# Draft
# Environmental Assessment
# Proposed Installation Development Plan Projects at Creech Air Force Base, Clark County, Nevada

**October 2024**

**Prepared for:**
**United States Air Force**
**432d Wing**
**432d Air Expeditionary Wing**

## PRIVACY ADVISORY

This Environmental Assessment (EA) is provided for public comment in accordance with the National Environmental Policy Act (NEPA), the President's Council on Environmental Quality (CEQ) NEPA regulations (40 CFR Parts 1500–1508), and 32 CFR Part 989, *Environmental Impact Analysis Process (EIAP)*.

The EIAP provides an opportunity for public input on Department of Air Force (DAF) decision-making, allows the public to offer inputs on alternative ways for DAF to accomplish what it is proposing, and solicits comments on the DAF's analysis of environmental effects.

Public commenting allows DAF to make better, informed decisions. Letters or other written or oral comments provided may be published in the EA. As required by law, comments provided will be addressed in the EA and made available to the public. Providing personal information is voluntary. Any personal information provided will be used only to identify your desire to make a statement during the public comment portion of any public meetings or hearings or to fulfill requests for copies of the EA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of the EA; however, only the names of the individuals making comments and specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the EA.

## COMPLIANCE

This document has been certified that it does not exceed 75 pages, not including appendices as defined in 40 CFR § 1501.5(g). As defined in 40 CFR § 1508.1(bb), a "page" means 500 words and does not include maps, diagrams, graphs, tables, and other means of graphically displaying quantitative or geospatial information.

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**COVER SHEET**
**Draft Environmental Assessment for**
**Proposed Installation Development Plan Projects at**
**Creech Air Force Base, Clark County, Nevada**

a. *Responsible Agency: United States Air Force*

b. *Location: Creech Air Force Base, Nevada*

c. *Designation: Draft Environmental Assessment*

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***Abstract:***

This Environmental Assessment (EA) has been prepared pursuant to provisions of the *National Environmental Policy Act*, Title 42 *United States Code*, §§ 4321–4347, implemented by Council on Environmental Quality Regulations at Title 40, *Code of Federal Regulations* (CFR) Parts 1500–1508, and 32 CFR Part 989, *Environmental Impact Analysis Process (EIAP)*. Potentially affected environmental resources were identified in coordination with local, state, and federal agencies. Specific environmental resources with the potential for environmental consequences include land use; air quality (including greenhouse gas and climate change); earth, water, biological, and cultural resources; infrastructure and utilities (including transportation); noise/acoustic environment; hazardous materials and waste; safety and occupational health; and socioeconomics.

The purpose of the Proposed Action is to support Creech Air Force Base's (AFB) current and future mission of remotely piloted aircraft employment and Aircrew training. The Proposed Action would ensure the continued operational abilities of Creech AFB through the development of facilities and infrastructure supporting the training and flight programs.

The Proposed Action is needed to address deficiencies and degradation of the support facilities at Creech AFB. Left unchecked, deficiencies in facilities and infrastructure would degrade the Installation's ability to meet the Department of the Air Force's (DAF's) current and future needs. Demolition of aging facilities, new facility construction, facility upgrades, facility repair and renovation, utilities upgrades, community facility upgrades, infrastructure improvement, recreational upgrades, natural infrastructure management projects, and strategic sustainability performance projects are all needed to continue to meet the mission requirements of the 432d Wing and 432d Air Expeditionary Wing at Creech AFB.

The analysis of the affected environment and environmental consequences of implementing the Proposed Action Alternatives concluded that by implementing standing environmental protection measures and best management practices, there would be no significant adverse impacts from the actions at Creech AFB on the environmental resources. Creech AFB is an active DAF installation with ongoing equipment operations, demolition, and new construction actions as well as future development currently in the planning phase. Impacts associated with construction, demolition, and renovation would be minor; therefore, significant cumulative impacts are not anticipated with implementation of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions at Creech AFB.

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# LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AARG | average annual growth rate |
| ACAM | Air Conformity Applicability Model |
| ACM | asbestos-containing materials |
| ADP | Area Development Plan |
| AFB | Air Force Base |
| AFCEC | Air Force Civil Engineer Center |
| AFFF | aqueous film forming foam |
| AFMAN | Air Force Manual |
| AFPD | Air Force Policy Directive |
| AGE | aerospace ground equipment |
| APE | Area of Potential Effects |
| APZ | accident potential zone |
| AST | aboveground storage tank |
| AQCR | Air Quality Control Region |
| B | Building (as in B1209) |
| BASH | Bird and Wildlife Aircraft Strike Hazard |
| BGEPA | Bald and Golden Eagle Protection Act |
| BLM | United States Bureau of Land Management |
| BMP | best management practice |
| CAA | Clean Air Act |
| CAT/EOC | Crisis Action Team/Emergency Operations Center |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CEQ | Council on Environmental Quality |
| CFR | Code of Federal Regulations |
| CGP | Construction General Permit |
| $CO_2e$ | carbon dioxide-equivalent |
| CWA | Clean Water Act |
| CZ | clear zone |
| DAF | Department of the Air Force |
| DAFMAN | Department of the Air Force Manual |
| DAFPD | Department of the Air Force Policy Directive |
| dB | decibel |
| dBA | A-weighted decibel |
| DNL | Day-Night Average Sound Level |
| DoD | Department of Defense |
| EA | Environmental Assessment |
| ECP | entry control point |
| EIAP | Environmental Impact Analysis Process |
| EIS | Environmental Impact Statement |
| EO | Executive Order |
| ERP | Environmental Restoration Program |
| ESA | Endangered Species Act |
| ESQD | Explosives quantity-distance arc |
| FEMA | Federal Emergency Management Agency |
| FONSI | Finding of No Significant Impact |
| $ft^2$ | square foot/feet |
| FY | fiscal year |
| GDT | Ground Data Terminal |
| GHG | greenhouse gas |
| HAZMAT | hazardous materials |
| HQ | Headquarters |
| I-11 | United States Interstate 11 |
| IDP | Installation Development Plan |
| IPaC | Information for Planning and Consultation |

| | |
|---|---|
| lf | linear foot/feet |
| Jet-A | aviation fuel |
| Jet-B | jet fuel |
| JP-4 | jet fuel |
| LBP | lead-based paint |
| lbs | pounds |
| LRS | Logistics Readiness Squadron |
| LVIAQCR | Las Vegas Intrastate Air Quality Control Region |
| µg/$m^3$ | micrograms per cubic meter |
| MBTA | Migratory Bird Treaty Act |
| MW | megawatt |
| NAAQS | National Ambient Air Quality Standards |
| NDEP | Nevada Division of Environmental Protection |
| NDOW | Nevada Department of Wildlife |
| NEPA | National Environmental Policy Act |
| NHPA | National Historic Preservation Act |
| NPDES | National Pollutant Discharge Elimination System |
| NRHP | National Register of Historic Places |
| NTTR | Nevada Test and Training Range |
| OSHA | Occupational Safety and Health Administration |
| OWS | oil and water separator |
| PCB | polychlorinated biphenyls |
| pCi/L | picocuries per liter |
| PFAS | per- and polyfluoroalkyl substances |
| PFOS | perfluorooctane sulfonate |
| PFOA | perfluorooctanoic acid |
| $PM_{2.5}$ | particulate matter less than or equal to 2.5 microns in diameter |
| $PM_{10}$ | particulate matter less than or equal to 10 microns in diameter |
| ppm | parts per million |
| PSD | Prevention of Significant Deterioration |
| PV | photovoltaic |
| RCRA | Resource Conservation and Recovery Act |
| ROI | Region of Influence |
| RPA | remotely piloted aircraft |
| SARA | Superfund Amendments and Reauthorization Act |
| SGCN | species of greatest conservation need |
| SHPO | State Historic Preservation Officer |
| TCP | Traditional Cultural Properties |
| tpy | tons per year |
| US | United States |
| US-95 | United States Highway 95 |
| USC | United States Code |
| USCB | United States Census Bureau |
| USEPA | United States Environmental Protection Agency |
| USFWS | United States Fish and Wildlife Service |
| UST | underground storage tank |
| WRM | War Reserve Materiel |

# CHAPTER 1 PURPOSE AND NEED FOR THE PROPOSED ACTION

## 1.1 INTRODUCTION

Creech Air Force Base, hereinafter referred to as "Creech AFB" or the "Installation," is the main operating base of the 432d Wing and 432d Air Expeditionary Wing and is located 1 mile northwest of Indian Springs, Nevada, and 35 miles northwest of Las Vegas, Nevada (**Figure 1-1**) (DAF, 2019a). These Wings are collectively known as the "Hunters" and support the training and employment of remotely piloted aircraft (RPA) for the United States (US) Department of the Air Force (DAF). Creech AFB also supports various operations such as the 556th Test and Evaluation Squadron, the DAF Reserve's 91st Attack Squadron, and the DAF Reserve's 78th Attack Squadron (DAF, 2019b). The Installation occupies 2,085 acres of land in Clark County, Nevada, on the north side of US Highway 95 (US-95); an additional 80 acres of land is owned by Creech AFB south of US-95. To sustain the Installation's training and employment missions, the 432d Wings propose to implement development projects at Creech AFB over the next 5 years from approximately fiscal year (FY) 2024 to FY 2029. The proposed development projects would modernize and improve operations facilities, pavements, security, and communication facilities, and would improve the overall function of the Installation.

This Environmental Assessment (EA) evaluates environmental effects of the proposed development projects at Creech AFB. These projects are further described throughout this EA and collectively referred to as the "Proposed Action."

This EA is prepared in accordance with the *National Environmental Policy Act of 1969*, as amended (42 *United States Code* [USC] § 4321 et seq.) (NEPA); the Council on Environmental Quality (CEQ) NEPA regulations (40 *Code of Federal Regulations* [CFR] Parts 1500–1508); and the DAF NEPA regulations at 32 CFR Part 989, *Environmental Impact Analysis Process (EIAP)*. EIAP informs decision-makers, regulatory agencies, and the public about a DAF proposed action before any decision is made on whether to implement the action. During the EIAP, if analyses in the EA determine that potential, significant adverse effects would be likely to occur, the DAF would publish a notice of intent in the *Federal Register* to prepare an Environmental Impact Statement (EIS).

The CEQ NEPA regulations at 40 CFR Parts 1500–1508 provide purpose and direction for streamlining the NEPA process. CEQ memoranda (e.g., March 6, 2012) and its rule making action on modernizing the NEPA process (Volume 85 of the *Federal Register*, page 43304, July 16, 2020) also provide direction for streamlining the NEPA process, including the use of technology for communications and information dissemination. This EA satisfies the requirements of NEPA in accordance with the CEQ regulations and promotes NEPA streamlining through the implementation of the DAF EIAP. To render this document more concise, links are provided to online data sources to which the reader can refer for more information.

## 1.2 CREECH AIR FORCE BASE

Creech AFB provides RPA Aircrew training and supports the global RPA mission. This includes supporting, directing, and coordinating RPA combat sorties. The Installation also functions as the DAF's Thunderbirds' aerial demonstration site and as the home base of daily overseas Contingency Operations for RPA (DAF, 2019b).

Creech AFB is subdivided into seven unique districts: Airfield, Community Support, Mission Operations Complex, Munitions Storage Area, Southside Operations, T-Shirt, and Off-Base Support Operations. The Proposed Action would include implementation of projects in each district with the exception of the T-Shirt and Off-Base Support Operations districts. Most training and operations at Creech AFB occur on the main Installation, north of US-95 (**Figure 1-2**). Several components of the Installation are located on the southern side of US-95, adjacent to the town of Indian Springs, Nevada, in the T-Shirt District. The area surrounding the installation to the north and west is primarily managed by the Bureau of Land Management (BLM) and

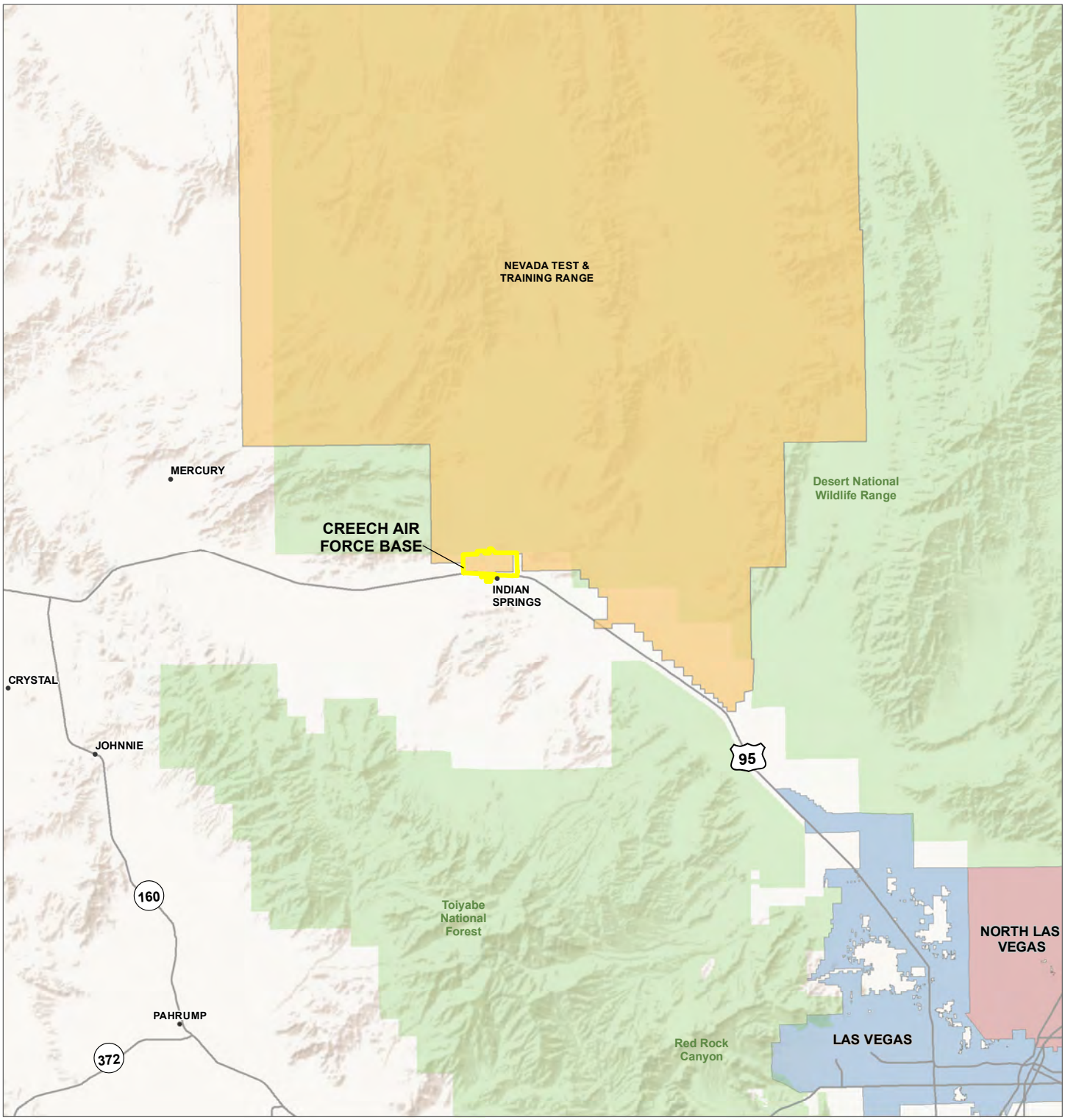


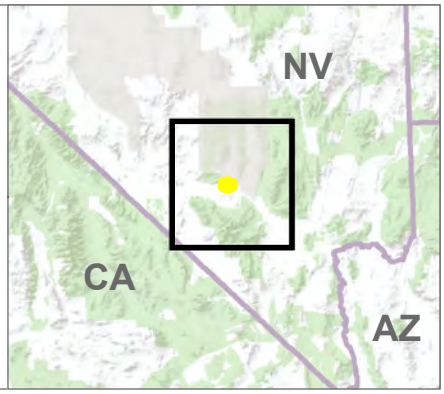

**FIGURE 1-1**
Regional Location Map

Installation Boundary
Nevada Test and Training Range
City of Las Vegas
City of North Las Vegas

N

0 5 10 Miles

Coordinate System: WGS 1984 UTM Zone 11N



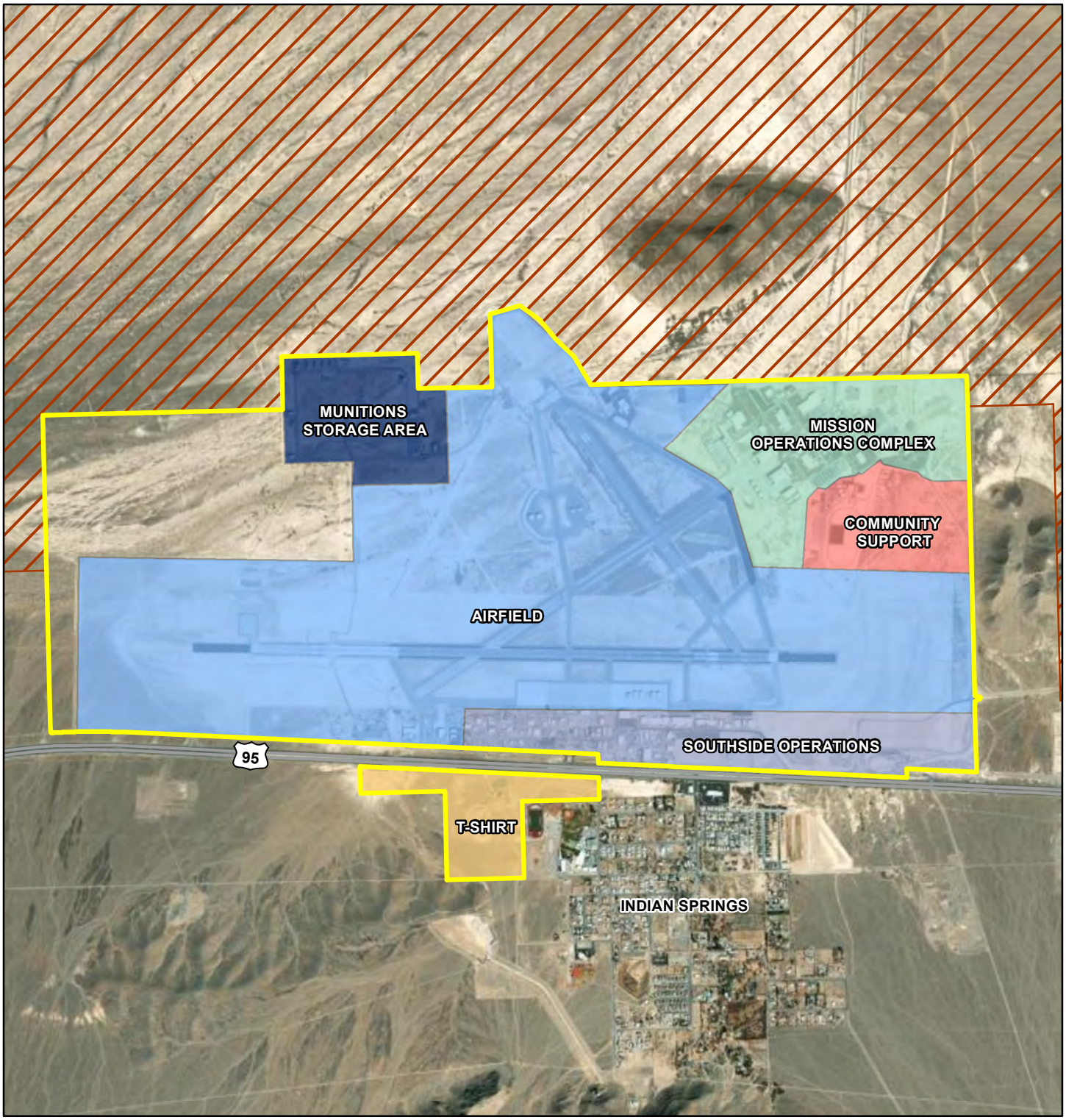


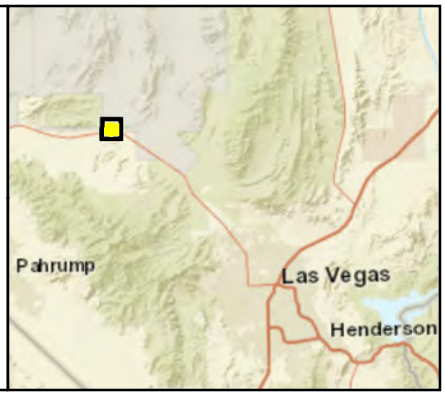

**FIGURE 1-2**
Creech AFB Districts

- Installation Boundary
- Nevada Test and Training Range - South Range
- Airfield
- Community Support
- Mission Operations Complex
- Munitions Storage Area
- Southside Operations
- T-Shirt

N

0 0.25 0.5 Mile

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 11N



the Nevada Test and Training Range (NTTR). Areas to the north and east of the Installation are designated as the Desert National Wildlife Range for threatened and endangered species. Runways for the airfield are aligned east to west, parallel to US-95, and perpendicular to the northeast and northwest. Some of Creech AFB's operations are located south of the airfield in the Southside Operations District between the airfield and US-95; recreation, operations, and dining services are centered in the northeast corner, northeast of the airfield in the Mission Operations Complex and Community Support districts (DAF, 2015).

To sustain the long-term mission of support and training for future RPA activities for the DAF, Creech AFB prepared an Installation Development Plan (IDP) in 2015 and an Area Development Plan (ADP) in 2019 as blueprints to help inform future proposals regarding Installation development needed to meet and sustain its mission capability (DAF, 2015, 2019b). The IDP helps to identify short-, mid-, and long-term needs that will support the mission requirements, increase efficiencies, and support growth at Creech AFB. Similar to the IDP, the ADP helps identify future planning needs within specific districts that are generally characterized by current mission function. The ADP used to support this EA is specific to the Mission Operations Complex District; at this time, no other districts have their own ADP.

### 1.2.1 Airfield District

The Airfield District bisects the center of the Installation. This district consists of industrial and utilitarian components associated with aircraft operations and associated cargo and contains two intersecting runways, taxiways, ramps, aprons, ground data terminals, and a hazardous cargo pad (DAF, 2015).

### 1.2.2 Community Support District

The Community Support District is located in the northeast corner of Creech AFB and contains mission support and quality-of-life facilities. Recreational facilities, food services, and associated parking also contribute to the function of this district (DAF, 2015).

### 1.2.3 Mission Operations Complex District

The Mission Operations Complex District occupies 222 acres in the northeast corner of Creech AFB. This district supports airfield operations, industrial uses such as vehicle maintenance and storage, administrative duties, and medical space. An interior security fence reduces and restricts access to the Mission Operations Complex District for general Installation personnel. Within the interior security fence, various combat operations and combat support missions occur. Outside of the security fence, this district is home to the 432d Wing Headquarters and dining facility (DAF, 2015).

### 1.2.4 Munitions Storage Area District

The Munitions Storage Area District houses the Installation's storage igloos and munitions magazines. Located in the northwest corner of the Creech AFB, Perimeter Road defines the southern boundary of the district, which is heavily industrial (DAF, 2015).

### 1.2.5 Southside Operations District

The Southside Operations District contains small administrative facilities that support the flying operations and training at Creech AFB. This district also contains maintenance and associated maintenance yard areas for aircraft (DAF, 2015).

### 1.2.6 T-Shirt District

The 80-acre T-Shirt District of Creech AFB, located south of US-95, was once used as Creech AFB housing. Housing facilities within the T-Shirt District have since been demolished and the district lies mostly vacant; no Creech AFB housing exists, and most personnel live in northwest Las Vegas or on Nellis AFB in

unaccompanied housing. The Proposed Action would not occur in the T-Shirt District; therefore, this EA does not discuss this district further.

### 1.2.7 Off-Base Support Operations District

The Off-Base Support Operation District does not occur within the boundaries of Creech AFB but rather represents an opportunity for future partnerships with surrounding parts of the Las Vegas metropolitan area (DAF, 2015). The Proposed Action would not occur in the Off-Base Support Operation District; therefore, this EA does not discuss this district further.

## 1.3 PURPOSE AND NEED

The purpose of the Proposed Action is to support Creech AFB's current and future mission of RPA employment and Aircrew training. The Proposed Action would ensure the continued operational abilities of Creech AFB through the development of facilities and infrastructure supporting the training and flight programs.

The Proposed Action is needed to address deficiencies and degradation of the support facilities at Creech AFB. Left unchecked, deficiencies in facilities and infrastructure would degrade the Installation's ability to meet the DAF's current and future needs. Demolition of aging facilities, new facility construction, facility upgrades, facility repair and renovation, utilities upgrades, community facility upgrades, infrastructure improvement, recreational upgrades, natural infrastructure management projects, and strategic sustainability performance projects are all needed to continue to meet the mission requirements of the 432d Wing and 432d Air Expeditionary Wing at Creech AFB.

