEPA) of 1969, Council on Environmental Quality regulations, and United States Air Force (USAF) NEPA regulations, as well as the National Historic Preservation Act (NHPA) of 1966, and 36 Code of Federal Regulations (CFR) Part 800, the USAF is preparing an Environmental Assessment (EA) to evaluate potential environmental impacts associated with implementing eight separate projects in support of installation development at Cannon Air Force Base (AFB). These projects include (1) conducting site preparation for a food court and recreational area, (2) constructing a replacement pump house and demolishing the old pump house, (3) constructing an addition to the existing Security Forces Facility, (4) constructing a Furnishing Management Warehouse, (5) constructing a constant pressure fuel system, (6) renovating the existing drinking water treatment plant (DWTP), (7) renovating the existing wastewater treatment plant, and (8) fencing the flightline. Each of these projects would support Air Force Special Operations Command (AFSOC) mission requirements by improving the facilities, infrastructure, and utilities for current and future use by personnel and residents at Cannon AFB. If current deficiencies are not addressed, mission effectiveness would deteriorate as mission and regulatory demands outpace installation capabilities. Further, certain projects (specifically the DWTP renovation) could cause Cannon AFB to shut down as upgrades are required to meet new EPA water regulations by 2029.

THE STEADFAST LINE

The USAF has determined that the Area of Potential Effects (APE) for this undertaking consists of the eight geographically separate project areas (see Table 1 and Attachment). The USAF is currently conducting research and investigations to identify historic properties within the APE to determine the potential effects, if any, of the undertaking.

Table 1. Proposed Project Areas

Project Type	Proposed Project Name	Area
Construction	Food Court and Recreational Area	74,112.3 ft^2
Construction	Replacement Pump House	2,065.0 ft^2
Demolition	Replacement Pump House	1,354.2 ft^2
Construction	Addition to Security Forces Facility	4,378.2 ft^2
Construction	Furnishing Management Warehouse	24,162.4 ft^2
Construction	Constant Pressure Fuel System	15,113.8 ft^2
Construction	Renovate Drinking Water Treatment Plant	9,761.3 ft^2
Construction	Renovate Wastewater Treatment Plant	295,756.7 ft^2
Construction	Flightline Fence Installation	5.58 miles

Notes: ft^2=square feet

Pursuant to Section 106 of the NHPA (36 CFR Part 800) and Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*, the USAF would like to initiate government-to-government consultation concerning this undertaking to allow you and your designee the opportunity to identify any comments, concerns, and suggestions you might have. Cannon AFB does not know of any historic properties of religious and/or cultural significance with tribal association on the installation. Nevertheless, we ask for your assistance in identifying any historic properties of which we may be unaware, particularly those which may be affected by the proposed undertaking.

A copy of the *Final Description of the Proposed Action and Alternatives for the Environmental Assessment Addressing Installation Development at Cannon Air Force Base, New Mexico* is available at https://www.cannon.af.mil/Environmental/. A hardcopy can also be provided upon request. There is one known cultural site (LA 64777) within the APE. This site is 60.5 meters east of a portion of the proposed flightline fence installation project. LA 64777 is a small prehistoric surface scatter consisting of lithic debitage; however, it was determined in 2016 that the integrity of the site had been destroyed by mechanical grading. Therefore, the site was recommended not eligible for listing in the National Register of Historic Places and SHPO concurrence with this determination was received on 9 January 2017. However, due to the high probability of buried cultural resources on Cannon AFB, this undertaking does have the potential to effect cultural resources. To ensure any potential buried site is appropriately accounted for, all work will cease if cultural resources are discovered. The site will be recorded, and a new determination of effects and eligibility will be performed in accordance with 36 CFR Part 800.5, Assessment of Adverse Effects. As we move forward through this process, we welcome your participation and input.

THE STEADFAST LINE

As noted above, the USAF would like to initiate government-to-government consultation pursuant to Section 106 of the NHPA concerning this undertaking and is seeking concurrence on the APE, as defined. For technical information, please contact Ms. Taylor McCoy (575) 904-6739, taylor.mccoy.2@us.af.mil or Ms. Alicia Washington (575) 904-6747, alicia.washington.2@us.af.mil. Thank you in advance for your assistance in this effort.