This EA evaluates **36** short-term (1–5-year) installation development projects at Creech AFB identified through a collaborative planning process (DAF, 2019b). Individual purpose and need statements for the 36 projects proposed in this EA are included in **Table 2-1** in **Section 2.2.**

## 1.4 INTERGOVERNMENTAL COORDINATION, PUBLIC AND AGENCY PARTICIPATION

The EIAP, in compliance with NEPA guidance, includes public and agency review of information pertinent to a proposed action and alternatives. The DAF's compliance with the requirement for intergovernmental coordination and agency participation begins with the scoping[1] process (40 CFR 1502.4). Accordingly, and per Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, the DAF notified federal, state, and local agencies and tribal governments with jurisdiction that could potentially be affected by the Proposed Action and Alternatives via written correspondence throughout the development of this EA. A mailing list of agencies the DAF coordinated with during the EIAP is included in **Appendix A**.

### 1.4.1 Government-to-Government Consultation

The *National Historic Preservation Act* (54 USC § 300101, et seq.) (NHPA) and its regulations at 36 CFR Part 800 direct federal agencies to consult with federally recognized Native American tribes when a proposed action or alternatives may have an effect on tribal lands or on properties of religious and cultural significance to a tribe. Consistent with the NHPA, US Department of Defense (DoD) Instruction 4710.02, *DoD Interactions with Federally Recognized Tribes*, and DAF Instruction 90-2002, *Air Force Interaction with Federally Recognized Tribes*, the DAF has invited federally recognized tribes that are historically affiliated with lands in the vicinity of the Proposed Action and Alternatives to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal consultation process is distinct from NEPA consultation and requires separate notification to all relevant tribes. The timelines for tribal consultation are also distinct from those of NEPA consultation. The Creech AFB point of contact for Native American tribes is the Installation Commander. The point of contact for consultation with the Tribal Historic Preservation Officer and the State Historic Preservation Officer

[1] Scoping is a process for determining the extent of issues to be addressed and analyzed in a NEPA document.

(SHPO) is the Creech AFB Cultural Resources Manager. A sample of the outgoing correspondence to the tribes and all responses are included in **Appendix A**.

### 1.4.2 Agency Consultations and Coordination

Implementation of the Proposed Action involves coordination with several organizations and agencies. Compliance with Section 7 of the *Endangered Species Act of 1973*, as amended (16 USC § 1531 et seq.) (ESA), and implementing regulations (50 CFR Part 402), requires communication with the US Fish and Wildlife Service (USFWS) and/or National Oceanic and Atmospheric Administration National Marine Fisheries Service in cases where a federal action could affect listed threatened or endangered species, species proposed for listing, or candidates for listing. The primary focus of this coordination is to request a determination of whether any of these species occurs in the proposal area. If any protected species is present, a determination would be made of any potential adverse effects on the species. Should no species protected by the ESA be affected by the Proposed Action or Alternatives, no additional consultation would be required. Because of the location of the Creech AFB, USFWS is the appropriate consulting organization for the Proposed Action. The DAF's determination is described in detail in **Section 3.8.3**.

On 14 December 2023, the DAF initiated Section 7 consultation under the ESA for the Proposed Action using the USFWS's Information for Planning and Consultation (IPaC) tool. Basic information concerning the location and nature of the projects included in the Proposed Action was input into IPaC to obtain an official species list from the USFWS. The list identifies threatened and endangered species and other protected species (e.g., migratory birds) with potential to be affected by the Proposed Action. This information is included in **Appendix A** and incorporated into this EA where applicable.

The DAF coordinated with the following state agencies regarding potential effects from the Proposed Action and Alternatives.

- NHPA Section 106 compliance – SHPO and implementing regulations (36 CFR Part 800)
- Air and water quality effects – Nevada Department of Conservation and Natural Resources, Division of Environmental Protection (NDEP)
- Habitat and species of concern – Nevada Department of Wildlife (NDOW), Nevada Department of Conservation and Natural Resources

Finally, notice of the Proposed Action and Alternatives was provided to elected officials that represent the state at the federal and local levels. A sample of agency correspondence and all responses are included in **Appendix A**.

## 1.5 Public and Agency Review

The DAF invites the public and other interested stakeholders to review and comment on this Draft EA. Accordingly, a notice of availability of the Draft EA and Draft FONSI was published on [date] in the following local newspapers to commence a 30-day public comment period.

- Las Vegas Review Journal
- Las Vegas Sun

The public and agency comment period of the Draft EA and FONSI concludes on [date]. During the public comment period, the Draft EA and Draft FONSI are available online for view or download at [website]. Additionally, printed copies of the Draft EA and Draft FONSI are available at the following area libraries for review:

- Centennial Hills Library
- Indian Springs Library

## 1.6 DECISION TO BE MADE

This EA analyzes the potential environmental consequences of the Proposed Action and Alternatives. The Proposed Action involves demolition of aging facilities, new facility construction, facility upgrades, facility repair and renovation, utilities upgrades, community facility upgrades, infrastructure improvement, recreational upgrades, natural infrastructure management projects, and strategic sustainability performance projects. Should the DAF choose to implement the Proposed Action, this EA will assist in determining an appropriate scope of action to minimize potential adverse environmental impacts and allow for additional, project-specific environmental review in compliance with NEPA.

Based on the analysis in this EA, the DAF will make one of three decisions regarding the Proposed Action:

1. Choose to implement one of the alternatives and sign a FONSI, allowing implementation of the Preferred Alternative;
2. Initiate preparation of an EIS if it is determined that implementation of the Proposed Action and Alternatives would cause significant impacts to the human and natural environment; or
3. Select the No Action Alternative, whereby the Proposed Action would not be implemented.

As required by NEPA and its implementing regulations, preparation of an environmental document must precede final decisions regarding the proposed project and be available to inform decision-makers of the potential environmental impacts.

Should the DAF decide to implement the Proposed Action as noted above, this EA will identify any actions the DAF will commit to undertake to minimize environmental effects and comply with NEPA.

## 1.7 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

This EA evaluates the potential environmental consequences of implementing the Proposed Action and Alternatives for installation development projects at Creech AFB. This EA has been prepared in accordance with NEPA, CEQ regulations (40 CFR Parts 1500–1508), and the DAF EIAP (32 CFR Part 989). NEPA is the basic national requirement for identifying environmental consequences of federal decisions. NEPA ensures that environmental information, including the anticipated environmental consequences of a proposed action, is available to the public, federal and state agencies, and the decision-maker before decisions are made and before actions are taken.

NEPA, which is implemented through the CEQ regulations, requires federal agencies to consider alternatives to the Proposed Action and to analyze potential impacts of alternative actions. Potential impacts of the Proposed Action and Alternatives described in this EA will be assessed in accordance with the CEQ regulations, which require that federal agencies analyze the potentially affected environment and degree of the effects of the action.

## 1.8 APPLICABLE LAWS AND ENVIRONMENTAL REGULATIONS

Other laws and regulations applicable to the Proposed Action include, but are not limited to:

- *Clean Water Act* (33 USC § 1251 et seq.) (CWA)
- *Resource Conservation and Recovery Act* (42 USC § 6901 et seq.) (RCRA)
- Section 438 of the *Energy Independence and Security Act* (Public Law 110-140)
- *Comprehensive Environmental Response, Compensation, and Liability Act* (42 USC § 9601 et seq.) (CERCLA)
- Federal *Clean Air Act* (42 USC § 7401 et seq., as amended) (CAA)
- *Migratory Bird Treaty Act* (16 USC § 703–312) (MBTA)

- *Toxic Substances Control Act* (15 USC § 2601 et seq.) (TSCA)
- EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (1994)
- EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks (1997), as amended by EO 13296* (2003)
- EO 14096, *Revitalizing Our Nation's Commitment to Environmental Justice for All* (2023)

# CHAPTER 2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

## 2.1 INTRODUCTION

The installation development projects included as part of the Proposed Action were selected based on current and future needs at Creech AFB identified through the installation planning process, as required by Air Force Instruction 32-1015, *Integrated Installation Planning*. Each of the proposed projects would support the overall purpose and need for installation development as outlined in **Section 1.3**.

## 2.2 DESCRIPTION OF THE PROPOSED ACTION

The Proposed Action would incorporate the planning considerations addressed in Creech AFB planning documents. For example, the Proposed Action would adhere to project-specific development standards, including land use constraints for siting the new facilities, and regulate design parameters such as height, scale, and orientation.

Creech AFB proposes to implement 36 short-term development projects, including demolition of aging facilities, new facility construction, facility upgrades, facility repair and renovation, utilities upgrades, community facility upgrades, infrastructure improvement, recreational upgrades, natural infrastructure management projects, and strategic sustainability performance projects to be completed or implemented over the next 5 years (FY 2024–2029). This EA describes the scope, location, and objectives of each project under the Proposed Action, grouped by project type (i.e., construction, demolition, infrastructure) and provides details of projects under the Proposed Action (**Table 2-1**). The projects may occur in multiple districts where noted; however, they are listed in **Table 2-1** under the district in which they primarily occur. Of particular note, Project C11 involves three alternative sites. **Figure 2-1** depicts the locations of the proposed projects.

**Table 2-1.**
**Proposed Projects**

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **AIRFIELD DISTRICT** | | | | | | |
| **Construction Projects** | | | | | | |
| **C1** | Taxiway Alpha Addition | This project would construct a taxiway extension and arm/disarm pad that extends the existing Taxiway Alpha to the west threshold of Runway 08/26. This project would include asphalt taxiway; concrete arm/disarm pad; paved shoulders; airfield lighting, markings, and guidance signage; addition of an access roadway leading to the arm/disarm pad; airfield storm drainage; utilities; and all other work as necessary. | **Purpose:** The purpose of the proposed project is to add additional capacity to the airfield taxiway and to allow aircraft to taxi to the arm/disarm pad.<br>**Need:** The project is needed because currently, Aircraft must back-taxi on the runway, which has caused delays and runway inefficiencies. | 2026 | 539,175 $ft^2$ | +539,175 $ft^2$ |
| **C2** | Weapons Load Trainer Facility | This project would construct a MQ-9 Weapons Load Crew Training Facility utilizing conventional design and construction methods. The facility would be constructed with a reinforced concrete foundation/floor slab, structural-steel frame, metal panel with brick veneer exterior, and standing seam metal roof. Construction associated with this project would include information systems, fire protection and alarm systems, cybersecurity measures, intrusion detection system installation, and energy monitoring and control systems connection. Supporting facilities would include a training bay access apron, parking areas, construction of an access roadway, security lighting, storm drainage, site improvements, signage, and all other necessary features to make a complete and useable facility. | **Purpose:** The purpose of the proposed project is to prevent disruptions to the Weapons Load Crew Training and to provide secure, dedicated space for the training to occur.<br>**Need:** The proposed project is needed because the current training area is inadequate for current operational needs and training capabilities are disrupted. Creech AFB needs a dedicated training facility to keep up with manning increases. | 2026 | 42,033 $ft^2$ | +42,033 $ft^2$ |

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C3** | LRS Deployment Center | This project would construct a two-story Deployment Processing Center and include an aircraft parking apron capable of supporting two C-17's or one C-5 airframe. | **Purpose:** The purpose of the proposed project is to support Creech AFB's mission and training requirements with increased efficiency through functional centralization and the optimization of existing resources.<br>**Need:** The proposed project is needed due to the outdated and inefficient infrastructure that currently supports the Mission Operations Complex District. The proposed project is also needed to provide centralized infrastructure (near the Community Support District) that would provide needed facilities identified as part of the area development planning process. | 2026 | 43,075 $ft^2$ | +43,075 $ft^2$ |

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C4** | MQ-9 CPIP GDT Antenna Complex | The project would construct a properly sited and configured antenna tower complex for the installation of eight MQ-9 ground data terminal (GDT) systems. The GDT antenna system provides a mission-critical, line-of-site communications link from the ground control station to the remotely piloted aircraft (RPA) for launch and recovery operations. This project provides 50-ft-high fixed towers that would be used to support the GDT system. The Defense Spectrum Organization – Joint Spectrum Center identified a preferred site location for the antennas that would mitigate existing C-band video link mishaps due to existing GDT locations and resulting electro-magnetic interference saturation. The proposed antenna complex is located north of Runway 08/26 and west of the live ordnance loading area. This site ensures that saturation-induced interference is precluded during airfield operations and avoids existing building and fence line obstructions. | **Purpose:** The purpose of the proposed project is to increase safety and communication for airfield operations by reducing saturation-induced interference between communications systems.<br>**Need:** The proposed project is needed because currently, C-band video link mishaps occur due to existing GDT locations and electro-magnetic interference saturation. Communication expansion is needed to reduce radio interference. | 2025 | 4,000 $ft^2$ | +4,000 $ft^2$ |
| **C5** | Construct GDT Tower Site | This project would construct a GDT tower site. | **Purpose:** The purpose of the proposed project is to revitalize and expand communication capabilities at Creech AFB.<br>**Need:** The proposed project is needed because the current towers require reconstruction due to their condition and age. Communication expansion is also needed to reduce radio interference. | 2024 | 2,000 $ft^2$ | +2,000 $ft^2$ |

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C6** | Construct Northwest Frangible Airfield Fence | This project would construct a fence between Northwest Perimeter Road and the flightline. | **Purpose:** The purpose of the proposed project is to provide security for airfield operations by enclosing the airfield.<br>**Need:** The proposed project is needed to reduce the security risk to airfield operations by regulating access to the airfield through fencing and controlled entry points per Air Force Policy Directive (AFPD) 13-2, *Air Traffic Control, Airfield, Airspace, and Range Management*, and defined in Air Force Manual (AFMAN) 13-204, *Air Traffic Control*. | 2025 | 9,400 lf | +9,400 lf |
| **C7** | Construct Frangible Airfield Fence First Street | This project would construct a fence between West Perimeter Road and the flightline. | **Purpose:** The purpose of the proposed project is to provide security for airfield operations by enclosing the airfield.<br>**Need:** The proposed project is needed to reduce the security risk to airfield operations by regulating access to the airfield through fencing and controlled entry points per AFPD 13-2 and defined in AFMAN 13-204. | 2025 | 9,100 lf | +9,100 lf |
| **C8** | Construct Central Frangible Airfield Fence | This project would construct a fence between North Perimeter Road and the flightline. | **Purpose:** The purpose of the proposed project is to provide security for airfield operations by enclosing the airfield.<br>**Need:** The proposed project is needed to reduce the security risk to airfield operations by regulating access to the airfield through fencing and controlled entry points per AFPD 13-2 and defined in AFMAN 13-204. | 2025 | 4,600 lf | +4,600 lf |

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C9** | North Side Electrical Loop | This project would construct a finished electrical loop system of approximately 30,000 linear feet (lf) from the southwest side of the Installation to the north side of the Installation. This would be accomplished by running a new electrical line from the intersection of Box Canyon and Hunters Road to Building 1065 (B1065). | **Purpose:** The purpose of the proposed project is to increase energy resilience with back feed capabilities.<br>**Need:** The proposed project is needed to provide power backup and restoration in case of outage caused by feeder damage. | 2025 | 30,000 lf | +30,000 lf |
| **frastructure Projects** | | | | | | |
| **I1** | Repair Southern Airfield Pavements | This project would repair airfield pavements identified in the 2015 Airfield Pavement Evaluation. Recommendations for repair include the mill and overlay of sections R03C1, R03C2, R04A1, and R04A2. | **Purpose:** The purpose of the proposed project is to improve the condition of degraded airfield pavement sections.<br>**Need:** The proposed project is needed to address poor pavement conditions reported by inspection. Poor airfield pavements are a safety risk for Aircrew and equipment. Left unchecked, further damage to the airfield pavements would have the potential to occur. The proposed project is further needed to comply with DAFMAN 32-1084, *Facility Requirements Standards – Airfield Pavements*. | 2024 | 884,475 $ft^2$ | N/A |

| ap ID umber | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **I2** | Repair Northern Airfield Pavements | This project would repair airfield pavements identified in the 2015 Airfield Pavement Evaluation. Recommendations include the mill and overlay of sections T21A, T25A, and T32A. Full replacement is recommended for sections R09A, R10A, and T20A. | **Purpose:** The purpose of the proposed project is to improve the condition of degraded airfield pavement sections.<br>**Need:** The proposed project is needed to address poor pavement conditions reported by inspection. Poor airfield pavements are a safety risk for Aircrew and equipment. Left unchecked, further damage to the airfield pavements would have the potential to occur. The proposed project is further needed to comply with DAFMAN 32-1084, *Facility Requirements Standards – Airfield Pavements*. | 2024 | 502,500 ft$^2$ | N/A |
| **MMUNITY SUPPORT DISTRICT** | | | | | | |
| **nstruction Projects** | | | | | | |
| **C10** | Warrior Fitness Center | This project would construct basketball and racquetball courts, a 1/10th mile elevated indoor running track, unit physical training/group exercise areas, weight rooms, administration, lockers, showers, and restrooms. Supporting facilities include all required utilities, staff and customer parking areas, sidewalks, lighting, signage, and other site improvements. The project would incorporate sustainability and energy measures, stormwater mitigation, and meet antiterrorism force protection standoff requirements. | **Purpose:** The purpose of the proposed project is to support Creech AFB's mission and training requirements with increased efficiency through functional centralization and the optimization of existing resources.<br>**Need:** The proposed project is needed due to the outdated and inefficient infrastructure that currently supports the Mission Operations Complex District. The proposed project is also needed to provide centralized infrastructure (near the Community Support District) that would provide needed facilities identified as part of the area development planning process. | 2026 | 44,000 ft$^2$ | +44,000 ft$^2$ |

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C11** | Install Solar and Battery Systems | This project would design and install a cybersecure microgrid control system integrated with large-scale photovoltaic (PV) arrays, battery energy storage system, and thermal energy storage system to address physical, cybersecurity, and climate threats as described in Creech AFB's Energy Resilience Assessment. Installation activities would include new electrical infrastructure, new automated main switchgear, new automated sectionalizing switches, step-up transformers, new fiber/ supervisory control and data acquisition, and a megawatt charging system integrated with the existing utility megawatt charging system. The system would dispatch distributed energy resources to respond to grid disruptions and control automated switching sequences for microgrid operation, separation of critical and non-critical loads, and dispatch of electricity to recover from system faults, anomalies, or outages. This project would be located within the existing fence line on the northeast corner of Creech AFB and would potentially include up to 71.2 acres primarily for PV arrays, including 19.4 acres on a closed landfill location. Additional locations considered in this area have been previously reserved for unrelated future projects. A PV with 4.0 megawatts (MW) capacity would be installed. For the battery energy storage system, a lithium iron phosphate battery chemistry is the current basis of design; 5.8 MW/11.6 kilowatt-hours would meet microgrid peak demand. | **Purpose:** The purpose of the proposed project is to support continued mission operations in the event of power loss, provide Installation-critical facilities with emergency backup power, and increase Creech AFB's energy resilience.<br>**Need:** The proposed project is needed because Installation-critical facilities currently lack emergency backup power capabilities in the event of power loss. | 2025 (estimated) | 3,101,472 $ft^2$ | +3,101,472 $ft^2$ |

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **MISSION OPERATIONS COMPLEX DISTRICT** | | | | | | |
| **Construction Projects** | | | | | | |
| **C12** | Mission Support Facility | This project would construct a Mission Support Center, providing a permanent, consolidated facility for the 432d Mission Support Group and Force Support Squadron in support of mission and support services for all personnel on Creech AFB. | **Purpose:** The purpose of the proposed project is to support Creech AFB's mission and training requirements with increased efficiency through functional centralization and the optimization of existing resources.<br>**Need:** The proposed project is needed because the infrastructure that currently supports the Mission Operations Complex District is outdated and inefficient. The proposed project is also needed to provide centralized infrastructure (near the Community Support District) that would provide needed facilities identified as part of the area development planning process. | 2026 | 36,966 $ft^2$ | +36,966 $ft^2$ |

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C13** | RPA Structural Repair Facility | This project would construct an RPA Structural Repair Facility and a separate Corrosion Control Utility Storage Building. The proposed facility would provide a modern, functional space capable of supporting required MQ-9 structural and composite repair as well as non-destructive inspection. | **Purpose:** The purpose of the proposed project is to support Creech AFB's mission and training requirements with increased efficiency through functional centralization and the optimization of existing resources.<br>**Need:** The proposed project is needed because the infrastructure that currently supports the Mission Operations Complex District is outdated and inefficient. The proposed project is also needed to provide centralized infrastructure (near the Community Support District) that would provide needed facilities identified as part of the area development planning process. | 2025 | 52,124 $ft^2$ | +52,124 $ft^2$ |
| **C14** | RPA Maintenance Hangar | This project would construct an RPA Maintenance Hangar adequately configured to support eight MQ-9s and provide administrative and maintenance space for the activation of a new Aircraft Maintenance Unit. | **Purpose:** The purpose of the proposed project is to provide additional administrative and maintenance space for the activation of a new Aircraft Maintenance Unit.<br>**Need:** The proposed project is needed because an increase in RPAs requires more space than is currently available. RPAs that are due for maintenance are currently being parked outside while awaiting space. | 2027 | 77,887 $ft^2$ | +77,887 $ft^2$ |

| p ID mber | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C15** | Casket & WRM AGE Storage Facility | This project would construct a War Reserve Materiel (WRM) Aerospace Ground Equipment (AGE) Storage Facility with a consolidated and secure, climate-controlled storage space that would enhance the capability of the 432d Maintenance Group to sustain and deploy critical RPA mission equipment. The facility would also provide an AGE storage bay, bench stock/tool room, parts cleaning, and a semi-enclosed wash rack area. | **Purpose:** The purpose of the proposed project is to support Creech AFB's mission and training requirements with increased efficiency through functional centralization and the optimization of existing resources.<br>**Need:** The proposed project is needed because the infrastructure that currently supports the Mission Operations Complex District is outdated and inefficient. The proposed project is also needed to provide centralized infrastructure (near the Community Support District) that would provide needed facilities identified as part of the area development planning process. | 2026 | 21,000 $ft^2$ | +21,000 $ft^2$ |
| **C16** | Wing Advance Programs Facility | This project would construct a facility to house the 432 Wing Advance Programs. This facility would require additional space to accommodate current staffing. | **Purpose:** The purpose of the proposed project is to provide dedicated space to accommodate current staffing of the 432d Wing Advance Programs.<br>**Need:** The proposed project is needed because the Wing Advance Programs team does not have adequate staffing space. The team is currently operating out of a small office and is unable to accommodate all assigned personnel. | 2026 | 2,000 $ft^2$ | +2,000 $ft^2$ |

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C17** | Construct North GDT Towers | The project would repair by replacing current GDT towers on the north airfield apron. This project is currently being reevaluated for removal of the current three towers. | **Purpose:** The purpose of the proposed project is to revitalize and expand communication capabilities at Creech AFB.<br>**Need:** The proposed project is needed because the current towers require reconstruction due to their condition and age. Communication expansion is also needed to reduce radio interference. | 2024 | 1,000 $ft^2$ | +1,000 $ft^2$ |
| **C18** | Construct CAT/EOC Facility | This project would construct a structure that would be co-located with B1209. This structure would be a single-floor facility and utilize the existing parking lot. | **Purpose:** The purpose of the proposed project is to provide dedicated space for Crisis Action Team/Emergency Operations Center (CAT/EOC) teams and alleviate mission disruptions and Creech AFB.<br>**Need:** The proposed project is needed because CAT/EOC teams do not have a designated location at Creech AFB. The current location is dual-purposed and interrupts other missions when activated. | 2025 | 5,000 $ft^2$ | +5,000 $ft^2$ |

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C19** | Construct North Flightline ECP Barriers | This project would install fencing and an automatic gate system for flightline entry control point (ECP) access. | **Purpose:** The purpose of the proposed project is to establish a secure ECP for the airfield.<br>**Need:** The proposed project is needed because no entry point currently exists with direct access to airfield operations. All vehicles destined for this location currently must enter through the main access control points. A designated access point is needed to improve safety and airfield operations by providing direct access for emergency and response vehicles. | 2023 | 400 lf | +400 lf |
| **MUNITIONS STORAGE AREA DISTRICT** | | | | | | |
| **Construction Projects** | | | | | | |
| **C20** | Munitions Storage Igloo | This project would construct an aboveground earth-covered munitions storage igloo with a reinforced concrete foundation/floor slab and a pre-engineered reinforced concrete panel exterior with earth covering. The project would include blast-resistant steel doors, interior and exterior lighting, grounding, surge protection, intrusion detection system, and an exterior concrete access apron. | **Purpose:** The purpose of the proposed project is to provide additional space for munitions storage<br>**Need:** The proposed project is needed to support operations growth. The current capabilities are unable to support anticipated expansions at Creech AFB. | 2026 | 2,046 $ft^2$ | +2,046 $ft^2$ |
| **Infrastructure Projects** | | | | | | |
| **I3** | Repair Water Lines Zone III | This project would repair water lines in Zone 3 as identified in the Creech AFB Installation Development Plan (IDP). | **Purpose:** The purpose of the proposed project is to ensure consistent delivery of water on Creech AFB.<br>**Need:** The proposed project is needed because Installation water lines are considered crucial infrastructure at Creech AFB. Routine inspection and repair of the water lines are required to ensure proper maintenance. | 2027 | 7,820 lf | N/A |