Sincerely

ROBERT L. JOHNSTON, Colonel, USAF
Commander

Attachment:
Map of Proposed Project Locations

Native American Tribes – Scoping Letter Responses

From: Omar Villanueva
To: MCCOY, TAYLOR J CIV USAF AFSCC 27 SCOES/CEIE; WASHINGTON, ALICIA E CIV USAF AFSCC 27 SCOES/CEIE
Cc: Nancy Torres
Subject: [Non-DoD Source] Cannon Air Force Base (CAFB) is Proposing to Construct a Constant Fuel Pressure System
Date: Wednesday, February 5, 2025 3:28:05 PM
Attachments: image001.png

Some people who received this message don't often get email from ovillanueva@ydsp-nsn.gov. Learn why this is important

Dear Ms. Taylor McCoy,

This email is in response to the correspondence received in our office in which you provide Ysleta del Sur Pueblo the opportunity to comment on the Cannon Air Force Base (CAFB) proposed construction of a constant fuel pressure system.

While the Ysleta del Sur Pueblo does not have any comments, nor wish to consult and believe the plan of action Cannon Air Force Base will be taking in the event of any cultural resources that might be discovered is sufficient.

Thank you for allowing us the opportunity to comment on the proposed project.

Sincerely,

Omar Villanueva
War Captain/THPO
Ysleta del Sur Pueblo
(915) 342-2557
ovillanueva@ydsp-nsn.gov

Native American Tribes – Example NOA Letter

DEPARTMENT OF THE AIR FORCE
377TH AIR BASE WING (AFGSC)

8 December 2025

Colonel Robert L. Johnston
Commander
27 Special Operations Wing
511 North Chindit Blvd
Cannon AFB NM 88103-5214

Governor Randall Vicente
Pueblo of Acoma
PO Box 309
Acoma Pueblo NM 87034-0309

Dear Governor Vicente

In accordance with the National Environmental Policy Act (NEPA) of 1969 and Department of Defense (DoD) NEPA Implementing Procedures, the USAF has prepared a Draft Environmental Assessment (EA) evaluating potential environmental impacts associated with implementing eight separate projects in support of installation development at Cannon Air Force Base (AFB). These projects include (1) conducting site preparation for a food court and recreational area, (2) constructing a replacement pump house and demolishing the old pump house, (3) constructing an addition to the existing Security Forces Facility, (4) constructing a Furnishing Management Warehouse, (5) constructing a constant pressure fuel system, (6) renovating the existing drinking water treatment plant (DWTP), (7) renovating the existing wastewater treatment plant, and (8) fencing the flightline. Each of these projects would support Air Force Special Operations Command mission requirements by improving the facilities, infrastructure, and utilities for current and future use by personnel and residents at Cannon AFB. If current deficiencies are not addressed, mission effectiveness would deteriorate as mission and regulatory demands outpace installation capabilities. Further, certain projects (specifically the DWTP renovation) could cause Cannon AFB to shut down as upgrades are required to meet new United States Environmental Protection Agency water regulations by 2029.

We initiated consultation with your tribe on this action with a letter dated 19 May 2025. As noted in that letter, we are complying with Section 106 of the National Historic Preservation Act (NHPA) (36 Code of Federal Regulations Part 800) concurrently with the development of the EA. The APE has been surveyed, and there is one known cultural site within the APE (LA 64777). This site is 55 meters east of a portion of the proposed flightline fence installation project. LA 64777 is a small prehistoric surface scatter consisting of lithic debitage; however, it was determined in 2016 that the integrity of the site had been destroyed by mechanical grading and the site was recommended not eligible for listing in the National Register of Historic places. SHPO concurrence with this determination was received on 5 June 2025. The proposed projects are anticipated to have no effects on historic properties. Project components would occur in areas where existing facilities would be renovated and repaired or within previously disturbed areas.