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C21** | Network Control Center | This project would consolidate four communication flight facilities by constructing a new facility. The structure would be sized to encompass the whole of the communications flight and a communication node for Creech AFB. | **Purpose:** The purpose of the proposed project is to upgrade the communication capabilities and consolidate flight facilities at Creech AFB to improve efficiency.<br>**Need:** The proposed project is needed because equipment upgrades and replacements are necessary to maintain operation and security missions at Creech AFB. | 2028 | 2,500 $ft^2$ | +2,500 $ft^2$ |
| **C22** | Airfield Operations Center | This project would construct an approximately 15,000-$ft^2$ facility, which would consolidate deployed operations, transit alert, and air traffic control. This construction is currently planned for fiscal year 2025 to relocate B93 to the current location of B726. A parking lot to the west of B726 is being discussed. | **Purpose:** The purpose of the proposed project is to support efficient airfield operations and improve security and communications.<br>**Need:** The proposed project is needed because current airfield operations units are separated into individual facilities, disrupting operations. By removing an aging control tower, Creech AFB would consolidate airfield operations into one streamlined facility. | 2026 | 15,000 $ft^2$ | +15,000 $ft^2$ |
| **C23** | Construct south GDT Towers | This project would construct a replacement for the current GDT towers on the south airfield. | **Purpose:** The purpose of the proposed project is to revitalize and expand communication capabilities at Creech AFB.<br>**Need:** The proposed project is needed because the current towers require reconstruction due to their condition and age. Communication expansion is also needed to reduce radio interference. | 2024 | 1,000 $ft^2$ | +1,000 $ft^2$ |

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C24** | Construct Perimeter Road Fence | This project would provide re-enforcement of the southeast fence. | **Purpose:** The purpose of the proposed project is to provide security for airfield operations by enclosing the perimeter road.<br>**Need:** The proposed project is needed because the southeast fence needs re-enforcement to provide increased airfield security for airfield operations. | 2025 | 9,100 lf | +9,100 lf |
| **C25** | Construct AGE Storage Facility | This project would construct a warehouse and administrative space on the north apron beside B1131. | **Purpose:** The purpose of the proposed project is to provide adequate storage for aircraft ground equipment.<br>**Need:** The proposed project is needed to protect equipment stored on the north side of Creech AFB from outside elements. | 2025 | 13,993 $ft^2$ | +13,993 $ft^2$ |
| **Demolition Projects** | | | | | | |
| **D1** | Demo Airfield Lighting Vault B95 | This project would demolish the Airfield Lighting Vault, B95. | **Purpose:** The purpose of the proposed project is to reduce the DAF footprint.<br>**Need:** The proposed project is needed because unused facilities require costs associated with infrastructure upkeep. Removing these facilities reduces costs and provides space for new infrastructure. | 2023 | N/A | -500 $ft^2$ |

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **D2** | Demo B86 | This project would demolish B86. | **Purpose:** The purpose of the proposed project is to reduce the DAF footprint.<br>**Need:** The proposed project is needed because unused facilities require costs associated with infrastructure upkeep. Removing these facilities reduces costs and provides space for new infrastructure. | 2023 | N/A | -1,700 $ft^2$ |
| **D3** | Demo HQ Admin B55 | This project would demolish the Headquarters Administration (HQ) Building, B55. | **Purpose:** The purpose of the proposed project is to reduce the DAF footprint.<br>**Need:** The proposed project is needed because unused facilities require costs associated with infrastructure upkeep. Removing these facilities reduces costs and provides space for new infrastructure. | 2024 | N/A | -5,200 $ft^2$ |
| **D4** | Demo Buildings (B137, B404, B406) | This project would demolish B137, B404, and B406. | **Purpose:** The purpose of the proposed project is to reduce the DAF footprint.<br>**Need:** The proposed project is needed because unused facilities require costs associated with infrastructure upkeep. Removing these facilities reduces costs and provides space for new infrastructure. | 2023 | N/A | -5,000 $ft^2$ |

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **Infrastructure Projects** | | | | | | |
| **I4** | Repair Water Lines Zone II | This project would repair water lines in Zone 2 as identified in the Creech AFB IDP. | **Purpose:** The purpose of the proposed project is to ensure consistent delivery of water on Creech AFB. **Need:** The proposed project is needed because Installation water lines are considered crucial infrastructure at Creech AFB. Routine inspection and repair of the water lines are required to ensure proper maintenance. | 2027 | 12,275 lf | N/A |
| **I5** | Repair Water Lines Zone I | This project would repair water lines in Zone 1 as identified in the Creech AFB IDP. | **Purpose:** The purpose of the proposed project is to repair crucial infrastructure on Creech AFB. **Need:** The proposed project is needed because Installation water lines are considered crucial infrastructure at Creech AFB. Routine inspection and repair of the water lines are required to ensure proper maintenance. | 2027 | 6,115 lf | N/A |

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **PROJECTS LOCATED OUTSIDE OF THE LAND USE DISTRICTS** | | | | | | |
| **Construction Projects** | | | | | | |
| **C26** | Commercial Vehicle Gate | This project would construct a new 6,000-$ft^2$ commercial vehicle inspection facility with gatehouse inspection bays. The area for construction would need to be graded and formed to provide a stable foundation. All utilities would be hydro excavated to a depth of 3–6 feet (ft). The primary electrical circuit would run approximately 500 ft, communications lines would run approximately 2,700 ft, and water lines would run approximately 3,000 ft to trench to the main feed. Sewage would be trenched for a septic tank and septic field. New asphalt road construction would be needed approximately 6,100 ft from US Highway 95 to a newly constructed guard facility. | **Purpose:** The purpose of the proposed project is to provide security and safety protection to Installation personnel while alleviating traffic congestion concerns along US Highway 95.<br>**Need:** The proposed project is needed because the current access location results in closures to both personnel entry and highway travel by the Installation. Disruptions are a result of current entry-point conditions caused by commercial vehicle inspections. The project is needed to resolve both concerns. | 2026 | 4,660 $ft^2$ | +4,660 $ft^2$ |
| **C27** | Northwest Perimeter Fence | This project would construct a fence to contain the remaining land owned by Creech AFB in the northwest parcel. | **Purpose:** The purpose of the proposed project is to provide security of Creech AFB-owned land by enclosing the parcel.<br>**Need:** The proposed project is needed because the Creech AFB-owned parcel is not currently enclosed, posing a security risk. | 2025 | 11,000 lf | +11,000 lf |

AFMAN = Air Force Manual; AFPD = Air Force Policy Document; AGE = aerospace ground equipment; B = Building (as in B1065); CAT/EOC = Crisis Action Team/Emergency Operations Center; ECP = entry control point; ft = feet; GDT = ground data terminal; HQ = Headquarters; IDP = installation development plan; LRS = Logistics Readiness Squadron; MW = megawatt; PV = photovoltaic; RPA = remotely piloted aircraft; WRM = war reserve materiel

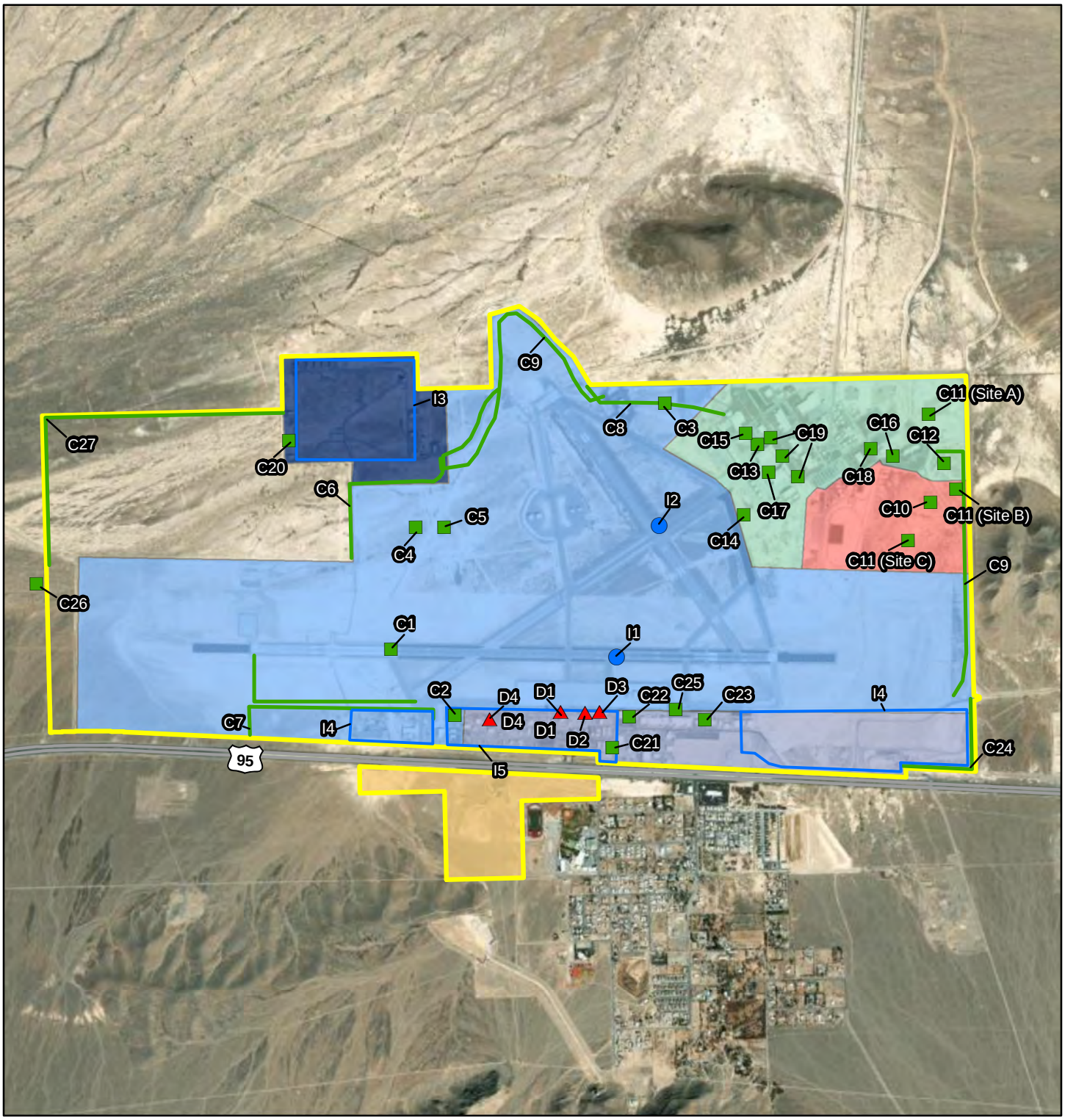



**FIGURE 2-1**
Location of Proposed IDP Projects

- Construction
- Demolition
- Infrastructure
- Linear Construction
- Linear Infrastructure
- Installation Boundary

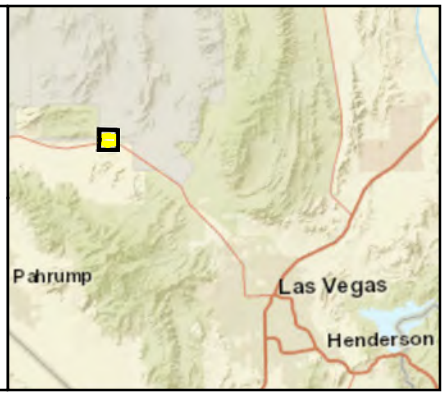
**Planning Districts**

- Airfield
- Community Support
- Mission Operations Complex
- Munitions Storage Area
- Southside Operations
- T-Shirt

N

0 0.25 0.5 Mile

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 11N



## 2.3 SELECTIONS STANDARDS FOR ALTERNATIVE SCREENING

Consistent with 32 CFR § 989.8, selection standards were developed to establish a means for determining the reasonableness of an alternative to the Proposed Action and whether an alternative should be carried forward for further analysis in the EA. Potential alternatives to the Proposed Action were evaluated based on universal selection standards, which were applied to all alternatives. In accordance with 32 CFR § 989.8(c), the following selection standards meet the purpose of and need for the Proposed Action and were used to identify reasonable alternatives for analysis in the EA:

1. Remedy facilities and infrastructure deficiencies to adequately support the training and flight programs at Creech AFB.
2. Meet the mission requirements of the 432d Wing and 432d Air Expeditionary Wing at Creech AFB by deconflicting current and future planned facility siting, accommodating adequate facility size, and providing compliance with airfield safety standards. Be consistent with land use requirements, antiterrorism/force protection standards, and planning concepts as defined in the ADP for the Mission Operations Complex District.
3. Ability to be completed within FY 2024–2029
4. Comply with airfield operations security requirements and operational safety standards.
5. Comply with federal and DAF mandates for sustainable design and development by reducing the number of unused buildings, consolidating where appropriate, and maximizing the use of each facility.

Based on the selection standards, several alternatives for the components of the Proposed Action were eliminated from detailed analysis in this EA. A discussion of alternatives eliminated from detailed analysis is provided in **Section 2.5.**

## 2.4 ALTERNATIVES

The NEPA and CEQ regulations mandate the consideration of reasonable alternatives to the Proposed Action. “Reasonable alternatives” are those that could also be utilized to meet the purpose of and need for the Proposed Action. Alternatives were considered for each of the proposed projects. The DAF uses several guidelines and instructions in determining the best approach for construction, renovation, and demolition. AFI 32-1023, *Designing and Constructing Military Construction Projects*, implements DAF Policy Directive 32-10, *Installations and Facilities*, and Military Standard 3007F, *Standard Practice for Unified Facilities Criteria and Unified Facilities Guide Specifications*. AFI 32-1023 provides general design criteria and standards and information on design and construction management. This document provides guidance governing DAF military construction projects. DAF Manual (DAFMAN) 32-1084, *Standard Facility Requirements*, supplements AFI 32-1084, *Standard Facility Requirements*, and provides guidance for determining space allocations for DAF facilities and may be used to program new facilities or evaluate existing spaces.

The NEPA process is intended to support flexible, informed decision-making; the analysis provided by this EA and feedback from stakeholders will inform decisions made about whether, when, and how to execute the Proposed Action. Among the alternatives evaluated for each project is a No Action Alternative, which evaluates the potential consequences of not undertaking the Proposed Action and serves to establish a comparative baseline for analysis.

This section presents reasonable alternatives for projects where multiple, viable courses of action exist. Each alternative is assessed relative to the selection standards (see **Section 2.3**). Each of the alternatives would include implementation of each of the projects as listed in **Table 2-1** and outlined in **Section 2.2**; only the project location for Project C11, installation of solar and battery systems, would change under the alternatives.

### 2.4.1 Alternative 1

Alternative 1 would include each of the construction, demolition, and infrastructure projects listed in **Table 2-1** and outlined in **Section 2.2**. Under Alternative 1, all proposed projects would meet the selection standards listed in **Section 2.3** and would increase operational efficiencies and sustainable development and improve the quality of life. Under Alternative 1, Project C11, installation of solar and battery systems, would be constructed on **Site A** within the Mission Operations Complex District (**Figure 2-1**).

### 2.4.2 Alternative 2

Alternative 2 would include each of the construction, demolition, and infrastructure projects listed in **Table 2-1** and outlined in **Section 2.2**. Under Alternative 2, all proposed projects would meet the selection standards listed in **Section 2.3** and would increase operational efficiencies and sustainable development and improve the quality of life. Under Alternative 2, Project C11 would be constructed on **Site B** within the Community Support District (**Figure 2-1**).

### 2.4.3 Alternative 3

Alternative 3 would include each of the construction, demolition, and infrastructure projects listed in **Table 2-1** and outlined in **Section 2.2**. Under Alternative 3, all proposed projects would meet the selection standards listed in **Section 2.3** and would increase operational efficiencies and sustainable development and improve the quality of life. Under Alternative 3, Project C11 would be constructed on **Site C** within the Community Support District (**Figure 2-1**).

## 2.5 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER ANALYSIS

Eight additional alternatives were considered for the location of Project C11. Six of these proposed locations—Sites C1, C2, C3, C4, G2, and G4—are located in the northeastern corner of the Installation in the Community Support District and Mission Operations Complex District. Sites C1, C2, C3, and C4 were eliminated from further consideration by Installation leadership due to insufficient size; Sites G2 and G4 were chosen as the preferred locations for other facilities. Sites G6 and G7 are located in the southern portion of the Installation within the Airfield District and Southside Operations District, respectively. Site G6 was eliminated from consideration because it is within the accident potential zone (APZ) for the southwest-northeast flight path; Site G7 was eliminated because it is reserved for future use of airfield facilities. The alternatives considered but eliminated from further analysis do not meet selection standards to support current and future 432d Wing and 432 Air Expeditionary Wing mission standards (Selection Standards 1 and 2), airfield operations security requirements and operational safety standards (Selection Standard 4), nor do they comply with federal and DAF mandates for sustainable design and development (Selection Standard 5), as described in **Section 2.3**.

A parallel runway was considered for Project C1 but was dismissed due to the need for aircraft to successfully taxi from the runway. Currently, and with a parallel runway, aircraft would need to back-taxi on the runway, which would cause delays to aircraft traffic. This alternative does not meet selection standards for airfield operations safety standards (Selection Standard 4) or sustainable design and development (Selection Standard 5).

All other projects were determined to have no other practicable alternatives and would consider implementation or no action.

## 2.6 ALTERNATIVES RETAINED FOR DETAILED ANALYSIS

Because the installation development projects under the Proposed Action are products of the IDP and ADP planning processes, the alternatives screening and evaluation processes for each of these planning documents are applicable to this EA. As described above and in **Chapter 3**, where appropriate, Alternatives 1, 2, and 3 are retained for detailed analysis for each of the components of the Proposed Action, as well as

the No Action Alternative. Project details for each project included under the Proposed Action would remain the same across all alternatives; only the location of Project C11 would change. Therefore, proposed Sites A, B, and C for Project C11 are retained for detailed analysis under Alternatives 1, 2, and 3, respectively.

### 2.6.1 No Action Alternative

Under the No Action Alternative, the DAF would not implement the proposed installation development projects and Creech AFB would continue to operate under current conditions. The facility and infrastructure assets of Creech AFB would continue to degrade. Infrastructure would not be maintained or improved to support the growing mission requirements. In the short term, military training and operations would continue at Creech AFB in accordance with the status quo. Over time, the mission support capabilities of the Installation would diminish along with its ability to support the future missions and requirements of the 432d Wing and 432d Air Expeditionary Wing.

While the No Action Alternative would not satisfy the purpose of and need for the Proposed Action, this alternative is retained to provide a comparative baseline against which to analyze the effects of the Proposed Action, as required under CEQ regulations (40 CFR § 1502.14(c)). The No Action Alternative reflects the status quo and serves as a benchmark against which the effects of the Proposed Action can be evaluated.

## 2.7 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The potential impacts under the Proposed Action the No Action Alternative are summarized in **Table 2-2**. The summary is based on information discussed in detail in **Chapter 3** of this EA and includes a concise definition of the issues addressed and the potential environmental impacts associated with each alternative.

**Table 2-2.**
**Summary of Environmental Consequences**

| Resource Area | Alternative 1 | Alternative 2 | Alternative 3 | No Action Alternative |
|---|---|---|---|---|
| Land Use | Under Alternative 1, changes to existing land use would not occur. Alternative 1 would comply with, and be consistent with, existing and future installation land use plans and policies, as identified in the Creech Air Force Base (AFB) Installation Development Plan (IDP) and Area Development Plan (ADP). | Alternative 2 would comply with, and be consistent with, existing and future installation land use plans and policies, as identified in the Creech AFB IDP and ADP. | Alternative 3 would comply with, and be consistent with, existing and future installation land use plans and policies, as identified in the Creech AFB IDP and ADP. | No change to land use conditions on the Installation would occur. |
| Earth Resources | Under Alternative 1, no impacts to geology; short-term, negligible, adverse impacts to topography; and short-term, moderate, adverse impacts to soils would occur. | Under Alternative 2, impacts would be the same as those under Alternative 1. | Under Alternative 3, impacts would be the same as those under Alternative 1. | No impacts to earth resources would occur. |

| Resource Area | Alternative 1 | Alternative 2 | Alternative 3 | No Action Alternative |
|---|---|---|---|---|
| Air Quality (including Greenhouse Gas and Climate Change) | Under Alternative 1, construction activities that would occur would result in short-term, minor, adverse impacts to air quality. Short-term emissions resulting from construction would remain below the applicable thresholds for air quality standards. | Under Alternative 2, impacts would be the same as those under Alternative 1. | Under Alternative 3, impacts would be the same as those under Alternative 1. | No impacts to air quality would occur. |
| Water Resources | Under Alternative 1, short-term, minor, adverse impacts to surface water; long-term, minor impacts to stormwater; and no impacts to groundwater, wetlands, or floodplains would occur. | Under Alternative 2, impacts would be the same as those under Alternative 1. | Under Alternative 3, impacts would be the same as those under Alternative 1. | No impacts to water resources would occur. |
| Biological/Natural Resources | Under Alternative 1, long-term, negligible, adverse impacts to vegetation; short-term, negligible impacts to wildlife; “may affect but are not likely to adversely affect” the Mojave Desert tortoise and “no effect” to other threatened, endangered, and other protected species; and short-term, minor impacts to invasive species would occur. | Under Alternative 2, impacts would be the same as those under Alternative 1. | Under Alternative 3, impacts would be the same as those under Alternative 1. | No impacts to biological or natural resources would occur. |
| Cultural Resources | Under Alternative 1, there would be no impacts to architectural properties, archaeological properties, or traditional cultural properties. | Under Alternative 2, impacts would be the same as those under Alternative 1 | Under Alternative 3, impacts would be the same as those under Alternative 1. | No impacts to cultural resources would occur. |

| Resource Area | Alternative 1 | Alternative 2 | Alternative 3 | No Action Alternative |
|---|---|---|---|---|
| Infrastructure/ Utilities (including Transportation) | Under Alternative 1, long-term, beneficial impacts to transportation and electricity; potable water; and communications systems; negligible impacts to sanitary sewage/wastewater infrastructure; and short-term, moderate adverse impacts to solid waste would occur. | Under Alternative 2, impacts would be the same as those under Alternative 1. | Under Alternative 3, impacts would be the same as those under Alternative 1. | Under the No Action Alternative, long-term, adverse impacts to transportation, utilities and utilities would occur. |
| Noise/Acoustic Environment | Under Alternative 1, there would be no impacts to the existing noise environment. | Under Alternative 2, there would be no impacts to the existing noise environment. | Under Alternative 3, there would be no impacts to the existing noise environment. | Under the No Action Alternative, there would be no change the noise environment at Creech AFB. |
| Hazardous Materials and Waste | Under Alternative 1, short-term, minor, adverse impacts to hazardous materials and wastes; no impacts to fuel storage or Environmental Restoration Program sites; short-term, minor, adverse impacts from pesticide usage; and short-term, moderate, adverse impacts to aqueous film forming foam sites would occur. | Under Alternative 2, impacts would be the same as those under Alternative 1. | Under Alternative 3, impacts would be the same as those under Alternative 1. | Under the No Action Alternative, no changes to Hazardous Materials and Waste or contaminated sites at Creech AFB would be expected to occur. |
| Safety and Occupational Health | Under Alternative 1, long-term, minor beneficial impacts to ground and construction safety; long-term, moderate beneficial impacts to flight safety; and long-term, moderate, beneficial impacts to explosives safety would occur. | Under Alternative 2, impacts would be the same as those under Alternative 1. | Under Alternative 3, impacts would be the same as those under Alternative 1. | Under the No Action Alternative, long-term, minor, adverse impacts to safety and occupational health would occur as a result of the continued deterioration of support facilities and deficiencies in crucial infrastructure. |
| Socioeconomics | Under Alternative 1, short-term, minor, beneficial impacts to socioeconomics would occur. | Under Alternative 2, impacts would be the same as those under Alternative 1. | Under Alternative 3, impacts would be the same as those under Alternative 1. | No effects to socioeconomics would occur. |

# CHAPTER 3 EXISTING CONDITIONS AND ENVIRONMENTAL CONCEQUENCES

## 3.1 FRAMEWORK FOR ANALYSIS

To provide a framework for the analyses in this EA, the DAF defined a study area specific to each resource or sub-resource area. Referred to as a Region of Influence (ROI), these areas delineate a boundary where possible effects from the considered alternatives would have a reasonable likelihood to occur. Beyond these ROIs, potential adverse effects on resources would not be anticipated. For the purposes of analysis, potential effects are described as follows:

- **Beneficial –** positive effects that improve or enhance resource conditions
- **Adverse –** negative or harmful results
- **Negligible –** effects likely to occur but at levels not readily observable by evaluation
- **Minor –** observable, measurable, tangible effects qualified as below one or more significance threshold(s)
- **Moderate –** tangible effects that are readily apparent, qualified as below one or more significance threshold(s)
- **Significant –** obvious, observable, verifiable effects qualified as above one or more significance threshold(s); not mitigable to below significance

When relevant to the analyses in this EA, potential effects are further defined as direct or indirect; short- or long-term; and temporary, intermittent, or permanent.