THE STEADFAST LINE

Significant ground disturbance is not anticipated. Should accidental or unanticipated discoveries of archaeological resources occur during project activities, the standard operating procedures for inadvertent discoveries outlined in the installation's Integrated Cultural Resources Management Plan would be implemented to minimize damage to these resources. Documentation supporting these findings is contained in the Draft EA. A copy of the *Draft Environmental Assessment Addressing Installation Development at Cannon Air Force Base, New Mexico* is available at https://www.cannon.af.mil/Environmental/. A hard copy can also be provided upon request. We look forward to and welcome your participation in this process.

We request your review and comments on the Draft EA and Section 106 of the NHPA recommendations at your earliest convenience. As we move forward through this process, we welcome your participation and input. Please address your correspondence to Ms. Shannon Prior, 27th Operations Civil Engineer Squadron, 506 North Air Commando Way, Cannon AFB, NM 88103-5108, or by email to 27SOCES.CEIE.Environmental@us.af.mil. Thank you in advance for your assistance in this effort. Please contact Ms. Taylor Mcoy (575) 904-6739, taylor.mccoy.2@us.af.mil if you have any technical questions.

Sincerely

ROBERT L. JOHNSTON, Colonel, USAF
Commander

Attachment:
Map of Proposed Project Locations

APPENDIX B

AIR QUALITY SUPPORT DOCUMENTATION

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

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

Report generated with ACAM version: 5.0.24a

a. Action Location:

Base: CANNON AFB
State: New Mexico
County(s): Curry
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Cannon AFB Installation Development EA

c. Project Number/s (if applicable):

d. Projected Action Start Date: 1 / 2027

e. Action Description:

The Proposed Action includes implementation of eight separate projects as listed below.

1. Site Preparation for Food Court and Recreational Area
2. Construction of Replacement Pump House
3. Addition to Security Forces Facility
4. Construction of Furnishing Management Warehouse
5. Construction of Constant Fuel Pressure System
6. Renovation of Drinking Water Treatment Plant (DWTP)
7. Renovation of Wastewater Treatment Plant (WWTP)
8. Installation of Flightline Fence

The analysis assumes construction for each project would occur over a 1-year period. A 1-calendar year construction period was used to equate a worse-case emissions scenario in which all activity for a single project occurs in the same calendar year. A construction year of 2027 was used as a surrogate; however, the actual construction period may be different than what was assumed for the analysis.

It was assumed new facilities and additions to existing facilities would use electric-powered equipment, such as heat pumps or packaged HVAC units, for heating and cooling, and no new stationary sources of air emissions would be required for climate control purposes.

f. Point of Contact:

Name: Carolyn Hein
Title: Contractor
Organization: HDR
Email:
Phone Number:

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

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

____ applicable
__X__ not applicable

Total reasonably foreseeable net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (cCba.e., no net gain/loss in emission stabilized and the action is fully implemented) emissions. The ACAM analysis uses the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the *USAF Air Emissions Guide for Air Force Stationary Sources*, the *USAF Air Emissions Guide for Air Force Mobile Sources*, and the *USAF Air Emissions Guide for Air Force Transitory Sources*.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of the proposed Action's potential impacts to local air quality. The insignificance indicators are trivial (*de minimis*) rate thresholds that have been demonstrated to have little to no impact to air quality. These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold and 25 ton/yr for lead for actions occurring in areas that are "Attainment" (cCba.e., not exceeding any National Ambient Air Quality Standard [NAAQS]). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutants is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQS. For further detail on insignificance indicators, refer to *Level II, Air Quality Quantitative Assessment, Insignificance Indicators*.

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

Analysis Summary:

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	2.276	250	No
NO_X	4.894	250	No
CO	7.300	250	No
SO_X	0.012	250	No
PM_{10}	7.676	250	No
$PM_{2.5}$	0.170	250	No
Pb	0.000	25	No
NH_3	0.013	250	No

2028

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.097	250	No
NO_X	-0.401	250	No
CO	-0.268	250	No
SO_X	-0.082	250	No
PM_{10}	-0.088	250	No
$PM_{2.5}$	-0.088	250	No
Pb	0.000	25	No
NH_3	0.000	250	No

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

2029 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.097	250	No
NO_X	-0.401	250	No
CO	-0.268	250	No
SO_X	-0.082	250	No
PM_{10}	-0.088	250	No
$PM_{2.5}$	-0.088	250	No
Pb	0.000	25	No
NH_3	0.000	250	No