To determine the potential for "significant" effects under the Proposed Action, the DAF defined impact thresholds to support the analyses in this EA. Based upon the nature of the Proposed Action and the affected environment, both qualitative and quantitative thresholds were used as benchmarks to qualify effects. Further, each resource analysis section (i.e., **Sections 3.4–3.14**) concludes with a cumulative effects analysis considering the Proposed Action in conjunction with other past, present, and reasonably foreseeable environmental trends and planned actions at Creech AFB. **Table 3-1** summarizes past, present, and reasonably foreseeable planned actions at Creech AFB considered in the cumulative effects evaluation.

## 3.2 RESOURCES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

CEQ regulations state that federal agencies should "identify and eliminate from detailed study the issues which are not significant, or which have been covered by prior environmental review" (40 CFR § 1502.14(a)). Accordingly, the DAF considered but eliminated from further analysis the following environmental resource areas:

- Environmental Justice – the Proposed Action Alternatives would take place solely within the Installation or directly adjacent to it and would not have an impact on surrounding communities.
- Visual Resources – The Proposed Action Alternatives would result in no changes to the current visual landscape of Creech AFB or surrounding areas.

## 3.3 RESOURCES CARRIED FORWARD FOR DETAILED ANALYSIS

Based on the results of internal and external scoping (see **Section 1.4**), the following resources were carried forward for analysis: land use; earth resources; air quality (including greenhouse gas and climate change); water resources; biological/natural resources; cultural resources; infrastructure/utilities (including transportation); noise/acoustic environment; hazardous materials and waste; and safety and occupational health.

**Table 3-1.**
**Past, Present, and Reasonably Foreseeable Environmental Trends and Planned Actions**

| Name | Description | Timeframe | Approximate Distance from Creech AFB |
|---|---|---|---|
| **Federal Projects** | | | |
| BLM Solar Project | The US Bureau of Land Management has proposed a 5,000-acre solar panel project that would be located approximately 5 miles west of Indian Springs, Nevada. This project would support the generation of 300 megawatts of solar energy and battery storage. | Project initiated 05 June 2023 | 5 miles |
| Interstate 11 Feasibility Study | The Nevada Department of Transportation plans to convert US Highway 95 to an access-controlled Interstate Highway facility. Improvements would result in a freeway bypass around Indian Springs. | TBD | 1 mile |
| **Non-Federal Projects** | | | |
| Indian Springs Elementary, Middle, and High School | Located within Indian Springs, this project would replace the existing schools on a developed 37.2-acre parcel. | March 2027 | 1 mile |
| High Desert State Prison – Underground Piping Replacement | This is a state-funded project to replace underground heating and chilled water piping, as well as water controls, at the prison. | 2023–2025 | 6 miles |
| Southern Desert Correctional Center – Improvements | State-funded improvements to the Southern Desert Correctional Center include additional and upgraded perimeter security fencing, electrical service meter upgrades and replacements, generator removal, fiber optic line updates throughout the facility, new cell doors and locks, and new security gates. | 2023–2025 | 7 miles |

## 3.4 LAND USE

### 3.4.1 Definition of the Resource

Land use is the natural or developed condition of a given parcel of land or area and the type of functions and structures it supports. Land use designations vary by jurisdiction, but common terms include residential, commercial, industrial, agricultural, and recreational space. Land use is typically guided and regulated by management plans, policies, regulations, and ordinances that determine the type and extent of land use allowable in specific areas, including specially designated land uses or environmental conservation lands. Land use within Creech AFB is broadly classified and is generally described by using a district construct as described in **Section 1.2**, which are areas that contain common functions and types of operational activities.

The ROI for land use is Creech AFB.

### 3.4.2 Existing Conditions

Creech AFB occupies approximately 2,085 acres in Clark County, located in southern Nevada. The Installation is located 1 mile northwest of Indian Springs and is approximately 53 miles northwest of Nellis AFB. Creech AFB is generally organized into six districts based on mission function: the Airfield District, the Community Support District, the Mission Operations Complex District, Munitions Storage Area District, Southside Operations District, and the T-Shirt District. Several plans and programs guide Creech AFB's planning strategies within these districts to support the military mission. The function of each of these districts is described in **Section 1.2** and the locations of each district within the boundaries of Creech AFB

are shown in **Figure 1-2** (DAF, 2015). Land surrounding the Installation to the north, east, and west is undeveloped. The land to the west of the Installation is owned by the BLM. The northern portion has been withdrawn for use by the DAF and is part of NTTR and the Desert National Wildlife Refuge. The land is currently undeveloped. The southern portion remains BLM-owned land (DAF, 2022a). The town of Indian Springs is located south of the main Installation, across US-95 and east of the Installation's T-Shirt District.

### 3.4.3 Environmental Consequences

#### 3.4.3.1 Evaluation Criteria

Potential impacts on land use are based on the level of land use sensitivity in areas potentially affected by a proposed action as well as compatibility of the action with existing conditions. In general, a land use impact would be adverse if it meets one of the following criteria:

- inconsistent or noncompliant with mandatory land use requirements,
- precludes the viability of existing land use,
- precludes continued use or occupation of an area,
- incompatible with adjacent land use to the extent that public health or safety is threatened, or
- conflicts with planning criteria established to ensure the safety and protection of human life and property.

#### 3.4.3.2 Alternative 1

Under Alternative 1, 34 of the proposed projects would occur within the districts. Projects C26 and C27 would be located along the western boundary of the Installation and would fall outside the boundary of the districts.

Projects C1–C9, I1, I2, I4, and I5 would occur within the Airfield District. Projects C1–C5 are related to airfield operations and maintenance, industrial, or light industrial use, all of which are compatible with current mission functions of this district. Projects C6–C9 are fencing projects and would not change the overall use of the district. Projects I1, I2, I4, and I5 would repair existing infrastructure and would not result in changes or modifications to current land use within the district.

Project C9 and C10 would occur within the Community Support District. The north side of the electric loop associated with Project C9 would also cross through this district. The electrical loop would not change overall land use. Project C10, a Warrior Fitness Center, is compatible with current land use in this district.

Projects C11 (Site A) through C19 would occur within the Mission Operations Complex District. Project C11 (Site A), the installation of solar and battery systems, would be anticipated to occupy over 3,000,000 $ft^2$ (approximately 70 acres) of land within the district. The district contains mission functions that are similar to light industrial use, and the solar and battery system is compatible with those. Projects C12–C16 and C18 are all related to facility administrative use, which is compatible with current land use in this district. Project C17, replacing current ground data terminal (GDT) towers, would be industrial, which is compatible with current permitted land use in the district. Project C19, constructing north flightline entry control point (ECP) barriers, is related to industrial or administrative use, both of which are compatible with current permitted land use in the district.

Portions of Projects C6 and C9 and the entirety of Projects I3 and C20 would occur within the Munitions Storage Area District. Project C20, the construction of a munitions storage igloo, directly supports the overall function of the district. Project I3 would repair existing waterlines and supports the land use of this district and the overall mission of Creech AFB. While Projects C9 and C6 would cross through this district; neither project would impact the normal operations of this district.

Projects D1–D4, I4 and I5, C2, and C21–C25 would occur within the Southside Operations District. Projects C2 and C21–C25 involve the construction of administrative/operations and maintenance facilities, all of which are compatible with current permitted land uses in the district. Projects I4 and I5 would repair existing waterlines and support the overall land use and the Creech AFB mission. Demolition projects D1–D4 would reduce the DAF footprint and consolidate facilities. As demolition projects, they would not introduce new structures within the district.

Projects C26 and C27 would occur on land not within a designated district. Project C26, installing a commercial vehicle inspection facility, would occur on previously undeveloped land and would require an easement to connect US-95 to the inspection facility. The easement would be located directly west of the western boundary of the Installation and would be parallel to the perimeter road. The land is owned by the BLM but has been withdrawn for military use as part of the NTTR. Project C26 is not anticipated to result in changes to land use. Project C27, a northwest perimeter fence, would have no impact on land use.

Projects associated with Alternative 1 would not be anticipated to change or alter the existing land use. Alternative 1 is compatible and consistent with existing and future Installation land use planning guidance as identified in the Creech AFB IDP and ADP; therefore, no adverse impacts to land use would occur (DAF, 2015, 2019b).

#### 3.4.3.3 Alternative 2

Under Alternative 2, all project locations would remain the same as under Alternative 1 apart from Project C11, which would occur in an adjacent location within the Community Support District (Site B). Project C11 is the installation of cybersecure microgrid solar and battery systems and supports the continued mission of the Community Support District and Creech AFB. While the goal was to create an area dedicated to the community support function, the Creech AFB IDP and ADP are guides only and do not restrict land use within Creech AFB. They are living documents. With approval of the Creech AFB Facilities Board and Installation Commander, Project C11 may be sited in the area that was a notional Community Support District. Project C11 does not preclude the viability of existing land use or continued use or occupation of the area. It is also not incompatible with adjacent land use to the extent that public health, the protection of human life and property, or safety is threatened. Upon approval for Project C11, Alternative 2 would comply with, and be consistent with, existing and future Installation land use requirements; therefore, no adverse impacts to land use would occur (DAF, 2015, 2019b).

#### 3.4.3.4 Alternative 3

Under Alternative 3, all project locations would remain the same as under Alternative 1 apart from Project C11, which would occur in an adjacent location within the Community Support District (Site C). Project C11 is the installation of cybersecure microgrid solar and battery systems and supports the continued mission of the Community Support District and Creech AFB. While the goal was to create an area dedicated to the Community Support mission function, the Creech AFB IDP and ADP are guides only and do not restrict land use within Creech AFB. They are living documents. With approval of the Creech AFB Facility Board and Installation Commander, Project C11 may be sited in the area that was a notional Community Support District. Project C11 does not preclude the viability of existing land use or continued use or occupation of the area. It is also not incompatible with adjacent land use to the extent that public health, the protection of human life and property, or safety is threatened. Upon approval for Project C11, Alternative 3 would comply with, and be consistent with, existing and future Installation land use requirements; therefore, no adverse impacts to land use would occur (DAF, 2015, 2019b).

#### 3.4.3.5 Cumulative Impacts

The Proposed Action Alternatives would not result in changes to land use within the ROI. Other actions defined in **Table 3-1** would not occur within the boundaries of Creech AFB and would not have the potential to cause impacts to land use on the Installation. The BLM solar project would have the potential to impact approximately 5,000 acres of vacant land that will be used to construct a new solar farm southwest of

Creech AFB, near Indian Springs, Nevada. The Interstate 11 (I-11) feasibility study is currently reviewing alternatives, one of which would result in construction of a bypass around Indian Springs, which could permanently change the current access to the Installation and adjacent land use. However, this project is still in its feasibility stage and there is no development planned. The High Desert State Prison and Southern Desert Correctional projects would not impact existing or future Installation land uses, as they would occur outside the boundaries of Creech AFB. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at Creech AFB, no significant cumulative impacts to land use would be anticipated to occur with implementation of the Proposed Action.

#### 3.4.3.6 No Action Alternative

Under the No Action Alternative, the DAF would not implement the proposed Installation development projects listed in **Table 2-1**. Development of facilities and infrastructure that would support the training and flight programs would not take place. Creech AFB would continue to operate under current conditions, facilities would continue to degrade, and no change to land use at Creech AFB would be expected to occur beyond baseline conditions.

## 3.5 EARTH RESOURCES

### 3.5.1 Definition of the Resource

Earth resources include geology, topography, and soils. Geology refers to the structure and configuration of the earth's surface and subsurface features. Characteristics of geology include geomorphology, subsurface rock types, and structural elements. Topography refers to the shape, height, and position of the land surface. Soil refers to the unconsolidated materials overlying bedrock or other parent material. Soils are defined by their composition, slope, and physical characteristics. Attributes of soil, such as elasticity, load-bearing capacity, shrink-swell potential, and erodibility determine its suitability to support a particular land use.

Prime farmland, as defined by the United States Department of Agriculture in the *Farmland Protection Policy Act* (7 USC §§ 4201–4209), is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is available for these uses.

The ROI for this resource is Creech AFB.

### 3.5.2 Existing Conditions

#### 3.5.2.1 Geology

Creech AFB is located within the Mojave Desert ecosystem of the Basin and Range physiographic province, which is characterized by a series of mountain ranges that trend north to south and broad desert basins that stretch from southeast Oregon into Mexico. The geologic formations found on the Installation consist of Paleozoic sedimentary rock with no significant landforms. Mountainous terrain consisting of Paleozoic carbonate rock surrounds the Installation to the northwest, northeast, and south. The valleys in this area contain thick deposits of alluvium, i.e., clay, silt, sand, and gravel left behind by running water, that originated from the adjacent mountain ranges. Several inactive fault lines are located in and around the Installation, signifying the area as a "moderate risk" for a major earthquake event (DAF, 2023a).

#### 3.5.2.2 Topography

Creech AFB is located within a basin with relatively flat topography, with elevations ranging from approximately 3,100 ft above mean seal level to approximately 3,200 ft above mean sea level (US Geological Survey, 2021). The average elevation on the Installation is approximately 3,110 ft above mean sea level. There are no notable landforms within the boundary of the Installation that would contribute to significant differences in elevation (DAF, 2023a).

#### 3.5.2.3 Soils

Soil surveys were conducted to the south of the Creech AFB, as well as on a small portion of the southwestern part of the Installation that sits parallel to US-95. The soils surveyed were found to consist primarily of Corncreek-Haymont association. These soils are characterized by slopes of 2 to 8 percent and are classified as well drained with low runoff potential. The susceptibility to compaction rating is "low," meaning the soil in the region can support standard equipment and development (US Department of Agriculture [USDA], 2024a). While the remainder of Creech AFB has not been surveyed for soil composition, it can be assumed, based on regional topography and soils, that the remaining areas are likely to exhibit characteristics similar to those of the Corncreek-Haymont association found on and directly south of the Installation, and would be able to support further development on the Installation.

#### 3.5.2.4 Prime Farmland

There are no prime farmland soils located within Creech AFB. Additionally, and in accordance with Section 1540I(1) of the *Farmland Protection Policy Act*, "farmland" does not include land already in or committed to urban development; these areas would not be subject to the Act (USDA, 2024b). Therefore, prime farmland is not carried forward for analysis in this EA.

### 3.5.3 Environmental Consequences

#### 3.5.3.1 Evaluation Criteria

Evaluation criteria for potential impacts on geological resources are based on the following:

- substantial alteration of unique or valued geologic or topographic conditions;
- substantial soil erosion, sedimentation, and/or loss of natural function (e.g., compaction); and
- development on soils with characteristics that do not support the intended land use.

#### 3.5.3.2 Alternative 1

**Geology**

Implementation of the projects under Alternative 1 would involve basic earthwork including compacting and excavating to establish structural foundations, bury utilities, and repair existing lines. This basic earthwork would not have the potential to disturb the underlying geology at Creech AFB or to result in adverse impacts to geological resources.

**Topography**

Implementation of Alternative 1 would not result in large-scale alteration to the topography of Creech AFB. The alteration of ground surfaces would be limited to basic earthwork including compacting and excavating to establish structural foundations, bury utilities, and repair existing lines. After placing and compacting fill soils, superficial soils would be graded to match the local topography to maintain efficient drainage. Alternative 1 would have negligible, short-term, adverse impacts to topography.

**Soils**

Implementation of Alternative 1 would disturb approximately 4,000,000 $ft^2$ (approximately 93 acres) of land. Creech AFB would obtain an NDEP Surface Area Disturbance permit, which is required for all projects not related to agriculture that would disturb more than 5 acres of area (i.e., Projects C1 and C11). Creech AFB also would need to obtain a Clark County Dust Control Operating Permit, which is required for soil-disturbing or construction activities that exceed 0.25 acre in overall area (i.e., Projects C1–C3, C6–C15, C19, C22, C24, C25, C27, I1–I3, and D2–D4). The Installation would follow all requirements and soil management

techniques outlined in these permits to minimize impacts to soils to the greatest extent practicable (NDEP, 2023; Clark County, 2023). Additionally, based on the soil characteristics, it is assumed that soils on Creech AFB would be capable of supporting the proposed future development and construction. With adherence to all applicable guidelines and best management practices (BMPs) outlined in the required permits and considering the characteristics of the soils, Alternative 1 would have moderate, short-term, adverse impacts to soils.

#### 3.5.3.3 Alternative 2

There would be no difference in the amount of ground disturbance associated with Alternative 2 of the Proposed Action, when compared to Alternative 1. Therefore, potential impacts to geology, topography, and soils would be anticipated to be the same as under Alternative 1.

#### 3.5.3.4 Alternative 3

There would be no difference in the amount of ground disturbance associated with Alternative 3 of the Proposed Action, when compared to Alternative 1. Therefore, potential impacts to geology, topography, and soils would be anticipated to be the same as under Alternative 1.

#### 3.5.3.5 Cumulative Impacts

When combined with projects identified in **Table 3-1**, implementation of the Proposed Action Alternatives would result in minor, short-term impacts to earth resources. The I-11 feasibility study is currently reviewing alternatives, one of which would result in construction of a bypass around Indian Springs, Nevada, which could permanently change the geology, topography, and soils in this vicinity by adding new road pavements. However, this project is still in its feasibility stage, and there is no development planned. The Indian Springs School projects would replace existing facilities on a previously developed 37.2-acre parcel; this project would not change geology, topography, or soils in the area. The BLM solar, the High Desert State Prison, and the Southern Desert Correctional projects would disturb soil for fencing and underground piping replacements. Nevada general permitting rules for ground disturbance from any such future construction actions would be managed on a project-level basis. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at Creech AFB, no significant cumulative impacts to geology, topography, and soils would be anticipated to occur with implementation of the Proposed Action.

#### 3.5.3.6 No Action Alternative

Under the No Action Alternative, the DAF would not implement the proposed Installation development projects listed in **Table 2-1**. Development of facilities and infrastructure that would support the training and flight programs would not take place. Creech AFB would continue to operate under current conditions, facilities would continue to degrade, and no change to earth resources at Creech AFB would be expected to occur beyond baseline conditions.

## 3.6 AIR QUALITY (INCLUDING GREENHOUSE GAS AND CLIMATE CHANGE)

### 3.6.1 Definition of the Resource

Air pollution is a threat to human health and damages trees, crops, other plants, waterbodies, and animals. It creates haze or smog that reduces visibility in national parks and cities and interferes with aviation. To improve air quality and reduce air pollution, Congress passed the CAA and its amendments in 1970 and 1990, which set regulatory limits on air pollutants and help to ensure basic health and environmental protection from air pollution.

The US Environmental Protection Agency (USEPA) has divided the country into geographical regions known as air quality control regions to evaluate compliance with the National Ambient Air Quality Standards

(NAAQS). Creech AFB is located in Clark County, Nevada, which is in the Las Vegas Intrastate Air Quality Control Region (LVIAQCR) (40 CFR § 81.80) and serves as the ROI for the projects within Creech AFB.

### 3.6.1.1 Criteria Pollutants

In accordance with CAA requirements, the air quality in each region is measured by the concentration of various pollutants in the atmosphere. Measurements of these "criteria pollutants" in ambient air are expressed in units of parts per million (ppm) or in units of micrograms per cubic meter ($\mu g/m^3$).

The CAA directed the USEPA to develop, implement, and enforce environmental regulations that would ensure clean and healthy ambient air quality. To protect public health and welfare, the USEPA developed numerical concentration-based standards (i.e., NAAQS) for pollutants that have been determined to impact human health and the environment and established both primary and secondary NAAQS under the provisions of the CAA (**Table 3-2**). The primary NAAQS represent maximum levels of background air pollution that are considered safe, with an adequate margin of safety to protect public health. Secondary NAAQS represent the maximum pollutant concentration allowable for the protection of vegetation, crops, and other public resources in addition to maintaining visibility standards.

Ozone is not usually emitted directly into the air but is formed in the atmosphere by photochemical reactions involving sunlight and previously emitted pollutants, or "ozone precursors." These ozone precursors consist primarily of nitrogen oxides and volatile organic compounds that are directly emitted from a wide range of emission sources. For this reason, regulatory agencies limit atmospheric ozone concentrations by controlling volatile organic compound pollutants (also identified as reactive organic gases) and nitrogen oxides.

### 3.6.1.2 General Conformity and Attainment

When a region or area meets NAAQS for a criteria pollutant, that region or area is classified as in "attainment" for that pollutant. When a region or area fails to meet NAAQS for a criteria pollutant, that region or area is classified as "nonattainment" for that pollutant. In cases of nonattainment, the affected state, territory, or local agency must develop a state implementation plan for USEPA review and approval. The state implementation plan is an enforceable plan developed at the state level that lays out a pathway for how the state will comply with air quality standards. If air quality improves in a region that is classified as nonattainment, and the improvement results in the region meeting the criteria for classification as attainment, then that region is reclassified as a "maintenance" area.

Under the CAA, the General Conformity Rule requires proposed federal agency activities in designated nonattainment or maintenance areas (i.e., attainment areas reclassified from a prior nonattainment designation) to demonstrate conformity with the state implementation plan for attainment of NAAQS. Agencies are required to show that the net change in emissions from a federal proposed action would be below applicable *de minimis* threshold levels (i.e., so minor as to merit disregard).

### 3.6.1.3 New Source Review

Per the CAA, the USEPA's Prevention of Significant Deterioration (PSD) New Source Review permit program regulates criteria and certain non-criteria air pollutants for air quality control regions designated as unclassified or in attainment status with respect to the federal standards. In such areas, a PSD review is required for new "major source" or "major modification of existing source" emissions that exceed 100 or 250 tons per year (tpy) of a regulated CAA pollutant, dependent on the type of major stationary source. For "minor source" emissions, a PSD review is required if a project increases a "major source" threshold.

**Table 3-2.**
**National Ambient Air Quality Standards**

| Pollutant | | Primary/ Secondary[a,b] | Averaging Time | Level[c] | Form |
|---|---|---|---|---|---|
| Carbon monoxide | | Primary | 8 hours | 9 ppm | Not to be exceeded more than once per year |
| | | | 1 hour | 35 ppm | |
| Lead | | Primary and Secondary | Rolling 3-month average | 0.15 µg/m$^3$ | Not to be exceeded |
| Nitrogen dioxide | | Primary | 1 hour | 100 ppb | 98$^{th}$ percentile of 1-hour daily maximum concentrations, averaged over 3 years |
| | | Primary and Secondary | 1 year | 53 ppb | Annual mean |
| Ozone | | Primary and Secondary | 8 hours | 0.070 ppm | Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years |
| Particle Pollution | $PM_{2.5}$ | Primary | 1 year | 12.0 µg/m$^3$ | Annual mean, averaged over 3 years |
| | | Secondary | 1 year | 15.0 µg/m$^3$ | Annual mean, averaged over 3 years |
| | | Primary and Secondary | 24 hours | 35 µg/m$^3$ | 98$^{th}$ percentile, averaged over 3 years |
| | $PM_{10}$ | Primary and Secondary | 24 hours | 150 µg/m$^3$ | Not to be exceeded more than once per year on average over 3 years |
| Sulfur dioxide | | Primary | 1 hour | 75 ppb | 99$^{th}$ percentile of 1-hour daily maximum concentrations, averaged over 3 years |
| | | Secondary | 3 hours | 0.5 ppm | Not to be exceeded more than once per year |

Source: NAAQS table

µg/m$^3$ = micrograms per cubic meter; NAAQS = National Ambient Air Quality Standards; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; $PM_{10}$ = particulate matter less than or equal to 10 microns in diameter; ppb = parts per billion; ppm = parts per million; USEPA = US Environmental Protection Agency

Notes:

a. Primary Standards: the levels of air quality necessary, with an adequate margin of safety to protect public health. Each state must attain the primary standards no later than three years after that state's implementation plan is approved by the USEPA.

b. Secondary Standards: the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

c. Concentrations are expressed first in the units in which they were promulgated.
   (1) In areas designated nonattainment for the lead standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m$^3$ as a calendar quarter average) also remain in effect.
   (2) The level of the annual nitrogen dioxide standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.
   (3) The final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) ozone standards are not revoked and remain in effect for designated areas. Additionally, some areas may have certain continuing implementation obligations under the prior revoked 1-hour (1979) and 8-hour (1997) ozone standards.
   (4) The previous sulfur dioxide standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous sulfur dioxide standards or is not meeting the requirements of a state implementation plan call under the previous sulfur dioxide standards (40 CFR § 50.4(3)). A state implementation plan call is a USEPA action requiring a state to resubmit all or part of its state implementation plan To demonstrate attainment of the required NAAQS.