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

Carolyn Hein, Contractor — 15 May 2025

Name, Title — **Date**

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APPENDIX C

FEDERALLY LISTED, STATE LISTED, AND SPECIES OF CONCERN AT CANNON AFB

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Table C-1. Federally Listed, State Listed, and Species of Concern at Cannon AFB

Species Name	Federal Status	State Status	SGCN	Habitat	Presence at Cannon AFB	Potential to Occur in Project Area
Mammals						
Black-tailed Prairie Dog (*Cynomys ludovicianus*)	-	-	X	Grassy plains and prairie ecosystem.	Present on Cannon AFB.	No known habitat exists within the project areas (see **Figure 3-3**).
Least Shrew (*Cryptotis parvus*)	-	T	X	Dense ground cover in mesic habitats.	Not observed on the installation during the 2015–2016 surveys.	Due to a lack of suitable habitat, this species is unlikely to occur within the project areas.
Tricolored Bat (*Perimyotis subflavus*)	PE	-	-	Landscapes that are partly open, with large trees and plentiful woodland edges. Found in a variety of terrestrial habitats, including grasslands, old fields, suburban areas, orchards, urban areas, and woodlands, especially hardwood woodlands.	Not known to occur on Cannon AFB.	Due to a lack of suitable habitat, this species is unlikely to occur within the project areas.
Birds						
Baird's Sparrow (*Centronyx bairdii*)	-	T	X	Migration and Winter: Desert to upland grasslands.	Not observed on the installation during the 2015–2016 surveys.	Potential to occur in the project areas. However, due to the lack of suitable habitat, it is unlikely that the species would nest within the project areas.
Bald Eagle (*Haliaeetus leucocephalus*)	-	T	X	Nesting: Large trees near or along rivers and lakes. Migration and Winter: Rivers, lakes, ponds, and reservoirs; sometimes wanders through plains and grasslands searching for carrion and/or prairie dog towns, far from water.	Not observed on the installation during the 2015–2016 surveys.	Potential to occur in the project areas. However, due to the lack of suitable habitat, it is unlikely that the species would nest within the project areas.
Bank Swallow (*Riparia riparia*)	-	-	X	All Year: Areas of open water, mudflats, and sites containing extensive cover. Breed in open country and savannas, especially near running water. Usually found where insect prey is abundant and in association with dirt or sand banks where it digs its burrows.	Not observed on the installation during the 2015–2016 surveys.	Due to a lack of suitable habitat, this species is unlikely to occur within the project areas.

Species Name	Federal Status	State Status	SGCN	Habitat	Presence at Cannon AFB	Potential to Occur in Project Area
Birds (continued)						
Cassin's sparrow (*Peucaea cassinii*)	-	-	X	Nesting and Migration: shortgrass prairie with scattered shrubs, sometimes in shrublands with grassy openings.	Observed on the installation during the 2015–2016 surveys.	Potential to occur in the project areas. However, due to the lack of suitable habitat, it is unlikely that the species would nest within the project areas.
Common Nighthawk (*Chordeiles minor*)	-	-	X	Nesting: Generally uses and inhabits open or semi-open areas.	Observed on the installation during the 2015–2016 surveys.	Potential to occur in the project areas. However, due to the lack of suitable habitat, it is unlikely that the species would nest within the project areas.
Eared Grebe (Podiceps nigricollis)	-	-	X	All year: Vegetated lakes at middle elevations; rest in waters where they feed; prefer undisturbed bodies of water during migration.	Not observed on the installation during the 2015–2016 surveys.	Due to a lack of suitable habitat, this species is unlikely to occur within the project areas.
Golden Eagle (*Aquila chrysaetos*)	-	-	-	Nesting: On cliffs near open habitats. Migration and Winter: Cliffs and in large expanses of dry treeless grassland.	Recently observed near the South Playa.	Potential to occur in the project areas. However, due to the lack of suitable habitat, it is unlikely that the species would nest within the project areas.
Least Tern (*Sternula antillarum*)	-	E	X	Nesting: River sand bars; islands, ponds, and/or lakes with gravel and/or sand bars. Often surrounded by water. Migration: Thought to use river corridors but may travel across terrestrial terrain using other aquatic habitats (lakes, ponds, reservoirs) en route to nesting area.	Not observed on the installation during the 2015–2016 surveys.	Due to a lack of suitable habitat, this species is unlikely to occur within the project areas.
Lewis's Woodpecker (*Melanerpes lewis*)	-	-	X	Migration and Winter: Vagrant to open country with scattered trees. In fall areas must have fruits/berries, and in winter needs oaks with acorns.	Not observed on the installation during the 2015–2016 surveys.	Due to a lack of suitable habitat, this species is unlikely to occur within the project areas.

Species Name	Federal Status	State Status	SGCN	Habitat	Presence at Cannon AFB	Potential to Occur in Project Area
Birds (continued)						
Loggerhead Shrike (*Lanius ludovicianus*)	-	-	X	All Year: Open country with scattered brush and trees, with a mix of short (less than 4 inches) and tall grasses (greater than 8 inches).	Observed on the installation during the 2015–2016 surveys.	Potential to occur in the project areas. However, due to the lack of suitable habitat, it is unlikely that the species would nest within the project areas.
Long-billed Curlew (*Numenius americanus*)	-	-	X	Nesting: Shortgrass and mixed grass prairie usually less than 12 inches and often less than 4 inches with a total ground cover of 50 to 95%; occasionally within wheat stubble (often within 0.25 mile of water). Migration: Similar to nesting habitat but also includes open fields and shores of freshwater lakes.	Observed on the installation during the 2015–2016 surveys.	Potential to occur in the project areas due to the presence of suitable habitat.
Mountain Plover (*Charadrius montanus*)	-	-	X	Nesting: Shortgrass prairie on flat and gently sloping topography with sparse vegetation cover (greater than 30% bare ground and very short grass [less than 2 inches]). Migration and Winter: Alkali flats, plowed or burned fields, fallow fields, sod farms, heavily grazed grassland.	Not observed on the installation during the 2015–2016 surveys.	Due to a lack of suitable habitat, this species is unlikely to occur within the project areas.
Neotropic Cormorant (*Phalacrocorax brasilianus*)	-	T	X	Coasts, bays, lakes, rivers. Very adaptable. May be found in almost any aquatic habitat, from rocky northern coasts to mangrove swamps to large reservoirs to small inland ponds; nests in trees near or over water, on sea cliffs, or ground on islands.	Not known to occur on Cannon AFB.	Due to a lack of suitable habitat, this species is unlikely to occur within the project areas.
Peregrine Falcon (*Falco peregrinus*)	-	T	X	Nesting: High cliffs, bluffs, slopes, cutbanks, building ledges with nearby abundant prey. Migration and Winter: Areas with abundant prey.	Not observed on the installation during the 2015–2016 surveys.	Due to a lack of suitable habitat, this species is unlikely to occur within the project areas.