### 3.6.1.4 Greenhouse Gases

Greenhouse gases (GHGs) are gases that trap heat in the atmosphere. These emissions are generated by both natural processes and human activities. The accumulation of GHGs in the atmosphere helps regulate

the earth's temperature and contributes to global climate change. GHGs include water vapor, carbon dioxide, methane, nitrous oxide, ozone, and several hydrocarbons and chlorofluorocarbons. Each GHG has an estimated global warming potential, which is a function of its atmospheric lifetime and its ability to absorb and radiate infrared energy emitted from the earth's surface. The global warming potential of a particular gas provides a relative basis for calculating its carbon dioxide-equivalent ($CO_2e$) or the amount of $CO_2e$ to the emissions of that gas. Carbon dioxide has a global warming potential of 1 and is therefore the standard by which all other GHGs are measured. The GHGs are multiplied by their global warming potential, and the resulting values are added together to estimate the total $CO_2e$.

The USEPA regulates GHG primarily through a permitting program known as the GHG Tailoring Rule. This rule applies to GHG emissions from larger stationary sources. Additionally, the USEPA promulgated a rule for large GHG emission stationary sources, fuel and industrial gas suppliers, and carbon dioxide injection sites if they emit 25,000 metric tons or more of $CO_2e$ per year (40 CFR § 98.2(a)(2)). The Air Force, however, has adopted the PSD threshold for GHG of 75,000 tpy of $CO_2e$ as an indicator or "threshold of insignificance" for NEPA air quality impacts in all areas. This indicator provides a threshold to identify actions that are insignificant or too trivial or minor to merit consideration. Actions with a net change in GHG ($CO_2e$) emissions below the PSD threshold are considered too insignificant on a global scale to warrant any further analysis. Actions with a net change in GHG ($CO_2e$) emissions above the PSD threshold are considered potentially significant and require further assessment to determine if the action poses a significant impact (Air Force Civil Engineer Center [AFCEC], 2023).

Per the CEQ interim guidance released January of 2023, "Agencies should exercise judgment when considering whether to apply this guidance to the extent practicable to an ongoing NEPA process."

#### 3.6.1.5 Operating Permits

The state of Nevada has adopted the federal NAAQS. A "source" is defined pursuant to Nevada Revised Statue (NRS) 445B.155.

By authority of NRS 445B.500, the Clark County Board of County Commissioners established the Department of Air Quality Management in 2001. The Department of Air Quality Management, which is now known as the Department of Environment and Sustainability, administers the air pollution control program for Clark County under provisions of the Clark County Air Quality Regulations. Permitting requirements for federal owners and operators are largely based on a "potential to emit," defined as the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design or configuration. Calculations are used to determine whether a federal facility is defined as a "major source" under the CAA, requiring a Title V Operating Permit; however, some "non-major" or "minor source" federal owners or operators are subject to other stationary permitting requirements. Stationary source air permits, including Title V permits, are issued through Department of Environment and Sustainability Permitting.

### 3.6.2 Existing Conditions

The LVIAQCR maintains the following designations for NAAQS (see 40 CFR § 81.329):

- moderate nonattainment for the 2015 ozone NAAQS (as of 5 January 2023) for the portion of Clark County that lies in Hydrographic Area 212 (known as the Las Vegas Valley);
- maintenance/attainment for carbon monoxide and particulate matter less than or equal to 10 microns in diameter ($PM_{10}$) for the portion of Clark County that lies in Hydrographic Area 212; and
- unclassifiable/attainment for lead, nitrogen dioxide, sulfur dioxide, and particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$).

Creech AFB is outside of Hydrographic Area 212 and, therefore, is designated as unclassifiable/attainment for all NAAQS.

#### 3.6.2.1 Air Emission Sources at Creech AFB

Mobile source emissions are generated by aircraft, vehicles, equipment, and other sources that move or have the potential to move from place to place. Aircraft emissions at Creech AFB are generated through the propulsion systems of RPAs. Vehicle emissions include both government- and privately owned vehicles. Equipment emissions come from forklifts, backhoes, tractors, and other onsite construction equipment. Aerospace ground equipment used to service aircraft includes generators, light carts, compressors, bomb lifts, hydraulic test stands, and other portable equipment required for aircraft operations.

#### 3.6.2.2 Regional Climate

Nevada lies on the eastern side of the Sierra Nevada Mountain Range, which blocks moisture from the Pacific Ocean. Locally, average annual precipitation varies from 4 inches to more than 50 inches on high mountain peaks of the Sierra Nevada Mountains. The southern Nevada areas where Creech AFB resides vary from 0 to 15 inches of precipitation annually.

The regional climate of the Creech AFB area is semiarid desert with mild winters, hot summers, and low precipitation. The climate at Creech AFB is characterized by warm-to-hot spring, summer, and early fall temperatures (National Oceanic and Atmospheric Administration [NOAA], 2024). July is the hottest month, with an average daily high temperature of 104.9 degrees Fahrenheit (°F) and an average low temperature of 77.9°F. Average temperatures in spring, summer, and fall are 66.3°F (April), 91.4°F (July), and 69.5°F (October), respectively. Winter temperatures tend to be mild; December is the coolest month of the year, with an average daily high temperature of 58.5°F and an average low temperature of 36.8°F (NOAA, 2024).

Precipitation in the Creech AFB area occurs almost entirely in the form of rain. Creech AFB normally receives about 4.72 inches of precipitation annually, and extended periods of drought have been recorded (NOAA, 2024). Precipitation typically has seasonal peaks in winter and summer. Winter rains occur primarily in December, January, and February with an annual average of 0.58, 0.55 and 0.79 inches, respectively. Winter rains originate from frontal systems that begin in the Pacific Ocean and move eastward across Nevada. Summer rains result from moisture moving into Nevada from Mexico, the Gulf of Mexico, and/or the Gulf of California. Summer rains or monsoons tend to be highly localized and result in brief, torrential downpours often accompanied by high winds and lightning, causing flooding and flows in otherwise dry stream channels.

### 3.6.3 Environmental Consequences

#### 3.6.3.1 Evaluation Criteria and Methodology

The environmental impact methodology for air quality impacts presented in this EA is derived from Air Force Manual (AFMAN) 32-7002, *Environmental Compliance and Pollution Prevention* (February 2020). The Proposed Action is broken down into basic units. For example, a basic development project that consists of replacing a building with a new building could be broken down into demolition (square feet [$ft^2$]), grading ($ft^2$), building construction ($ft^2$ and height), architectural coatings ($ft^2$), and paving ($ft^2$). These data are then input into the Air Force's Air Conformity Applicability Model (ACAM), which models emissions based on the inputs and estimates air emissions for each specific criteria and precursor pollutant, as defined in the NAAQS. The calculated emissions are then compared against the applicable threshold based on the attainment status of the ROI. If the annual net increase in emissions from the project are below the applicable thresholds, then the Proposed Action Alternatives are not considered significant and would not be subject to any further conformity determination. Assumptions of the model, methods, and detailed summary results are provided in **Appendix B** of this EA.

The LVIAQCR is in attainment for all NAAQS for the project area, which includes the portion of Clark County that lies outside of Hydrographic Area 212. Due to the attainment status; the 250 tpy PSD value is used for volatile organic compounds, nitrogen oxides, carbon monoxide, ammonia, $PM_{2.5}$, and $PM_{10}$. Additionally, due to the toxicity of lead, the use of the lead PSD threshold as an indicator of potential air quality impact

insignificance is not protective of human health or the environment. Therefore, the *de minimis* value of 25 tpy is used instead. The Air Force has adopted a PSD value of 75,000 tpy (68,039 metric tons per year) for $CO_2e$. The following thresholds are applicable for the Proposed Action:

- 250 tpy PSD value for volatile organic compounds, nitrogen oxides, carbon monoxide, ammonia, $PM_{2.5}$, and $PM_{10}$
- 25 tpy *de minimis* value for lead
- 75,000 tpy PSD value for $CO_2e$

**Assumptions**

For the purpose of the ACAM analysis, the demolition, construction, grading, and trenching activities are assumed to start and finish within the year they are scheduled. The area of grading is estimated to be 20-percent greater than the combined area of demolition and construction activities.

### 3.6.3.2 Alternative 1

**Table 3-3** summarizes the results of the ACAM analysis annualized over the course of implementation of Alternative 1 within the LVIAQCR. **Table 3-4** summarizes the highest annual ACAM emissions for each pollutant compared to their respective thresholds for Alternative 1 within the LVIAQCR.

**Table 3-3.**
**Annual Air Emissions, LVIAQCR**

| Pollutant | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 (steady-state) |
|---|---|---|---|---|---|---|---|
| Volatile organic compound | 0.136 | 0.220 | 0.550 | 2.914 | 1.070 | 0.132 | 0.031 |
| Nitrogen oxides | 1.127 | 1.099 | 2.514 | 4.957 | 2.933 | 2.577 | 1.812 |
| Carbon monoxide | 1.472 | 1.674 | 3.036 | 4.521 | 2.044 | 1.381 | 0.453 |
| Sulfur oxides | -0.099 | -0.122 | 0.519 | 3.078 | 3.884 | 3.915 | 3.913 |
| $PM_{10}$ | 0.174 | 0.059 | 19.709 | 138.943 | 9.196 | 0.226 | 0.112 |
| $PM_{2.5}$ | 0.046 | 0.044 | 0.080 | 0.158 | 0.076 | 0.064 | 0.042 |
| Lead | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Ammonia | 0.001 | 0.002 | 0.002 | 0.004 | 0.002 | 0.004 | 0.000 |
| Carbon dioxide-equivalent | 135.1 | 176.9 | 673.1 | 2,085.5 | 1,898.7 | 1,906.9 | 1,682.8 |

LVIAQCR = Las Vegas Intrastate Air Quality Control Region; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; $PM_{10}$ = particulate matter less than or equal to 10 microns in diameter

**Table 3-4.**
**Highest Annual Air Emissions and Indicators/Thresholds, LVIAQCR**

| Pollutant | Highest Annual Emissions (ton/yr) | GENERAL CONFORMITY | |
|---|---|---|---|
| | | Threshold (ton/yr) | Exceedance (yes or no) |
| Volatile organic compound | 2.914 | 250 | No |
| Nitrogen oxides | 4.957 | 250 | No |
| Carbon monoxide | 4.521 | 250 | No |
| Sulfur oxides | 3.915 | 250 | No |
| $PM_{10}$ | 138.943 | 250 | No |
| $PM_{2.5}$ | 0.158 | 250 | No |
| Lead | 0.000 | 25 | No |
| Ammonia | 0.004 | 250 | No |
| Carbon dioxide-equivalent | 2,085.5 | 75,000 | No |

LVIAQCR = Las Vegas Intrastate Air Quality Control Region; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; $PM_{10}$ = particulate matter less than or equal to 10 microns in diameter; PSD = Prevention of Significant Deterioration

The proposed projects under Alternative 1 include a significant amount of grading, construction, paving, trenching, and increased building heating. The years with the greatest air quality impacts include 2025, during which the solar and battery system would be installed (Project C11, Site A), and 2026, during which Taxiway Alpha would be extended (Project C1). The grading activities, in particular, would be expected to contribute significantly to the $PM_{10}$ emissions. The 2026 annual $PM_{10}$ emissions are anticipated to be approximately 19.709 tpy and the 2027 annual $PM_{10}$ emissions are anticipated to be approximately 138.943 tpy. However, these elevated $PM_{10}$ emissions would be below the applicable thresholds of significance. The highest air quality impacts are expected to be short term and related to construction. The steady-state (operational) impacts are anticipated to be very minor. For example, the steady-state $PM_{10}$ emissions are anticipated to be an additional 0.112 tpy annually over the current conditions.

Projects C1–C3, C6–C15, C19, C22, C24, C25, C27, I1–I3, and D2–D4 would require a Clark County Dust Control Operating Permit, which is required for soil disturbance or construction activity that exceeds 0.25 acre or trenching activity that exceeds 100 ft.

#### 3.6.3.3 Alternative 2

The ACAM assumptions of grading area, construction area, and timeline for Project C11 (Site B) would be the same as under Alternative 1. As such, the results of the ACAM model for Alternative 2 are the same as Alternative 1. Elevated $PM_{10}$ emissions would be expected to occur during construction in 2026 and 2027 but are not anticipated to exceed the PSD threshold. The highest air quality impacts are expected to be short term and related to construction. The steady-state impacts are anticipated to be minor.

#### 3.6.3.4 Alternative 3

The ACAM assumptions of grading area, construction area, and timeline for Project C11 (Site C) would be the same as under Alternative 1. As such, the results of the ACAM model for Alternative 3 are the same as Alternative 1. Elevated $PM_{10}$ emissions would be expected to occur during construction in 2026 and 2027 but are not anticipated to exceed the PSD threshold. The highest air quality impacts are expected to be short term and related to construction. The steady-state impacts would be minor.

#### 3.6.3.5 Cumulative Impacts

Implementation of the Proposed Action Alternatives, when combined with the actions identified in **Table 3-1**, would be anticipated to have short-term, negligible-to-minor adverse impacts to air quality. The BLM solar project, I-11 feasibility study, Indian Springs Schools project, the High Desert State Prison project, and the Southern Desert Correctional Center project would involve short-term construction and the use of earth-moving equipment. When considered in conjunction with the effects of other past, present, and reasonably foreseeable future actions at Creech AFB, no significant cumulative impacts to air quality would be anticipated to occur with implementation of the Proposed Action.

#### 3.6.3.6 No Action Alternative

Under the No Action Alternative, the DAF would not implement the proposed Installation development projects listed in **Table 2-1**. Development of facilities and infrastructure that would support the training and flight programs would not take place. Creech AFB would continue to operate under current conditions; fugitive dust emissions would not occur from construction, demolition, and renovation of facilities; facilities would continue to degrade; and no change to air quality would be expected to occur beyond baseline conditions.

## 3.7 WATER RESOURCES

### 3.7.1 Definition of the Resource

Water resources include surface water, groundwater, stormwater, and floodplains. The *Federal Water Pollution Control Act of 1948*, as amended by the CWA, was enacted to protect water resources vulnerable to contamination and quality degradation. The CWA provides the authority to establish water quality standards, control discharges into surface and subsurface waters (including groundwater), develop waste treatment management plans and practices, and issue permits for discharges. A National Pollutant Discharge Elimination System (NPDES) permit under Section 402 of the CWA is required for discharges into navigable waters. The NDEP issues NPDES permits, with USEPA oversight. The NDEP also implements the CWA Section 401 state water quality certification program, providing the state of Nevada the opportunity to consider adverse water quality impacts accumulating on proposed federal activities.

The ROI for this resource is Creech AFB.

#### 3.7.1.1 Surface Water

The USEPA defines surface waters as waters of the US, which are primarily lakes, rivers, estuaries, coastal waters, and wetlands. Jurisdictional waters, including surface water resources, as defined in 33 CFR § 328.3, are regulated under Sections 401 and 404 of the CWA and Section 10 of the *Rivers and Harbors Act*. Man-made features not directly associated with a natural drainage, such as upland stock ponds and irrigation canals, are generally not considered jurisdictional waters.

#### 3.7.1.2 Stormwater

Stormwater is surface water runoff generated from precipitation and has the potential to introduce sediments and other pollutants into surface waters. Stormwater is regulated under the CWA Section 402 NPDES program. Impervious surfaces such as buildings, roads, parking lots, and even some natural soils increase surface runoff. Stormwater management systems are designed to contain runoff on site during construction and to maintain predevelopment stormwater flow characteristics following development through either the application of infiltration or retention practices. The *Energy Independence and Security Act* establishes stormwater design requirements for development and redevelopment projects. Under these requirements, federal facility projects larger than 5,000 $ft^2$ must maintain or restore, to the maximum extent feasible, the predevelopment hydrology of the property with respect to the water temperature, rate, volume, and duration of flow.

#### 3.7.1.3 Groundwater

Groundwater is water that exists in the saturated zone beneath the earth's surface in pore spaces and fractures and includes aquifers. Groundwater is recharged through percolation of water on the ground's surface (e.g., precipitation and surface water bodies) and upward movement of water in lower aquifers through capillary movement. Groundwater is an essential resource that can be used for drinking, irrigation, and industrial processes, and can be described in terms of depth from the surface, aquifer or well capacity, water quality, recharge rate, and surrounding geologic formations. Groundwater quality and quantity are regulated under several different programs. The federal underground injection control regulations, authorized under the *Safe Drinking Water Act of 1974* (Public Law 93-523; 42 USC 300f–300j) require a permit for the discharge or disposal of fluids into a well. The federal sole source aquifer regulations, also authorized under the *Safe Drinking Water Act*, protect aquifers that are critical to water supply.

#### 3.7.1.4 Floodplains

Floodplains are areas of low-level ground along rivers, stream channels, or coastal waters that provide a broad area to inundate and temporarily store floodwater. In their natural vegetated state, floodplains slow the rate at which the incoming overland flow reaches the main water body. Floodplains are subject to

periodic or infrequent inundation due to rain or melting snow. The risk of flooding is influenced by local topography, the frequency of precipitation events, and the size and characteristics of the watershed upslope of the floodplain.

The Federal Emergency Management Agency (FEMA) evaluates and maps flood potential, which defines the 100-year (regulatory) floodplain. The 100-year floodplain is the area that has a one-percent annual chance of inundation by floodwater. FEMA uses letter designations for flood zone classification. Zone A designates 100-year floodplains where flood depths (base flood elevations) have not been calculated and further studies are needed. Zone AE floodplains include calculated base flood elevations. Base flood elevations are minimum elevation standards for buildings. Zone X indicates areas outside of the FEMA 100-year regulatory floodplain and indicate a low risk of flooding hazards (FEMA, 2020). Federal, state, and local regulations often limit floodplain development to passive uses, such as recreational and preservation activities, to reduce the risks to property and human health and safety.

EO 11988, *Floodplain Management*, provides guidelines that agencies should carry out as part of their decision-making process on projects that have potential impacts to or within the floodplain. This EO requires that federal agencies avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and avoid direct and indirect support of floodplain development wherever there is a practicable alternative. EO 13690, *Establishing a Flood Risk Management Standard and Process for Further Soliciting and Considering Stakeholder Input*, established a Federal Flood Risk Management Standard and a process for further soliciting and considering stakeholder input; however, this EO was later revoked by Section 6 of EO 13807, *Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure*. EO 13807 did not revoke or otherwise alter EO 11988.

#### 3.7.1.5 Wetlands

The CWA regulates discharges of pollutants in surface waters of the US. Section 404 of the CWA established a program to regulate the discharge of dredged and fill material into waters of the US, including wetlands. The United States Army Corps of Engineers (USACE) defines wetlands as “those areas that are inundated or saturated with ground or surface water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions” (Environmental Laboratory, 1987). Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR Part 328). Federal protection of wetlands is also promulgated under EO 11990, *Protection of Wetlands*, the purpose of which is to reduce adverse impacts associated with the destruction or modification of wetlands. This EO directs federal agencies to provide leadership in minimizing the destruction, loss, or degradation of wetlands.

### 3.7.2 Existing Conditions

#### 3.7.2.1 Surface Water

Creech AFB is located in an area characterized by low precipitation and sporadic, severe thunderstorms due to its semiarid climate. Creech AFB lies within the Indian Springs Valley basin, a contained basin that does not connect to waters of the US, and contributes to the southern portion of the Sand Springs-Tikaboo Watershed. The minor amounts of surface water located within the watershed occur in the form of ephemeral streams, alluvial fans, valley collectors, and dry lake beds or playa lakes. Within Creech AFB, ephemeral streams are located in the northern portions of the Installation. These streams originate north of the Installation and cross the Munitions Storage Area District, portions of the Mission Operations Complex and Community Support districts, and most of the unoccupied areas in the northwest corner of the Installation (**Figure 3-1**). The small quantity of precipitation that does occur is often lost to evaporation. Runoff from surrounding mountain snowpacks is also prone to evaporation, collecting and depositing salts and other materials in the area’s playas and dry lake beds. Because of these salt and material deposits, vegetation is stunted. Surrounding Creech AFB, ephemeral streams exist only for hours or weeks, depending on the time of year (DAF, 2023a).

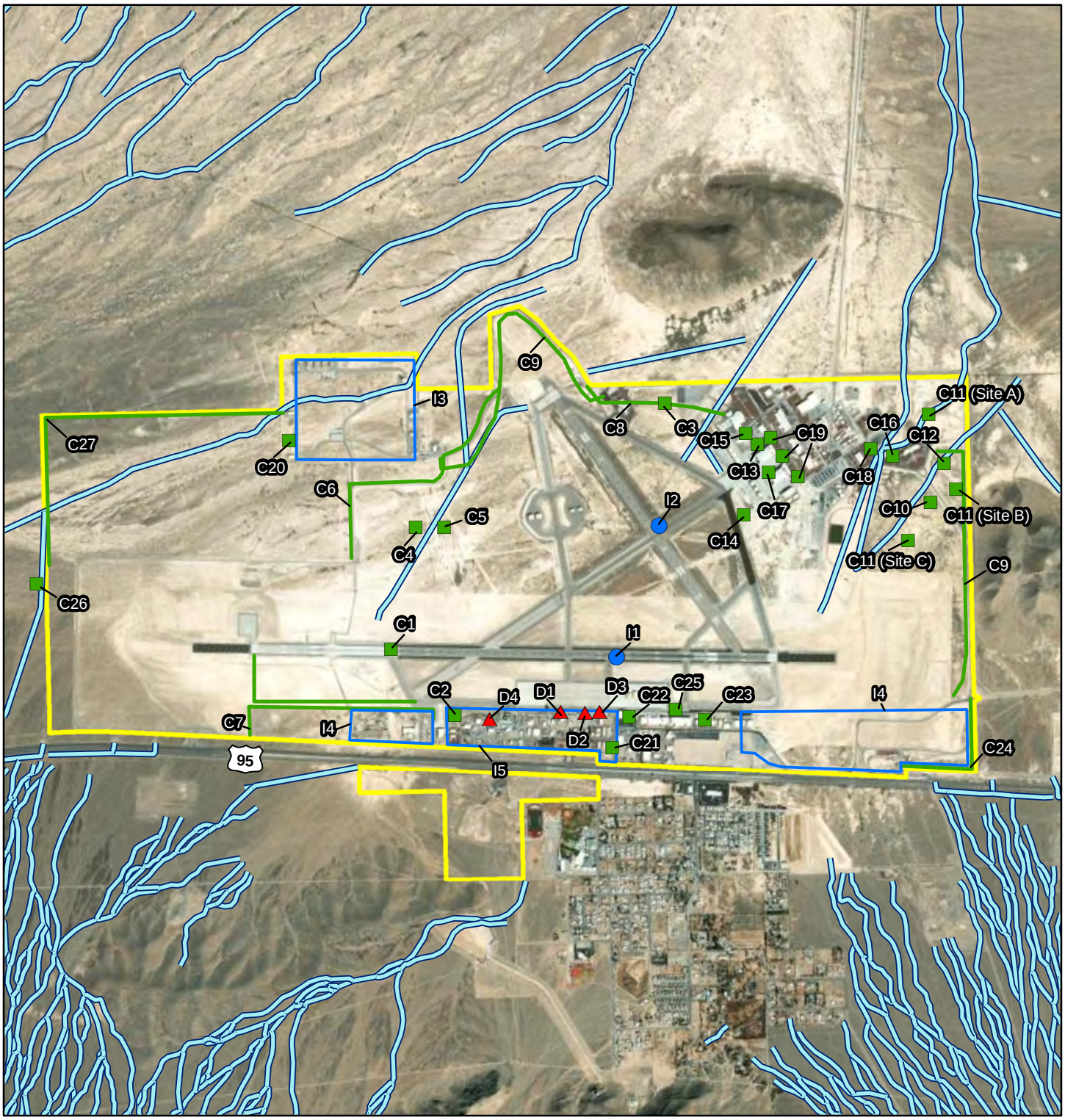


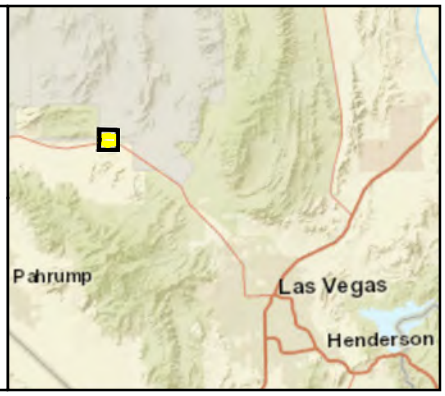

**FIGURE 3-1**
Surface Water

- Construction
- Demolition
- Infrastructure
- Ephemeral Streams
- Linear Construction
- Linear Infrastructure
- Installation Boundary

N

0 0.25 0.5 Mile

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 11N



#### 3.7.2.2 Stormwater

Creech AFB and the surrounding areas are prone to intense thunderstorms that can result in flash floods. Annually, these storms generate approximately 4.5 inches of precipitation, where most months receive 0 inches of rainfall (DAF, 2021). These waters are prone to evaporation but supply the area's ephemeral streams for limited amounts of time. Four stormwater inlets are located along the southern portion of the Installation with five outlets and one larger outfall located in the northern and northeastern portions of Creech AFB, respectively. Stormwater runoff within Creech AFB is diverted through the ephemeral streams and a series of unlined channels and either evaporates or discharges through the Installation's northeast outfall. The outfall diverts stormwater off the Installation and into the Indian Springs Valley dry playa to the north, where it evaporates and/or contributes to the expansive groundwater system in the area (DAF, 2021). Much of Creech AFB is flat, and evaporation rates are high due to high temperatures and an arid environment. As such, stormwater runoff does not always reach the outfall before evaporating or soaking into the terrain, though the capacity for stormwater drainage remains when needed. Creech AFB holds a NPDES permit to discharge stormwater in association with Creech AFB's Multi-Sector General Permit Industrial Stormwater – NVR050000, which was renewed 11 June 2024. Creech AFB discharges stormwater through NPDES Permit GNV00022233 (DAF, 2023a).