Species Name	Federal Status	State Status	SGCN	Habitat	Presence at Cannon AFB	Potential to Occur in Project Area
Birds (continued)						
Piñon Jay (*Gymnorhinus cyanocephalus*)	-	-	X	Nesting: Grasslands with nearby tall, woody vegetation. Migration: Areas of desert/rocky slopes, woodlands, and scrub habitat.	Not observed on the installation during the 2015–2016 surveys.	Due to a lack of suitable habitat, this species is unlikely to occur within the project areas.
Red-headed Woodpecker (*Melanerpes erythrocephalus*)	-	-	X	All Year: Riparian woodlands, planted trees, anthropogenic structures. Forage over grasslands and woodlands.	Not observed on the installation during the 2015–2016 surveys.	Due to a lack of suitable habitat, this species is unlikely to occur within the project areas.
Sagebrush Sparrow (*Artemisiospiza nevadensis*)	-	-	X	All Year: Sagebrush grassland habitat at lower (2,800–5,500 feet) and middle (5,000–7,500 feet) elevations.	Not observed on the installation during the 2015–2016 surveys.	Due to a lack of suitable habitat, this species is unlikely to occur within the project areas.
Snowy Plover (*Charadrius nivosus*)	-	-	X	Migration: Alkali flats, sandy shores, dried/wet mud flats, around lakes, reservoirs, ponds.	Not observed on the installation during the 2015–2016 surveys.	Due to a lack of suitable habitat, this species is unlikely to occur within the project areas.
Sprague's Pipit (*Anthus spragueii*)	-	-	X	Migration: Extensive grasslands that are dominated by medium-height grasses. Also in shortgrass areas in fields grazed by cattle, and grassy shorelines.	Not observed on the installation during the 2015–2016 surveys.	Due to a lack of suitable habitat, this species is unlikely to occur within the project areas.
Vesper Sparrow (*Pooecetes gramineus*)	-	-	X	Migration: Prefers open grassy fields, often in rather dry situations with much open soil.	Not observed on the installation during the 2015–2016 surveys.	Due to a lack of suitable habitat, this species is unlikely to occur within the project areas.
Western Burrowing Owl (*Athene cunicularia*)	-	-	X	Nesting, Migration, Winter: Treeless areas with short vegetation (less than 4 inches tall) within and adjacent to prairie dog colonies. Nests only in prairie dog, badger, and fox burrows.	Observed on the installation during 2024 field work.	Observed in 2024 during prairie dog management field work and is known to occur within the Flightline Fence project area (see **Figure 3-3**).
Williamson's Sapsucker (*Sphyrapicus thyroideus*)	-	-	X	Nesting and Migration: Riparian areas adjacent to forested habitat.	Not observed on the installation during the 2015–2016 surveys.	Due to a lack of suitable habitat, this species is unlikely to occur within the project areas.

Species Name	Federal Status	State Status	SGCN	Habitat	Presence at Cannon AFB	Potential to Occur in Project Area
Amphibians						
Plains Leopard Frog (*Lithobates blairi*)	-	-	X	Permanent and intermittent water sources and flooded prairie habitats.	Not observed on the installation during the 2015–2016 surveys.	Due to a lack of suitable habitat, there is no potential for this species to occur within the project areas.
Reptiles						
Gray-Checkered Whiptail (*Aspidoscelis tesselata*)	-	E	X	Rocky, semi-arid areas with sparse vegetation.	Not known to occur on Cannon AFB.	Due to a lack of suitable habitat, this species is unlikely to occur within the project areas.
Ornate Box Turtle (*Terrapene ornata ornata*)	-	-	X	Desert and semi-desert grasslands.	Observed on the installation during the 2015–2016 surveys.	Due to a lack of suitable habitat, there is no potential for this species to occur within the project areas.
Fishes						
Beavertail Fairy Shrimp (*Thamnocephalus platyurus*)	-	-	X	Temporary wetlands such as rock pools, vernal pools, seasonal wetlands, alpine pools, and alkali lakes.	Not known to occur on Cannon AFB.	Due to a lack of suitable habitat, there is no potential for this species to occur within the project areas.
Versatile Fairy Shrimp (*Branchinecta lindahli*)	-	-	X	Temporary wetlands such as rock pools, vernal pools, seasonal wetlands, alpine pools, and alkali lakes.	Not known to occur on Cannon AFB.	Due to a lack of suitable habitat, there is no potential for this species to occur within the project areas.
Insects						
Monarch Butterfly (*Danaus plexippus*)	PT	-	-	Milkweed and flowering plants are needed for monarch habitat. Adult monarchs feed on the nectar of many flowers during breeding and migration, but they can only lay eggs on milkweed plants.	Known to occur on Cannon AFB. Several habitats on the installation support diverse forb communities that are highly likely to provide resources for these pollinators.	Potential to occur within the project areas.

Sources: BISON-M 2025, Cannon AFB 2024b, Karelus et al. 2021, USFWS 2025a
Key – T = Threatened, E = Endangered, PE = Proposed Endangered, PT – Proposed Threatened

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APPENDIX D

LIST OF PREPARERS

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LIST OF PREPARERS

Hannah Patel
DAWSON
B.S. Biology
Years of Experience: 8

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DAWSON
M.A. International Development
B.A. International Relations & German
Years of Experience: 13

Sarah Thompson
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Jessica Forbes
HDR
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B.A. History
Years of Experience: 10

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