#### 3.7.2.3 Groundwater

Creech AFB is located within the carbonate rock province of the Great Basin; this province covers eastern and southern Nevada and western Utah. Groundwater within this province is extensive due to the permeability of carbonate rock. Groundwater within the province is located hundreds of feet below ground surface and is contained within two interconnected aquifer systems: one deep and one shallow. The deep aquifer system is expansive and contained in carbonate bedrock while the shallow aquifer system is alluvial, residing in individual basins and watersheds (DAF, 2023a). Both systems rely on winter snowpack and storm precipitation for recharge.

Within Creech AFB, the amount of groundwater recharge that occurs is highly dependent on the permeability of the soils, the amount of precipitation received, and the rate at which surface evaporation or groundwater evapotranspiration occurs. Groundwater recharge rates rely on permeable surfaces with the occurrence of more precipitation than evapotranspiration. Creech AFB utilizes three groundwater wells to support the Installation's supply of water (DAF, 2023a).

#### 3.7.2.4 Floodplains

FEMA floodplain data are not available for Creech AFB. However, permanent streams are not known to occur within the boundaries of the Installation (**Figure 3-1**). Flooding is anticipated to occur as flash floods follow storm events, and shallow flooding can occur from impermeable surfaces such as pavements or poorly drained soils. During storm events, the ephemeral streams and dry lake beds fill with precipitation, resulting in opportunities for flash flooding events (DAF, 2023a). The nearest FEMA floodplain is over 1 mile west of Creech AFB (FEMA, 2002).

#### 3.7.2.5 Wetlands

No known wetlands occur within the boundaries of Creech AFB; additionally, no jurisdictional wetland delineations have occurred on the Installation. While some hydrologic areas support ephemeral streams, further analysis would need to be conducted to determine if wetlands characteristics are present within the Installation (DAF, 2023a). Therefore, the topic of wetlands is not carried forward for analysis in this EA.

### 3.7.3 Environmental Consequences

#### 3.7.3.1 Evaluation Criteria

Evaluation criteria for potential impacts on water resources are based on water availability, quality, and use; existence of floodplains; and associated regulations. Potential adverse impacts to water resources would occur if the Proposed Action or Alternatives:

- reduce water availability or supply to existing users,
- overdraft groundwater basins,
- exceed safe annual yield of water supply sources,
- adversely affect water quality,
- endanger public health by creating or worsening health hazard conditions, or
- violate established laws or regulations adopted to protect sensitive water resources.

#### 3.7.3.2 Alternative 1

**Surface Water**

Permanent surface water resources do not exist within the boundaries of Creech AFB. Under Alternative 1, approximately 4,000,000 $ft^2$ (approximately 93 acres) of net building footprint would be constructed, increasing the overall impervious surface within the Installation; however, the majority of the construction projects would occur in developed areas. Approximately 62,000 $ft^2$ of linear construction would also occur. Increases in the overall impervious surface within the Installation would lead to increased runoff into ephemeral streams and dry lake beds found within and near the Installation. Under Alternative 1, long-term, moderate, adverse impacts to surfaces waters would be anticipated to occur due to the increase in impervious surfaces.

Projects proposed in the northern portions of the Installation under Alternative 1 have the potential to impact ephemeral streams (**Figure 3-1**). Projects C6, C8, C9, C11, C12, C16, C18, C20, C26, C27, and I3 are intersected by mapped ephemeral streams. However, these streams only contain water during precipitation events and are prone to rapid evaporation. In addition, the potential for runoff from construction and demolition sites during these events would be managed through the application of BMPs. Short-term, minor, adverse impacts to surface water would be anticipated to occur under Alternative 1.

**Stormwater**

The increase in the overall impervious surface under Alternative 1 would lead to increased runoff into ephemeral streams, dry lake beds, and stormwater infrastructure found within and near the Installation. Creech AFB is largely developed and has the capacity to manage increased stormwater runoff from additional impervious surfaces through unlined channels and ephemeral streams. These routes carry stormwater runoff from developed areas into dry lake beds that distribute and hold water for short periods of time before evaporating and returning to dry conditions.

Potential adverse impacts to stormwater management would be managed at an individual project level. When applicable, the construction contractor would obtain and comply with a Construction General Permit (CGP) under the NDEP-administered NPDES program. The CGP would require the preparation, approval, and implementation of a site-specific stormwater pollution prevention plan for projects greater than 1 acre (i.e., Projects C1, C10, C11, C13, C14, I1, and I2) prior to construction, including appropriate structural and non-structural erosion, sediment, and waste control BMPs.

During construction, crews would adhere to BMPs for stormwater management, as determined by the Creech AFB Natural Resources Division, to minimize runoff potential. Potential BMPs include:

- maintaining grading and topography at project locations,
- staging equipment and construction materials in areas outside of known flash flooding areas,
- adhering to and implementing BMPs for construction and post-construction stormwater management in accordance with the USEPA's National Menu of Best Management Practices (BMPs) for Stormwater or other technical guidance, and
- designing projects to utilize stormwater drainage through the numerous, existing unlined channels and ephemeral streams at Creech AFB, which have adequate capacity to support additional development.

All demolition projects would be located in the Southside Operations District, which is highly developed. Demolition without reconstruction would provide a small offset from the increase in impervious surfaces, resulting in an increase of approximately 12,400 $ft^2$ of permeable ground surfaces. This offset would allow water in the area to permeate the ground surface and recharge groundwater resources as opposed to contributing to additional stormwater runoff.

During storm events, linear construction projects involving airfield fencing (Projects C6–C8 and C24), may impact stormwater runoff by catching debris and impeding flow. The impediment of stormwater flow would have the potential to increase the probability of flash flooding during severe storm events. Debris removal and fence maintenance would help to ensure water moves freely in these areas. Projects C1–C5, C10–C18, C20–C23, C25, and C26 would result in increases to stormwater runoff due to an increase in impervious surfaces on undeveloped parcels within the Installation (i.e., where surfaces were previously permeable). Short-term, minor, adverse impacts to stormwater would have the potential to occur during construction activities and would be managed with implementation of the BMPs described above. Creech AFB would have the capacity to manage the increase in stormwater runoff associated with the increased impervious surface area under Alternative 1 through ephemeral stream and unlined channel drainage. Long-term, minor impacts to stormwater would be anticipated to occur due to the overall increase in impervious surface area and subsequent runoff within the existing system.

**Groundwater**

The increase in overall impervious surface under Alternative 1 would further limit the ability of groundwater resources to recharge directly below the Installation. However, the underground water system is expansive in this area and the interconnected system below would remain able to absorb water from the adjacent, undeveloped areas surrounding Creech AFB. Therefore, no impacts to groundwater would be anticipated under Alternative 1.

**Floodplains**

There are no identified FEMA floodplains within Creech AFB; however, storm events are anticipated to result in flash flooding and shallow flooding where impermeable surfaces or poorly drained soils exist.

Additionally, during storm events, linear construction projects, such as airfield fencing, may impact stormwater runoff by catching debris and impeding flow. The impediment of stormwater flow would have the potential to increase the probability of flash flooding during severe storm events. Debris removal and fence maintenance would help to ensure water moves freely in these areas; therefore, long-term, negligible, adverse impacts to floodplains would be anticipated to occur under Alternative 1.

### 3.7.3.3 Alternative 2

There would be no difference in the amount of increased overall impervious surface associated with Alternative 2 of the Proposed Action, when compared to Alternative 1. Therefore, potential impacts to

surface water, stormwater, groundwater, and floodplains would be anticipated to be the same as Alternative 1.

#### 3.7.3.4 Alternative 3

There would be no difference in the amount of increased overall impervious surface associated with Alternative 3 of the Proposed Action, when compared to Alternative 1. Therefore, potential impacts to surface water, stormwater, groundwater, and floodplains would be anticipated to be the same as Alternative 1.

#### 3.7.3.5 Cumulative Impacts

When combined with projects identified in **Table 3-1**, implementation of the Proposed Action Alternatives would have the potential to impact water resources due to temporary construction activities and increased runoff from new impervious surfaces near ephemeral streams within the region. The increase of impervious surfaces could result in runoff to these streams, dry lake beds and washes, and existing stormwater infrastructure in the area. BMPs and mitigation would be employed on a project-level basis to minimize impacts to these resources where practicable. The High Desert State Prison and the Southern Desert Correctional projects would involve upgrades to existing facilities and would not be expected to impact the water resources in this area. When considered in conjunction with the effects of past, present, and reasonably foreseeable actions at Creech AFB, minor, adverse cumulative impacts to surface water, stormwater, groundwater, and floodplains would be anticipated to occur with implementation of the Proposed Action.

#### 3.7.3.6 No Action Alternative

Under the No Action Alternative, the DAF would not implement the proposed Installation development projects listed in **Table 2-1**. Development of the facilities and infrastructure that would support the training and flight programs would not take place. Creech AFB would continue to operate under current conditions, facilities would continue to degrade, and no change to water resources at Creech AFB would be expected to occur beyond baseline conditions.

## 3.8 BIOLOGICAL/NATURAL RESOURCES

### 3.8.1 Definition of the Resource

Biological resources include native or invasive plants and animals; sensitive and protected floral and faunal species; and the associated habitats, such as wetlands, forests, grasslands, cliffs, and caves in which they exist. Habitat can be defined as the resources and conditions in an area that support a defined suite of organisms. The following is a description of the primary federal statutes that form the regulatory framework for the evaluation of biological resources.

The ROI for this resource is Creech AFB.

#### 3.8.1.1 Endangered Species Act

The ESA established protection for threatened and endangered species and the ecosystems upon which they depend. Sensitive and protected biological resources include plant and animal species listed as threatened, endangered, or special status by USFWS. The ESA also allows the designation of geographic areas as critical habitat for threatened or endangered species. Under the ESA, an “endangered species” is defined as any species in danger of extinction throughout all, or a large portion, of its range. A “threatened species” is defined as any species likely to become an endangered species in the foreseeable future. USFWS maintains a list of candidate species being evaluated for possible listing as threatened or endangered under the ESA. Although candidate species receive no statutory protection under the ESA,

USFWS has attempted to advise government agencies, industry, and the public that these species are at risk and may warrant protection in the future under the ESA.

#### 3.8.1.2 Migratory Bird Treaty Act

The MBTA makes it unlawful for anyone to take migratory birds or their parts, nests, or eggs unless permitted to do so by regulations. Per the MBTA, "take" is defined as "pursue, hunt, shoot, wound, kill, trap, capture, or collect" (50 CFR § 10.12). Birds protected under the MBTA include nearly all species in the US except for non-native/human-introduced species and some game birds.

EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, requires all federal agencies undertaking activities that may negatively impact migratory birds to follow a prescribed set of actions to further implement MBTA. EO 13186 directs federal agencies to develop a Memorandum of Understanding with USFWS that promotes the conservation of migratory birds.

The *National Defense Authorization Act for Fiscal Year 2003* (Public Law 107-314, 116 Stat. 2458) provided the Secretary of the Interior the authority to prescribe regulations to exempt the armed forces from the incidental take of migratory birds during authorized military readiness activities. Congress defined military readiness activities as all training and operations of the US Armed Forces that relate to combat and the adequate and realistic testing of military equipment, vehicles, weapons, and sensors for proper operation and suitability for combat use. Further, in October of 2012, the Authorization of Take Incidental to Military Readiness Activities was published in the *Federal Register* (50 CFR § 21.15), authorizing incidental take during military readiness activities unless such activities may result in significant adverse effects on a population of a migratory bird species.

In December 2017, the US Department of the Interior issued M-Opinion 37050, which concluded that the take of migratory birds from an activity is not prohibited by the MBTA when the purpose of that activity is not the take of a migratory birds, eggs, or nests. On August 11, 2020, the US District Court, Southern District of New York, vacated M-Opinion 37050. Thus, the incidental take of migratory birds is again prohibited. The interpretation of the MBTA remains in flux, and additional court proceedings are expected.

#### 3.8.1.3 Bald and Golden Eagle Protection Act

The *Bald and Golden Eagle Protection Act of 1940* (16 USC §§ 668–668d) (BGEPA) prohibits actions to "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle [or any golden eagle], alive or dead, or any part, nest, or egg thereof." Further, the BGEPA defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb," and "disturb" is defined as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, injury to an eagle, a decrease in productivity by substantially interfering with the eagle's normal breeding, feeding or sheltering behavior, or nest abandonment by substantially interfering with the eagle's normal breeding, feeding, or sheltering behavior." The BGEPA also prohibits activities around an active or inactive nest site that could result in disturbance to returning eagles.

#### 3.8.1.4 Invasive and Noxious Weed Species

Invasive species are non-native species in an ecosystem whose introduction causes or is likely to cause economic or environmental harm, or harm to human, animal, or plant health. EO 13751, *Safeguarding the Nation from the Impacts of Invasive Species*, requires federal agencies to identify actions that may affect invasive species; use relevant programs to prevent introductions of invasive species; detect, respond, and control such species; monitor invasive species populations; and provide for restoration of native species. Invasive species damage native habitat and impede management by outcompeting native species.

## 3.8.2 Existing Conditions

### 3.8.2.1 Ecoregion Description

Creech AFB is located within the Mojave Basin and Range terrestrial ecoregion, which includes Mojave mid-elevation mixed desert shrub and Mojave warm desert habitats (NDOW, 2022). The vegetation and wildlife found within the Installation are described below.

### 3.8.2.2 Vegetation

As described in the 2020 *Integrated Natural Resources Management Plan: Nellis Air Force Base, Creech Air Force Base, Nevada Test and Training Range* (DAF, 2020), Creech AFB is in the northeastern portion of the Mojave Desert within the Mojave biogeographic province, a dry environment that receives approximately 4 inches of precipitation per year. Most of the land area on Creech AFB has been developed for Installation and airfield infrastructure or has been graded to remove vegetation as part of bird/wildlife strike hazard (BASH) management efforts. No detailed vegetation inventory or mapping has been conducted due to the sparseness of the plants that remain. In 2023, Creech AFB prepared the *Integrated Natural Resources Management Plan (Regulatory Draft)* (DAF, 2023a). This update describes the three most prevalent key habitats found on Creech AFB as the Desert Playas and Ephemeral Pools Habitat (approximately 965 acres), the Intermountain Cold Desert Scrub Habitat (approximately 235 acres), and the Mojave Warm Desert and Mixed Desert Scrub Habitat (approximately 1,209 acres).

The remaining native vegetation and historical vegetation on Creech AFB are influenced by its location on the north edge of a bajada (an alluvial area at the foot of a mountainous area) that extends from the Spring Mountains southward to a broad area of ephemeral desert washes that drain a playa on the NTTR-South Range from the north. Vegetation on bajadas in the Mojave Desert is characterized by an open shrub layer primarily made up of creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). Other common species include shadscale saltbush (*Atriplex confertifolia*), Nevada jointfir (*Ephedra nevadensis*), burrobrush (*Ambrosia salsola*), winterfat (*Krascheninnikovia lanata*), water jacket (*Lycium andersonii*), branched pencil cholla (*Cylindropuntia ramosissima*), Fremont's dalea (*Psorothamnus fremontii*), cottontop cactus (*Echinocactus polycephalus*), Mexican bladdersage (*Salazaria mexicana*), sporadic Mojave yuccas (*Yucca schidigera*), and western Joshua trees (*Yucca brevifolia*).

If there is an herbaceous layer present within the ROI, it is usually sparse and often includes desert trumpet (*Eriogonum inflatum*), California croton (*Croton californicus*), and big galleta (*Pleuraphis rigida*) (DAF, 2022b). Vegetation on the northern part of Creech AFB can be inferred from recent vegetation classification surveys of the NTTR-South Range. Creosote bush and white bursage remain common species but areas of bare soil occur more frequently. Other species that may occur are saltbushes, including four-wing saltbush (*Atriplex canescens*) and shadscale saltbush, cattle spinach (*A. polycarpa*), Mexican bladdersage, desert globemallow (*Sphaeralcea ambigua*), and Nevada jointfir. The northwest corner of Creech AFB is the only remaining area that has been minimally disturbed by previous development and operations (DAF, 2023a).

The climate of Creech AFB supports various drought-tolerant trees and shrubs, perennial species, and grasses that grow in the improved, irrigated areas of the Installation. Improved ground areas include turf grasses and ornamental landscaping that must be maintained regularly. However, over the last several years, Creech AFB has moved toward xeriscaping, a landscaping style meant to cut down on the need for irrigation, by planting native species that are adapted to the dry desert climate to minimize water use and reduce the need for ongoing maintenance. Species that are adapted to environments with little water, such as different types of succulents, can now be found in landscaped areas across the Installation (DAF, 2023a; National Geographic, 2023; Southern Nevada Water Authority & Southern Nevada Regional Planning Coalition, 2021).

### 3.8.2.3 Wildlife

The land within Creech AFB is mostly developed and contains limited wildlife habitat (DAF, 2023a). Because of this limited habitat, the abundance of wildlife within the ROI is low and lacks diversity. However, the portions of the NTTR-South Range that surround Creech AFB to the north and east may contain habitat for species that could move between the range and the Installation, especially birds or other winged species (DAF, 2023a).

Small, terrestrial mammal species are common on Creech AFB and perform important ecological functions such as providing food for various predators, enabling seed dispersal and germination, mixing and aerating soils, and enhancing nutrient cycles. Mammals with the potential to occur on Creech AFB include the white tailed antelope ground squirrel (*Ammospermophilus leucurus*), long-tailed pocket mouse (*Chaetodipus formosus*), desert kangaroo rat (*Dipodomys deserti*), Merriam's kangaroo rat (*Dipodomys merriami*), chisel-toothed kangaroo rat (*Dipodomys microps*), house mouse (*Mus musculus*), desert woodrat (*Neotoma lepida*), Northern grasshopper mouse (*Onychomys leucogaster*), little pocket mouse (*Perognathus longimembris*), canyon mouse (*Peromyscus crinitus*), deer mouse (*Peromyscus maniculatus*), and round-tailed ground squirrel (*Xerospermophilus tereticaudus*) (DAF, 2023a).

Reptiles confirmed to be present on Creech AFB include the Great Basin whiptail (*Aspidoscelis tigris tigris*), zebra-tailed lizard (*Callisaurus draconoides*), yellow-backed spiny lizard (*Sceloporus uniformis*), and side-blotched lizard (*Uta stansburiana*). Reptiles with a probable presence on Creech AFB are the regal ring-necked snake (*Diadophis punctatus regalis*) and western ground snake (*Sonora semiannulata*). One amphibian, the red-spotted toad (*Anaxyrus punctatus*), also has a probable presence within the Installation (DAF, 2023a).

Due to its small size, a perimeter fence that keeps wildlife from most of the Installation, and limited suitable wildlife habitat available, Creech AFB does not require extensive fish and wildlife management. Combined with the lack of water resources and the resulting lack of fish species, amphibians, and waterfowl, most of the fish and wildlife management on the Installation is focused on conservation efforts or reducing BASH risks from small mammals and avian species (DAF, 2023a).

### 3.8.2.4 Threatened, Endangered, and Other Protected Species

**Threatened or Endangered Species**

The only federally designated species known to occur on Creech AFB is the Mojave Desert tortoise (*Gopherus agassizii*). The Mojave population of the desert tortoise was listed as threatened under the ESA in 1990. No critical habitat for the Mojave Desert tortoise exists within the ROI, but there is some marginal habitat available (USFWS, 2023). The Mojave Desert tortoise is also protected by the state of Nevada because its populations are declining due to fragmentation and loss of habitat as well as disease and human activity (DAF, 2023a).

The Mojave Desert tortoise is found in arid and semiarid desert environments. It utilizes a variety of habitats, including desert flats and slopes dominated by creosote scrub at lower elevations and black brush/juniper woodland transition zones at medium elevations. The species requires soils that are easy to dig burrows in, but firm enough to prevent the burrows from collapsing. It also requires rocky habitats, as it prefers to burrow beneath rocks, and often finds food in washes and draws that channel rainwater. Mojave Desert tortoises are considered a keystone species because the burrows they create are used as shelter by many other Mojave Desert species; their digging also supports nutrient cycling in desert soils (DAF, 2023a).

The Desert National Wildlife Refuge abuts Creech AFB's northern boundary (see **Figure 1-2**). This is the largest wildlife refuge in the contiguous US of which the Mojave Desert tortoise is a resident species. Located north, west, and east of the Installation, the Mojave Desert tortoise is primarily observed on the NTTR-South Range and has occasionally burrowed under the Creech AFB perimeter fence designed to

keep it out. However, there have been no observations of a breeding population located on Creech AFB (USFWS, 2024; DAF, 2023a).

Two federally designated avian species, the endangered southwestern willow flycatcher (*Empidonax traillii extimus*) and the threatened yellow-billed cuckoo (*Coccyzus americanus)* are known to occur in Nevada. In the western US, both species use habitat with dense cover and nearby water sources, including wooded areas with low, scrubby vegetation, overgrown orchards, abandoned farmland, and dense thickets along streams and marshes (USFWS, 2023b). No habitat for either bird, critical or otherwise, exists in the ROI, and there are no records of their occurrence on the Installation (USWFS, 2023; Creech AFB, 2023).

The Monarch butterfly (*Danaus plexippus*) is a candidate species for protection under the ESA. The Monarch butterfly migrates seasonally in the spring and fall through Nevada, which is part of the butterfly's summer breeding area. Milkweeds (*Asclepias* spp.) are crucial to their breeding process as are the presence of nectar-producing plants (87 FR 26169, 3 May 2022). Due to the lack of water resources and scarce vegetation across Creech AFB, suitable habitat for this species does not exist in the ROI (DAF, 2023a).

**Migratory Birds**

Migratory and neotropical bird surveys were conducted on Creech AFB in 2018 and 2019. In 2018, 68 individuals of 14 different species were detected, while in 2019, 31 individuals of 8 different species were detected. The previously noted lack of abundance and diversity of wildlife in the ROI extends to avian species as well due to poor-quality habitat and a lack of bird attractants. Neither survey detected avian species with a special-status designation. Bird species that are confirmed to be present on Creech AFB are the rock pigeon (*Columba livia*), western wood-pewee (*Contopus sordidulus*), common raven (*Corvus corax*), Brewer's blackbird (*Euphagus cyanocephalus*), house finch (*Haemorhous mexicanus*), house sparrow (*Passer domesticus*), great-tailed grackle (*Ouiscalus mexicanus*), Say's phoebe (*Sayornis saya*), yellow warbler (*Setophaga petechia*), red-naped sapsucker (*Sphyrapicus nuchalis*), Eurasian collared dove (*Streptopelia decaocto*), western kingbird (*Tyrannus verticalis*), white-crowned sparrow (*Zonotrichia leucophrys*), and mourning dove (*Zenaida macroura*). The mourning dove prefers to live in Mojave Desert creosote scrub plant communities such as those found on Creech AFB. Two species designated by NDOW as Species of Greatest Conservation Need (SGCN), the phainopepla (*Phainopepla nitens*) and the loggerhead shrike (*Lanius ludovicianus*), are also confirmed to occur on Creech AFB. The loggerhead shrike is also listed as a Nevada sensitive bird (DAF, 2023a).

**Species of High Priority**

The DAF is required to protect and manage state-listed species when consistent with the mission, in accordance with DAFMAN 32-7003, *Environmental Conservation*, Section 3.38.1, *Federally Listed Species*, Nevada has four levels of state protection for wildlife under the Nevada Administrative Code, Chapter 503: state protected, sensitive, threatened, and endangered. In 2022, NDOW published the most recent Nevada State Wildlife Action Plan, a management plan that classifies some species as SGCN. This classification is meant to inform management actions for species that are in need, but it does not provide any state or federal protection (DAF, 2023a). **Table 3-5** presents all Nevada state-listed species that are confirmed to have or have a probable presence on Creech AFB.

### 3.8.2.5 Invasive and Noxious Weed Species

Euro-American settlements in the vicinity of Creech AFB resulted in the introduction of various exotic annual and perennial plants (plants that complete their life cycle in one year and plants that regrow seasonally for several years, respectively), some of which are invasive and continue to persist in the area, dominating local, native vegetation. The most predominant annual invasive plants found on the NTTR-South Range are Russian thistle (*Salsola tragus*) and red brome (*Bromus rubens*), aggressive species that can displace populations of native annual plants in places where soil has been disturbed. If the soil is not disturbed further, Russian thistle will often stop growing but red brome can continue to be dominant in certain habitats

regardless of further soil disturbance. Russian thistle and red brome have been documented on Creech AFB, as well as cheatgrass (*Bromus tectorum*), saltlover (*Halogeton glomeratus*), and tamarisk (*Tamarix* sp.), a Nevada state-listed noxious weed (DAF, 2023a).

**Table 3-5.**
**Species of High Priority on Creech AFB**

| Common Name | Scientific Name | State Status | Presence on Creech AFB |
|---|---|---|---|
| **Birds** | | | |
| Loggerhead shrike | *Lanius ludovicianus* | SGCN, SB | Confirmed |
| Phainopepla | *Phainopepla nitens* | SGCN | Confirmed |
| **Reptiles** | | | |
| Western banded gecko | *Coleonyx variegatus* | SGCN | Confirmed |
| Great Basin collared lizard | *Crotaphytus bicinctores* | SGCN | Confirmed |
| Long-nosed leopard lizard | *Gambelia wislizenii* | SGCN | Confirmed |
| Mojave Desert tortoise | *Gopherus agassizii* | SGCN, TR | Confirmed |
| Desert horned lizard | *Phrynosoma platyrhinos* | SGCN | Confirmed |
| Western threadsnake | *Rena humilis* | SGCN | Probable |
| Chuckwalla | *Sauromalus ater* | SGCN | Confirmed |
| Smith's black-headed snake | *Tantilla hobartsmithi* | SGCN | Probable |
| Sonoran lyre snake | *Trimorphodon lambda* | SGCN | Probable |
| **Mammals** | | | |
| Pallid bat | *Antrozous pallidus* | PM | Confirmed |
| Townsend's big-eared bat | *Corynorhinus townsendii* | SGCN, SM | Confirmed |
| Big brown bat | *Eptesicus fuscus* | PM | Confirmed |
| Silver-haired bat | *Lasionycteris noctivagans* | SGCN | Confirmed |
| Western red bat | *Lasiurus blossevillii* | SGCN, SM | Confirmed |
| Hoary bat | *Lasiurus cinereus* | SGCN | Confirmed |
| Long-eared myotis | *Myotis evotis* | SGCN | Confirmed |
| Fringed myotis | *Myotis thysanodes* | SGCN, PM | Confirmed |
| Canyon bat | *Parastrellus hesperus* | N/A | Confirmed |
| Mexican free-tailed bat | *Tadarida brasiliensis* | SGCN, PM | Confirmed |

Source: Creech AFB, 2023
Notes:
N/A = not applicable; P (M, R, B) = protected mammal, reptile, or bird); SGCN = Species of Greatest Conservation Need; S (M, R, B) = sensitive mammal, reptile, or bird; T (M, R, B) = threatened mammal, reptile, or bird

The Pest Management Program for Creech AFB and the surrounding areas of the NTTR-South Range includes control and management of invasive plants. However, efforts to eradicate red brome from the NTTR-South Range are no longer practical, which has increased the risk of this plant spreading to Creech AFB. In addition to competing with native species for limited soil moisture, the flammable dormant red brome plants increase the susceptibility of areas to more frequent wildland fires to which native plant communities are adapted, but that create ideal conditions for red brome to continue thriving (DAF, 2023a). This creates a self-perpetuating cycle of increased fire activity and further spreading of flammable grass (Fusco et al., 2021).

## 3.8.3 Environmental Consequences

### 3.8.3.1 Evaluation Criteria

Evaluation criteria for potential impacts on biological resources are based on the following:

- importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource;

- proportion of the resource that would be affected relative to its occurrence in the region;
- sensitivity of the resource to the proposed activities; and
- duration of potential ecological impact.

Adverse impacts on biological resources would occur if the Proposed Action negatively affects species or habitats of high concern over relatively large areas or if estimated disturbances cause reductions in population size or distribution of a species of high concern.

As a requirement under the ESA, federal agencies must provide documentation that ensures that the agency's proposed actions would not adversely affect the existence of any threatened or endangered species. The ESA requires that all federal agencies avoid "taking" federally threatened or endangered species (which includes jeopardizing threatened or endangered species habitat).

### 3.8.3.2 Alternative 1

**Vegetation**

Creech AFB is sparsely vegetated and the land use districts where proposed project activities under Alternative 1 would occur have been mostly previously disturbed or developed. Because of the absence of intact native vegetation and the minimal vegetation clearing associated with construction and demolition activities that would occur under Alternative 1, negligible impacts to vegetation would be expected to occur in the Airfield, Community Support, Mission Operations Complex, and Munitions Storage Area districts.

Projects C26 and C27 would take place in undisturbed areas outside of identified districts along the northwestern boundary of the Installation. An environmental baseline survey investigated an 80-acre parcel of land west of Creech AFB, referred to as the northwest parcel, which contains patches of desert pavement interspersed with areas of creosote bush and white bursage. This parcel encompasses a segment of Project C27 that is approximately 3,900 linear feet (lf); the area is located approximately 1,460 feet northeast of Project C26. Project C26 would disturb approximately 4,660 $ft^2$ of vegetation in the vicinity of the northwest parcel to create a stable foundation for a new inspection facility, in addition to approximately 6,200 lf of electric, communication, and water lines and approximately 6,100 $ft^2$ for construction of a new asphalt road to connect the facility to US-95. Fence construction under Project C27 would disturb approximately 11,000 lf of soil. Due to the sparse vegetation cover in the proposed sites for Project C26 and C27, negligible, long-term, adverse impacts to vegetation would be anticipated to occur.

**Wildlife**

There is limited suitable habitat for wildlife within the land use districts on Creech AFB where Alternative 1 projects would be located. Areas of Project C26 that are located outside of the Installation boundary could permanently change habitat to accommodate the new road connecting US-95 to the proposed access gate. Apart from Projects C26 and C27, Alternative 1 would be located on developed portions of the Installation, which support relatively common species of small mammals, birds, and reptiles. The bat maternity season is generally from May through August, and it is possible that bats may roost on some of the buildings scheduled for demolition—Projects D1–D4 (NDOW, 2024). These buildings would be checked for roosting bats prior to demolition. Wildlife, especially avian species, that utilize small, undeveloped areas between buildings for foraging and breeding would normally be sensitive to increased noise impacts from military aircraft. However, operations have been ongoing at Creech AFB for decades and are now part of the natural noise environment. The noise and human activity from construction and demolition activities within the Airfield, Community Support, Mission Operations Complex, and Munitions Storage Area districts would have negligible, short-term, adverse impacts on wildlife. Projects C26 and C27 would be anticipated to have negligible, short- and long-term, adverse impacts on wildlife because of the sparse vegetation, lack suitable habitat for wildlife, and the relatively small area that would be disturbed.

## Threatened, Endangered, and Other Protected Species

### Threatened or Endangered Species

Creech AFB does not contain habitat for either the threatened yellow-billed cuckoo or the endangered southwestern willow flycatcher. Creech AFB does contain marginal habitat for the threatened Mojave Desert tortoise. The desert tortoise has been observed on the adjacent NTTR-South Range but is rarely found on Creech AFB due to lack of vegetation cover and a perimeter fence that is designed to keep it out. The northwest parcel adjacent to Project C26 and where part of Project C27 would be located contains undisturbed vegetation but also large areas of barren desert pavement. While this parcel is not labeled as sensitive habitat, the results of the environmental baseline survey indicated that it was surrounded by desert tortoise habitat, and it was determined that the parcel likely would be designated as tortoise habitat following future desert tortoise surveys (DAF, 2022b). A 2017 Biological Assessment for the NTTR evaluated extending the withdrawal of this land for military use (DAF, 2017). As part of that Biological Assessment, several alternatives were evaluated including one that would expand the NTTR-South Range to I-95, west and east of Creech AFB. Various surveys were conducted during the alternatives evaluation, and one live Mojave Desert tortoise was recorded approximately 5 miles northwest of Projects C26 or C27; no desert tortoises were reported in direct proximity to Creech AFB during the various surveys of the area. Additionally, the nearest desert tortoise survey to Creech AFB (approximately 1.25 miles northwest of the Installation boundary) identified the area as having a “scarce” or “not present” desert tortoise abundance. While the probability of the Mojave Desert tortoise occurring in this area is low, monitoring for desert tortoise in areas of undisturbed vegetation would occur prior to development under Alternative 1. The following BMPs would be implemented at the project sites to prevent the potential for impacts to the Mojave Desert tortoise:

- performing pre-construction clearance surveys,
- monitoring the project site during construction,
- eliminating accumulated water source during construction,
- covering open holes during construction,
- regulating speed limits,
- constructing fencing to enclose the northwest parcel within the boundary of Creech AFB,
- conducting personnel awareness training, and
- disseminating biologist notifications if species are observed.

Construction of Project C27 fencing would contain the remaining land owned by Creech AFB in the northwest parcel, preventing Mojave Desert tortoise access onto the Installation. The DAF has determined that Projects C26 and C27 of the Proposed Action “may affect but are not likely to adversely affect” the Mojave Desert tortoise. The remaining projects under the Proposed Action would have “no effect” on the Mojave Desert tortoise. All projects under the Proposed Action would have “no effect” on the remaining listed species identified in **Table 3-5**. The DAF transmitted a letter seeking USFWS concurrence with the determination on [DATE].

### Migratory Birds

Migratory birds are of the most concern during nesting season, which generally occurs between 1 April and 15 July (US Forest Service, 2020). Migratory birds have the potential to nest in buildings proposed for demolition under Alternative 1; however, all project areas would be checked prior to construction and demolition activities for nesting birds or the presence of migratory species. No impacts to golden eagles would be anticipated under Alternative 1 because suitable habitat for these species does not exist on Creech AFB and none of the proposed projects would have the potential to impact the species while in flight. With implementation of BMPs, including checking buildings prior to demolition and avoiding construction work during certain seasons when practicable, adverse impacts to migratory birds would be anticipated to be short term and negligible.

Species of High Priority

While general species habitat on Creech AFB is limited, it is possible that bats could roost on some of the buildings proposed for demolition under Alternative 1; any such buildings would be checked for roosting bats prior to demolition. Other species of high priority as described in **Table 3-5** would have the potential to occur within the project areas. However, with implementation of BMPs, such as checking buildings prior to demolition and avoiding construction work during certain seasons when practicable, adverse impacts to species of high priority would be anticipated to be short-term and negligible.

**Invasive and Noxious Weed Species**

Unwanted invasive and noxious weed species are controlled through proper methods and management. Both Russian thistle and red brome are particularly adapted to areas where soils have been disturbed. Saltlover also establishes in disturbed areas where vegetation has been removed or along roadsides where native vegetation is sparse (Utah State University Extension, 2024). Soil disturbance associated with either demolition or new construction could create conditions conducive to the establishment of Russian thistle, red brome, or saltlover. Tamarisk grows in places with shallow water tables, such as marshes, streambanks, and irrigation ditches. The Proposed Action would not occur in areas with shallow water tables; therefore, it is unlikely that Alternative 1 would result in the spread of tamarisks (Colorado Department of Agriculture, 2015).

Under Alternative 1, construction activities for Projects C26 and C27 would disturb soils on existing, open, undeveloped space where invasive and noxious weed species are more likely to occur. Any invasive or noxious weed species found during development would be controlled; however, eradication of some species, such as red brome, may be impractical (DAF, 2023a). BMPs, such as checking construction sites for the presence of invasive plants or noxious weeds, using mechanical or chemical treatments, avoiding areas of invasive plants, and washing vehicle tires and undersides and worker's boots prior to leaving the area, would minimize potential transport of seeds to other areas.

The remaining projects under Alternative 1 would occur in improved areas of the Installation. Weed control on the Installation occurs as routine maintenance. While efforts to eradicate red brome have become impractical, the above-listed BMPs support the goal of limiting the spread of red brome from the NTTR-South Range to Creech AFB. Projects that involve soil disturbance would be monitored for invasive plants after project completion. The Creech AFB Pest Management Program, in conjunction with the Creech Natural Resources Program and regulators, oversees invasive and noxious weed species management on the Installation. The Installation is developing an Integrated Pest Management Plan, which will align with the goals and efforts of the Pest Management Program, the Creech Natural Resources Program, regulators, and the approaches described in the National Invasive Species Management Plan (DAF, 2023a). With implementation of BMPs and adherence to appropriate procedures, adverse impacts from invasive and noxious weed species under Alternative 1 would be anticipated to be short term and minor.

### 3.8.3.3 Alternative 2

Under Alternative 2, only the location of Project C11 would change; all other projects and their locations would remain the same. Project C11 (Site B) would be located in a previously disturbed and improved area on the Installation. Potential impacts to biological resources would be anticipated to be the same as Alternative 1.

### 3.8.3.4 Alternative 3

Under Alternative 3, only the location of Project C11 would change; all other projects and their locations would remain the same. Project C11 (Site C) would be located in a previously disturbed and improved area on the Installation. Potential impacts to biological resources would be anticipated to be the same as Alternative 1.

#### 3.8.3.5 Cumulative Impacts

When combined with projects identified in **Table 3-1**, implementation of the Proposed Action Alternatives would be anticipated to have short-term, negligible-to-minor adverse impacts to biological resources as a result of additional soil, vegetation, and/or habitat disturbance. The BLM solar project would clear approximately 5,000 acres of previously undeveloped land. While located approximately 5 miles from Creech AFB, the clearing of 5,000 acres would have the potential to eradicate invasive weeds in the vicinity as well as further reduce the habitat of the Mojave Desert tortoise. However, within Creech AFB, invasive weeds are currently managed and Mojave Desert tortoise habitat is limited with active precautions to keep the tortoise outside of the Installation. The I-11 feasibility study is currently reviewing alternatives, one of which would result in construction of a bypass around Indian Springs, Nevada, which could permanently disturb biological resources in currently undeveloped areas. However, this project is still in its feasibility stage, and there is no development planned. There would be no impacts to biological resources from the Indian Springs Schools, the High Desert State Prison, or the Southern Desert Correctional Center projects; these projects would take place on developed areas. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at Creech AFB, minor, adverse cumulative effects to biological resources would be anticipated to occur with implementation of the Proposed Action.

#### 3.8.3.6 No Action Alternative

Under the No Action Alternative, the DAF would not implement the proposed Installation development projects listed in **Table 2-1**. Development of the facilities and infrastructure that would support the training and flight programs would not take place. Creech AFB would continue to operate under current conditions, facilities would continue to degrade, and no change to biological resources at Creech AFB would be expected to occur beyond baseline conditions.

## 3.9 CULTURAL RESOURCES

### 3.9.1 Definition of the Resource

Cultural resources are any prehistoric or historic district, site, building, structure, or object considered important to a culture or community for scientific, traditional, religious, or other purposes. These resources are protected and identified under several federal laws and EOs including the *Archaeological and Historic Preservation Act of 1960*, as amended (54 USC § 300101 et seq.), the *American Indian Religious Freedom Act of 1978* (42 USC § 1996), the *Archaeological Resources Protection Act of 1979*, as amended (16 USC §§ 470aa–470mm), the *Native American Graves Protection and Repatriation Act of 1990* (25 USC §§ 3001–3013), the NHPA, as amended through 2016, and associated regulations (36 CFR Part 800). The NHPA requires federal agencies to consider effects of federal undertakings on historic properties prior to deciding or taking an action and integrate historic preservation values into their decision-making process. Federal agencies fulfill this requirement by completing the NHPA Section 106 consultation process, as set forth in 36 CFR Part 800. NHPA Section 106 also requires agencies to consult with federally recognized American Indian tribes with a vested interest in the undertaking. NHPA Section 106 requires all federal agencies to seek to avoid, minimize, or mitigate adverse effects to historic properties (36 CFR § 800.1(a)).

Cultural resources include the following subcategories:

- Archaeological (i.e., prehistoric or historic sites where human activity has left physical evidence of that activity, but no structures remain standing);
- Architectural (i.e., buildings, structures, groups of structures, or designed landscapes that are of historic or aesthetic significance); and
- Traditional Cultural Properties (TCPs) (resources of traditional, religious, or cultural significance to American Indian tribes).

Significant cultural resources are those listed on the National Register of Historic Places (NRHP) or determined to be eligible for listing. To be eligible for the NRHP, properties must be 50 years old and have national, state, or local significance in American history, architecture, archaeology, engineering, or culture. They must possess sufficient integrity of location, design, setting, materials, workmanship, feeling, and association to convey their historical significance and meet at least one of four criteria for evaluation:

1. Associated with events that have made a significant contribution to the broad patterns of our history (Criterion A);
2. Associated with the lives of persons significant in our past (Criterion B);
3. Embody distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction (Criterion C); and/or
4. Have yielded or be likely to yield information important in prehistory or history (Criterion D).

Properties that are less than 50 years old can be considered eligible for the NRHP under criteria consideration G if they possess exceptional historical importance. Those properties must also retain historic integrity and meet at least one of the four NRHP criteria (Criteria A, B, C, or D). The term “historic property” refers to National Historic Landmarks, NRHP-listed, and NRHP-eligible cultural resources.

For cultural resources analyses, the ROI is defined by the Area of Potential Effects (APE). The APE is defined as the “geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist,” (36 CFR § 800.16(d)) and thereby diminish their historic integrity. The direct and indirect APE for this EA is 50 meters and 800 meters around each project location, respectively.

The ROI for cultural resources is Creech AFB.

### 3.9.2 Existing Conditions

Creech AFB follows standard operating procedures for the management and protection of cultural resources on the lands included within the APE. Procedures, as outlined in the Creech AFB Integrated Cultural Resources Management Plan, address mission conflicts, management and coordination for Section 106 of the NHPA, and other necessary consultation (DAF, 2023b). A review of all available information about previous archaeological and historical inventories within Creech AFB was conducted. Searches for previous reports and archaeological site forms were completed for all identified lands associated with this document. Reviews included information from the Nevada Cultural Resources Information System online digital archive, the Nevada SHPO, and records and reports on file at Creech AFB. Within Creech AFB, 2,036 acres have been surveyed for cultural resources. The remaining non-surveyed acres of the Installation are located within the undeveloped areas in the northwest corner of the Installation.

#### 3.9.2.1 Architectural Properties

Of the 146 facilities located within Creech AFB, 81 have been determined non-eligible for listing on the NRHP, including all facilities associated with the Proposed Action. Additionally, nine surveys were conducted to identify historic facilities on the Installation. No NRHP-eligible architectural resources were identified.

#### 3.9.2.2 Archaeological Properties

Creech AFB has previously conducted 22 cultural resources surveys, resulting in 24 identified archaeological sites. Two of the archaeological sites were determined eligible for listing on the NRHP: a prehistoric campsite and a prehistoric quarry site. Of the remaining 22 sites, 20 were determined not eligible for listing and 2 are undetermined (DAF, 2023b). Additionally, Creech AFB conducted nine surveys to

identify historic facilities, resulting in no identified NRHP-eligible architectural resources. None of the identified archaeological properties are located within the APE for any of the projects in the Proposed Action.

A portion of the Proposed Action (Project C26) would be located outside of the Installation in an area that is directly adjacent to Creech AFB, parallel to the western perimeter fence. While it has not been subject to archaeological survey, this area was previously disturbed and cleared for use as a dirt access road. There is a low probability that intact NRHP-eligible cultural resources are present along the perimeter of Creech AFB due to previous ground disturbance.

#### 3.9.2.3 Traditional Cultural Properties

To date, no TCPs have been identified on Creech AFB (DAF, 2023b). The Integrated Cultural Resources Management Plan specifies that 18 Native American tribes have historical ties to Creech AFB: the Big Pine Paiute Tribe, Bishop Paiute Tribe, Fort Independence Paiute Tribe, Lone Pine Paiute-Shoshone Tribe, Timbisha Shoshone Tribe, Benton Paiute Tribe, Duckwater Shoshone Tribe, Yomba Shoshone Tribe, Ely Shoshone Tribe, Chemehuevi Indian Tribe, Kaibab Band of Shoshone Paiutes, Las Vegas Paiute Tribe, Moapa Band of Paiutes, Pahrump Paiute Tribe, Paiute Indian Tribe, Paiute Indian Tribes of Utah, Colorado River Indian Tribes, and Fort Mojave Tribe (DAF, 2023b).

In accordance with DoD Instruction 4710.02 and DAF Instruction 90-2002, the DAF initiated consultation with Tribal Historic Preservation Officers and tribal leaders of the 18 federally recognized Native American tribes to identify TCPs that could be affected by the Proposed Action.

### 3.9.3 Environmental Consequences

#### 3.9.3.1 Evaluation Criteria

Adverse impacts on cultural resources would occur if the Proposed Action or Alternatives results in the following:

- physically altering, damaging, or destroying all or part of a resource;
- altering characteristics of the surrounding environment that contribute to the resource's significance;
- introducing visual or audible elements that are out of character with the property or alter its setting;
- neglecting the resource to the extent that it deteriorates or is destroyed; or
- the sale, transfer, or lease of the property out of agency ownership (or control) without adequate enforceable restrictions or conditions to ensure preservation of the property's historic significance.

For the purposes of this EA, an impact is considered significant if it alters the integrity of a NRHP-listed, eligible, or potentially eligible resource or potentially impacts TCPs.

#### 3.9.3.2 Alternative 1

**Architectural Properties**

None of the facilities associated with the Proposed Action have been determined eligible for inclusion in the NRHP; therefore, there would be no adverse effects to historic architectural properties under Alternative 1.

**Archaeological Properties**

The Proposed Action would avoid disturbance of all eligible and unevaluated sites within the Installation. In the event of an unanticipated discovery of an archaeological resource during construction, ground-

disturbing activities would be suspended, and a cultural resources meeting would be called to determine the need for an unanticipated discovery plan. As described in **Section 3.9.2.2,** areas of Project C26 would be located outside of the Installation boundary. Because the C26 project area was previously disturbed and cleared for use as an access road, the likelihood of the presence of intact NRHP-eligible cultural resources is low. Prior to construction activities, Creech AFB would adhere to all necessary cultural resource management and protection practices as described in the Integrated Cultural Resources Management Plan. Should there be an unanticipated discovery of an archaeological resource, Creech AFB would suspend construction activities and initiate the unanticipated discoveries procedures outlined in the Integrated Cultural Resources Management Plan. With such measures taken, it is anticipated that there would be no adverse effects to archaeological properties under Alternative 1.

**Traditional Cultural Properties**

To date, no TCPs have been identified on Creach AFB (Creech AFB, 2023); therefore, there would be no adverse effects to TCPs under Alternative 1.

Should unexpected discovery of human remains, associated funerary objects, or archaeological materials occur during construction, Creech AFB would stop construction in the immediate area of the discovery and notify the SHPO, Advisory Council on Historic Preservation, and federally recognized tribes affiliated with Creech AFB within 48 hours of discovery (36 CFR § 800.13).

### 3.9.3.3 Alternative 2

Potential impacts to architectural properties, archaeological properties, and TCPs under Alternative 2 would be the same as Alternative 1.

### 3.9.3.4 Alternative 3

Potential impacts to architectural properties, archaeological properties, and TCPs under Alternative 2 would be the same as Alternative 1.

### 3.9.3.5 Cumulative Impacts

When combined with projects identified in **Table 3-1**, implementation of the Proposed Action Alternatives would result in no adverse impacts to cultural resources. The Indian Springs Schools, the High Desert State Prison, and the Southern Desert Correctional Center projects would occur on previously disturbed areas and would not be anticipated to encounter cultural resources. The BLM solar project would result in 5,000 acres of land disturbance and would need SHPO consultation prior to construction. The US-95 conversion project is currently reviewing alternatives. Depending on the chosen alternative, undeveloped land may be developed; SHPO consultation would be needed prior to construction. However, this project is still in its feasibility stage, and there is no development planned. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at Creech AFB, no significant cumulative impacts to cultural resources would be anticipated to occur with implementation of the Proposed Action.

### 3.9.3.6 No Action Alternative

Under the No Action Alternative, the DAF would not implement the proposed Installation development projects listed in **Table 2-1**. Development of the facilities and infrastructure that would support the training and flight programs would not take place. Creech AFB would continue to operate under current conditions, facilities would continue to degrade, and no change to cultural resources at Creech AFB would be expected to occur beyond baseline conditions.

## 3.10 INFRASTRUCTURE/UTILITIES (INCLUDING TRANSPORTATION)

### 3.10.1 Definition of the Resource

Infrastructure consists of the systems and structures that enable a population in a specified area to function. Infrastructure is wholly man-made, with a high correlation between the type and extent of infrastructure and the degree to which an area is characterized as developed. Infrastructure components include transportation and utility systems, solid waste management, and stormwater infrastructure. The availability of infrastructure and its capacity to support more users, including future development of an area, are generally regarded as essential to continued economic growth. Transportation is defined as the system of roadways, highways, and transit services that provide ingress/egress from or to a particular location, as well as access to regional goods and services.

Utilities include electricity and natural gas, potable water supply, sanitary sewage/wastewater, and communications systems. Solid waste management primarily relates to landfill capacity for disposal of non-hazardous solid waste (e.g., construction waste) generated in an area or by a population. Stormwater infrastructure includes the man-made conveyance systems that function in tandem with natural drainages to collect and control the rate of surface runoff during and after a precipitation event. In urbanized areas, stormwater that is not discharged to a waterbody is conveyed to sanitary sewers, systems that collect, move, and treat liquid waste prior to its discharge back into the environment. **Sections 3.7.3.2** and **3.10.3.2** of this EA discuss stormwater conditions and potential impacts from the Proposed Action.

The ROI for this resource is Creech AFB and the external infrastructure components and services relied upon to operate the Installation.

### 3.10.2 Existing Conditions

#### 3.10.2.1 Transportation

Creech AFB is accessible from US-95 along the southern boundary of the Installation. The East Gate, located just north of US-95, is the primary access control point and is manned 24 hours a day for entry of personnel, goods, and equipment (DAF, 2015). Within the Installation, a perimeter road encases the property with a series of smaller connected roads in the Community Support, Mission Operations Complex, and Southside Operations districts. The Airfield and Munitions Storage Area districts contain limited access roads. The transportation system within Creech AFB is reported as adequate, with the road network free of congestion except during peak hours. However, toward the southern areas of the Installation, including the access gate, slowdowns are expected as vehicles enter and exit onto US-95.

#### 3.10.2.2 Utilities

**Electricity and Natural Gas**

Electricity at Creech AFB is provided by Nevada Energy via a 12.5-kilovolt electrical substation (DAF, 2019b). Valley Electric Association owns and maintains the infrastructure providing medium-voltage electrical power under a contract in place until 2063. Creech AFB uses three electrical feeders and relies on facilities using diesel-powered generators when electricity is not available. Within the ROI, from 2 to 12 power outages occur annually due to weather or when new buildings are connected to the power grid (DAF, 2022c).

Creech AFB does not use natural gas but does use propane gas. Propane is transported onto the Installation via trucks through a service contract with Defense Fuel Supply. Because there is no natural gas system within the ROI, natural gas is not carried forward for analysis in this EA.

**Potable Water Supply**

Water is supplied to Creech AFB via three on-Base operating wells constructed since 2009. The water supply is heavily dependent on groundwater recharge during periods of precipitation where the amount of precipitation exceeds the rate of evapotranspiration. The water is chlorinated then released to the distribution system made up of storage tanks and water lines. The majority of water use within the ROI is attributed to commercial, industrial, and administrative activities. The water supply system has a capacity of approximately 57 million gallons per year, which is sufficient capacity to meet current and future demands for potable water supply (DAF, 2022c).

**Sanitary Sewage/Wastewater**

There is no wastewater treatment plant located within the Installation. Instead, wastewater generated by Creech AFB is connected to the Indian Springs Wastewater Treatment Plant for processing. Vehicle and equipment washing areas contain closed-loop systems to collect wastewater, where it discharges through an oil and water separator (OWS) for pretreatment before discharging through Creech AFB's sanitary sewer system (DAF, 2021). Within the Installation, 11 active and 2 inactive OWSs are used to prevent potential sources of pollution from entering the sanitary or stormwater drainage systems (DAF, 2023c).

Overflow protection devices are used to reduce the potential for accidental overflow or spills. These measures include high-level alarms, site gauges, and/or automatic cutoffs that shut down transfer pumps. Additionally, berms are used to collect wastewater and are sloped to direct wastewater through an OWS, eliminating a potential pollutant source for stormwater (DAF, 2021).

**Communications Systems**

Several communications links are utilized between Creech AFB and the nearby Nellis AFB and Las Vegas metropolitan area (DAF, 2015). Telephone systems are updated and offer complete facility coverage. There is no use of radar technology within the ROI; radar coverage originates from Angel Peak, approximately 10 miles south of Creech AFB. The communications network within Creech AFB is aging and inefficient; expansion is needed to consolidate facilities, expand communications capabilities, and reduce radio interference (Creech AFB, 2023).

### 3.10.2.3 Solid Waste Management

Creech AFB follows state and federal regulations for solid waste management in accordance with the Installation's Integrated Solid Waste Management Program. Generated waste is sorted for reuse, donation, recycling, and disposal. Recycled waste is collected within Creech AFB and then transported to Nellis AFB for processing through that installation's recycling center. Collection and disposal of solid waste from Creech AFB is transported to Nellis AFB before being transported to APEX Regional Landfill for disposal. The landfill has a service life through 2078 (DAF, 2022c, 2023d).

## 3.10.3 Environmental Consequences

### 3.10.3.1 Evaluation Criteria

The DAF defines a significant effect on or from infrastructure, transportation, and utilities within the ROI as one or more of the following:

- measurable change or service reduction within the regional transportation network;
- prolonged or repeated interruption of public transportation services regionally;
- prolonged or repeated service disruptions to utility end users; and
- substantial increase in utility demand relative to existing and planned regional uses.

### 3.10.3.2 Alternative 1

**Transportation**

Under Alternative 1, Projects C19 and C26 would directly impact the transportation system at Creech AFB. Project C19 would install fencing and an automatic gate system for flightline ECP access. Currently, there is no entry point with direct access to the airfield operations, and all vehicles must enter through the main access control points for the flightline. This project would facilitate the smooth flow of traffic during emergency situations and prevent backups by providing direct access to the airfield. Project C26 would construct a commercial vehicle gate, alleviating traffic congestion along US-95 stemming from the single Installation access control point. The current access location can result in closures to personnel entry and highway travel by the Installation when commercial vehicle inspections occur. Implementation of Projects C19 and C26 would improve vehicle access, resulting in long-term, beneficial impacts to transportation.

New parking lots and access roadways associated with Projects C2, C3, C10, C12–C16, C18, C20, C21, C23, and C26 would result in indirect and long-term, beneficial impacts to Installation transportation. During construction, temporary, minor, adverse impacts to transportation infrastructure would be anticipated from road closures and associated congestion; however, local and regional roadways would be able to readily absorb construction-related traffic. Minor delays on or in the immediate vicinity of Creech AFB would be anticipated but impacts on roadway capacity or condition would not be discernible. No permanent, adverse impacts to transportation infrastructure would be expected to result under Alternative 1. Any increase in personnel, traffic, or equipment would be temporary and short term during the construction period.

The proposed projects under Alternative 1 would have long-term, moderate, beneficial impacts on the transportation system at Creech AFB.

**Utilities**

Electricity and Natural Gas

Many of the proposed projects under Alternative 1 would impact the Creech AFB electrical system. Projects C9 and C11 are intended to improve the system. Project C9 would increase energy resilience by providing power backup and restoration in case of outages caused by feeder damage. Project C11 would provide critical facilities with emergency backup power and would ultimately increase the energy independence of the Installation.

Energy efficient construction of new buildings, consistent with EO 13693, *Planning for Federal Sustainability in the Next Decade*, may decrease energy consumption, and demolition of outdated and inefficient buildings would decrease the electrical demand. Therefore, net changes in long-term electrical demand would be anticipated to be minimal from the increase in construction projects. Any potential short-term disruptions to electrical service within the project areas during construction and demolition activities would be mitigated during project planning. Disruptions would be anticipated to occur from temporary service interruptions during disconnections for demolition, rerouting of above- or below-ground service lines, or during installation of connections to new buildings.

There are 13 new buildings associated with Projects C2, C3, C10, C12–C16, C18, C20, C21, C23, and C26 that would draw from the electrical system at Creech AFB and increase the energy demand of the Installation. The proposed demolition of four buildings associated with Projects D1–D4 would slightly offset the new construction. However, the electrical system has the capacity to support the new construction. Projects C9 and C11 would support the Installation's energy resilience and provide backup power in the event of an outage. The remaining projects under Alternative 1 would have no impact on the Installation electrical system.

The proposed projects under Alternative 1 would be expected to have long-term, moderate, beneficial impacts to the electrical system at Creech AFB.

Potable Water Supply

Under Alternative 1, Projects I1–I3 would repair water lines located in Zones I–III of Creech AFB. These projects would ensure consistent and efficient delivery of water within the Installation. These projects are necessary as potable water systems are crucial infrastructure and require proper maintenance.

There are 13 new buildings associated with Projects C2, C3, C10, C12–C16, C18, C20, C21, C23, and C26 that would require connection to the potable water system at Creech AFB. The proposed demolition of four buildings associated with Projects D1–D4 would slightly offset the new demand from construction of new buildings. Short-term, negligible, adverse impacts on the potable water supply system would be anticipated to occur during construction and demolition when existing lines are disconnected from old buildings and new lines are constructed to serve new buildings. There would be a short-term increase in water use for dust control during demolition and construction activities. The remaining projects under Alternative 1 would have no impact on the potable water supply.

The projects proposed under Alternative 1 would be expected to have moderate, beneficial impacts to the potable water system at Creech AFB. With implementation of the proposed improvements to the potable water system and considering the current capacity, the potable water system on Creech AFB would be expected to have sufficient capacity to meet current and future demands.

Sanitary Sewage/Wastewater

There are 13 new buildings associated with Projects C2, C3, C10, C12–C16, C18, C20, C21, C23, and C26 that would require connection to the sanitary sewer and wastewater systems at Creech AFB. While there is existing capacity to support new facility connection, overflow protection devices are used to reduce the potential for accidental overflow or spills. The proposed demolition of four buildings associated with Projects D1–D4 would slightly offset the new demand from construction of new buildings. Short-term, negligible, adverse impacts on the sanitary sewer and wastewater treatment system would be anticipated to occur during construction and demolition when existing lines would be connected to new buildings or capped, as appropriate. The remaining projects under Alternative 1 would have no impact on wastewater infrastructure. There would be short-term, negligible, adverse impacts to the sanitary sewer and wastewater systems, as the system has capacity to meet current and future mission demands.

Communications Systems

Under Alternative 1, seven projects would directly affect the communications systems on Creech AFB. Project C4 proposes the construction of an antenna tower complex and the installation of eight MQ-9 GDT systems that would reduce radio interference. Project C5 would construct a GDT tower site, which would revitalize and expand communication capabilities and reduce radio interference at Creech AFB. Projects C17 and C23 would reconstruct north and south GDT towers, resulting in a decrease of radio interference. Projects C21, a Network Control Center, and C22, an Airfield Operations Center, would upgrade communications and security while consolidating flight facilities and increasing overall efficiency. Project C26 would alleviate traffic congestion and would require the installation of approximately 2,700 $ft^2$ of communications lines. The remaining projects under Alternative 1 would have no impact on communications systems. The projects proposed under Alternative 1 would be expected to result in long-term, beneficial impacts to communications systems on Creech AFB.

**Solid Waste Management**

Under Alternative 1, construction and demolition activities would generate solid waste in the form of construction and demolition debris. Construction projects generate approximately 4.39 pounds (lbs)/$ft^2$ of construction activity and approximately 158 lbs/$ft^2$ from demolition projects (buildings and impervious surfaces) (USEPA, 2003). When considered for the proposed building construction and demolition projects, total debris would result in approximately 17.6 million lbs of construction waste and 2 million lbs of demolition waste over the lifetime of the projects.

In accordance with AFMAN 37-7002, *Environmental Compliance and Pollution Prevention*, generated solid waste would be collected and reused or recycled through Installation programs, with residual waste transported off the Installation for disposal or recycling. As done under current operations, contractors would comply with federal, state, and local regulations for the collection and disposal of solid waste from the proposed projects.

Moderate, short-term, adverse impacts to solid waste would be expected during construction and demolition due to the increased demand on the solid waste system. No long-term impacts on solid waste management would be expected to occur under Alternative 1 because the projects would not appreciably increase the amount of solid waste generated on Creech AFB, and the APEX Regional Landfill has sufficient capacity to accommodate the waste generated.

#### 3.10.3.3 Alternative 2

Potential impacts to the transportation, utilities, and solid waste management systems under Alternative 2 would be the same as Alternative 1.

#### 3.10.3.4 Alternative 3

Potential impacts to the transportation, utilities, and solid waste management systems under Alternative 3 would be the same as Alternative 1.

#### 3.10.3.5 Cumulative Impacts

When combined with projects identified in **Table 3-1**, implementation of the Proposed Action Alternatives would result in moderate, beneficial impacts to infrastructure, including transportation and utilities. The I-11 feasibility study would be anticipated to have long-term impacts to transportation both within Creech AFB and in the vicinity of the Installation. The I-11 feasibility study is currently reviewing alternatives, one of which would result in construction of a bypass around Indian Springs, Nevada, and could permanently change the current access to the Installation. However, this project is still in its feasibility stage, and there is no development planned. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions and planned actions at Creech AFB, no significant cumulative impacts to infrastructure, including transportation and utilities, would be anticipated to occur with implementation of the Proposed Action.

#### 3.10.3.6 No Action Alternative

Under the No Action Alternative, the DAF would not implement the proposed Installation development projects listed in **Table 2-1**. The. Development of the facilities and infrastructure that would support the training and flight programs would not take place. Creech AFB would continue to operate under current conditions, facilities would continue to degrade, and the beneficial impacts to the transportation, electricity, and communications systems would not be realized.

## 3.11 NOISE/ACOUSTIC ENVIRONMENT

### 3.11.1 Definition of the Resource

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air or water, and are sensed by the human ear. Noise is generally described as unwanted sound. Unwanted sound can be grounded in objectivity (e.g., hearing loss or damage to structures) or subjectivity (e.g., an individual's level of tolerance or annoyance to different sounds). Noise events elicit varying responses within a population or area based on the activity generating noise and its perceived importance and related factors, such as setting, time of day, exposure period or duration, and receptor sensitivity. In addition to humans, noise may also affect wildlife as indicated by behavioral changes during nesting, foraging, migration, or other life-cycle activities (USEPA, 1978).

Noise and sound levels are expressed in logarithmic units measured by decibels (dB). A sound level of 0 dB is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech equates to a sound level of approximately 60 dB, sound levels above 120 dB begin to be felt inside the human ear as discomfort, and sound levels between 130 and 140 dB are felt as pain (Berglund and Lindvall, 1995). To mimic the human ear's non-linear sensitivity and perception of different frequencies of sound, the spectral content is weighted to de-emphasize very low and very high frequencies to better replicate human sensitivity and is denoted as an A-weighted decibel (dBA). All sound levels presented in this document are in units dBA unless otherwise noted.

In accordance with DoD guidelines and standard practice for environmental impact analysis documents, the noise analysis herein uses the Day-Night Average Sound Level (DNL) and the Onset-Rate Adjusted DNL. DNL is a cumulative measure of multiple flight and engine maintenance activities throughout an average year.

The *Noise Control Act of 1972* (Public Law 92-574) directs federal agencies to comply with applicable federal, state, and local noise control regulations. In 1974, the USEPA provided information suggesting that continuous and long-term noise levels greater than 65 dBA are normally unacceptable for noise-sensitive receptors such as residences, schools, churches, and hospitals (USEPA, 1974).

The ROI for noise is Creech AFB.

### 3.11.2 Existing Conditions

As is normal for military installations with a flying mission, the primary driver of noise at Creech AFB is aircraft operations. Creech AFB functions as the DAF's Thunderbirds' aerial demonstration site and as the home base of daily overseas Contingency Operations for RPA. Noise contours for the aircraft operations are shown on **Figure 3-2**.

In addition to aviation noise, other noise is generated from the day-to-day activities from operations, maintenance, and the industrial functions associated with airfield operations. These noise sources include ground-support equipment and vehicular transportation. Noise from aircraft operations remains the dominant noise source.

Noise-sensitive receptors in the ROI are primarily associated with schools, healthcare facilities, recreation and conservation lands (including the wildlife that inhabits these areas), and places of religion. Noise-sensitive receptors within 800 feet of the planned demolition and construction activities, that is, those who could reasonably be expected to hear construction noise under the Proposed Action, include the following:

- Echoes of Faith Church,
- Indian Springs School baseball field, and
- Creech AFB running track.

### 3.11.3 Environmental Consequences

#### 3.11.3.1 Evaluation Criteria

When evaluating noise effects, several aspects are examined:

- the degree to which noise levels generated by training and operations, as well as construction, demolition, and renovation activities, would be higher than the ambient noise levels;
- the degree to which there would be hearing loss and/or annoyance; and
- the proximity of noise-sensitive receptors (e.g., residences, schools, hospitals, parks) to the noise source.

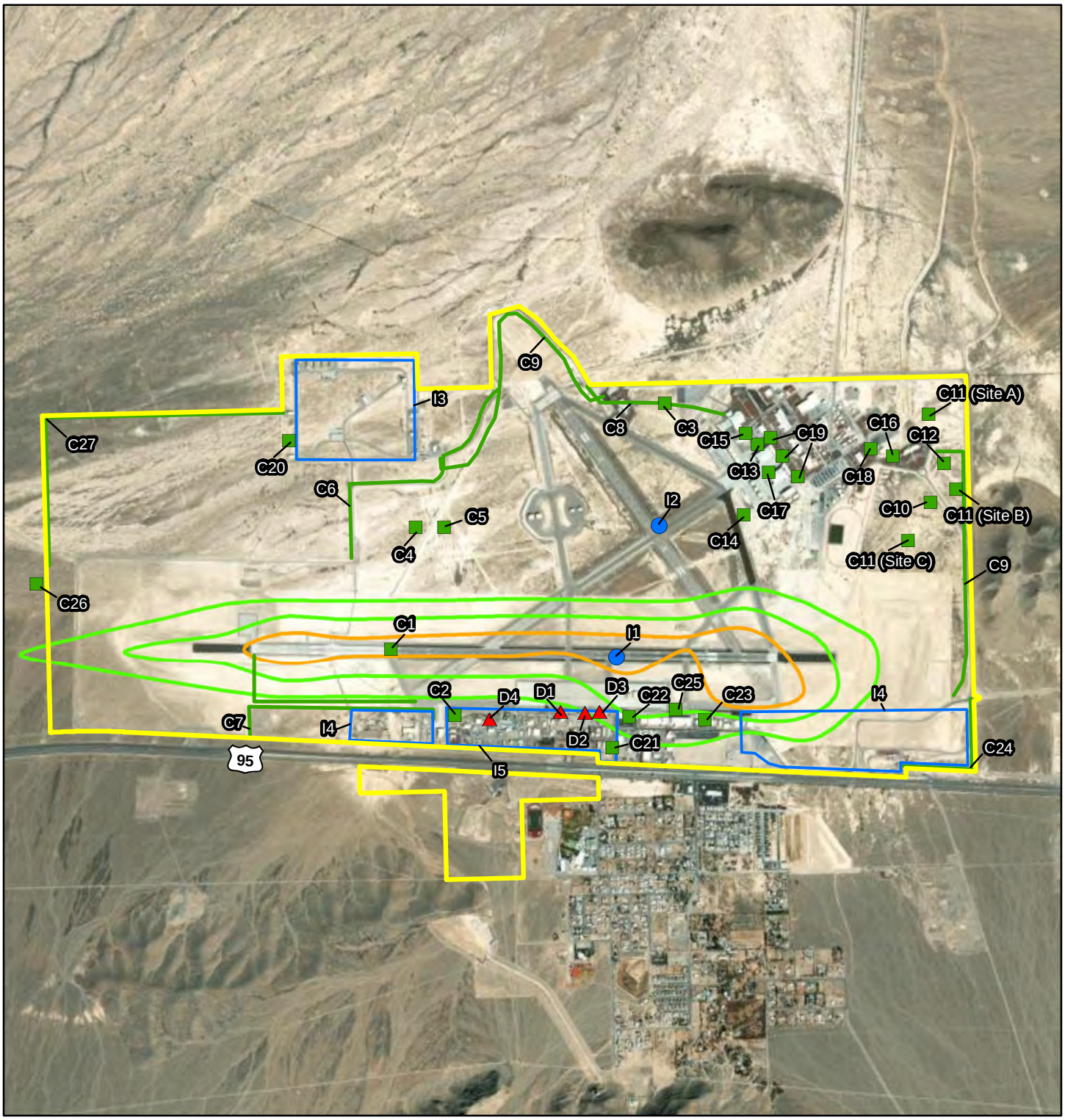


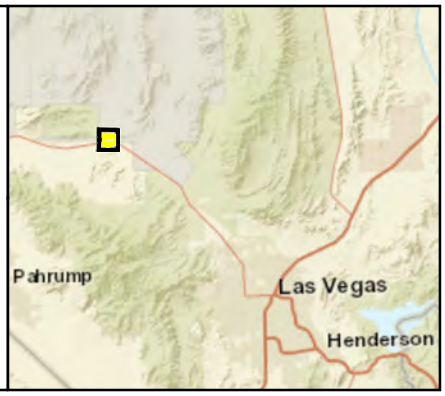

**FIGURE 3-2**
Noise Contours

- Construction
- Demolition
- Infrastructure
- Linear Construction
- Linear Infrastructure
- Installation Boundary
- 60 Decible Noise Contour
- 70 Decible Noise Contour

N

0 0.25 0.5 Mile

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 11N



### 3.11.3.2 Alternative 1

Alternative 1 would include construction, renovation, and demolition activities that would occur entirely within the boundaries of Creech AFB. These actions would be short term, implemented over time, and would not contribute to the long-term baseline noise environment. Short-term noise would be generated from construction equipment and traffic. The sound levels typical of typical construction equipment are listed in **Table 3-6**.

**Table 3-6.**
**Peak Sound Pressure Level of Construction Equipment from 50 Feet**

| Equipment | Sound Pressure Level (dBA) |
|---|---|
| Bulldozer | 95 |
| Scraper | 94 |
| Front Loader | 94 |
| Backhoe | 92 |
| Grader | 91 |
| Crane | 86 |

Source: Federal Highway Administration, 2006
dBA = A-weighted decibel

Noise associated with the operation of construction equipment generally would be short term, intermittent, and localized, with the loudest machinery typically producing peak sound pressure levels ranging from 86 to 95 dBA at a 50-foot distance from the source (see **Table 3-6**). The equipment would be operated during daylight hours and would be localized at the project site. Two noise-sensitive receptors (Echoes of Faith Church and Indian Springs School baseball field) would experience short-term, minor, adverse noise impacts during construction and demolition activities. There would be no long-term change to the existing noise environment with implementation of Alternative 1.

### 3.11.3.3 Alternative 2

Under Alternative 2, only the location of Project C11 would change; all other projects and their locations would remain the same. The location of Project C11 (Site B) would not change the number of or potential impacts to noise-sensitive receptors. Potential impacts to the noise/acoustical environment under Alternative 2 would be the same as Alternative 1.

### 3.11.3.4 Alternative 3

Under Alternative 3, only the location of Project C11 would change; all other projects and their locations would remain the same. The location of Project C11 (Site C) would be farther south, closer to the Creech AFB running track. Project C11 is anticipated to cover approximately 71 acres. Depending on its final location, the project could result in short-term, minor, adverse noise impacts to the running track facility during construction and demolition activities. Equipment would be operated intermittently during construction, and potential noise impacts would be limited to daylight hours. There would be no long-term change to the existing noise environment with the implementation of Alternative 3.

### 3.11.3.5 Cumulative Impacts

When combined with projects identified in **Table 3-1**, implementation of the Proposed Action Alternatives would be short term (i.e., limited to the construction period) and localized to the individual construction projects. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at Creech AFB, no significant cumulative impacts to the noise/acoustic environment would be anticipated with implementation of the Proposed Action.

#### 3.11.3.6 No Action Alternative

Under the No Action Alternative, the DAF would not implement the proposed Installation development projects listed in **Table 2-1**. Development of the facilities and infrastructure that would support the training and flight programs would not take place. Creech AFB would continue to operate under current conditions, facilities would continue to degrade, and no change to noise/acoustic environment at Creech AFB would be expected to occur beyond baseline conditions.

## 3.12 HAZARDOUS MATERIALS AND WASTE

### 3.12.1 Definition of the Resource

CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA) and TSCA (15 USC § 2601 et seq., as implemented by 40 CFR Part 761), defines hazardous materials (HAZMAT) as any substance with physical properties of ignitability, corrosivity, reactivity, or toxicity that might cause an increase in mortality, serious irreversible illness, and incapacitating reversible illness, or that might pose a substantial threat to human health or the environment. The Occupational Safety and Health Administration (OSHA) is responsible for the enforcement and implementation of federal laws and regulations pertaining to worker health and safety under 29 CFR Part 1910. OSHA also includes the regulation of HAZMAT in the workplace and ensures appropriate training in their handling.

The *Solid Waste Disposal Act*, as amended by RCRA, which was further amended by the *Hazardous and Solid Waste Amendments of 1984*, defines hazardous wastes as any solid, liquid, contained gaseous, or semi-solid waste, or any combination of wastes, that pose a substantial present or potential hazard to human health or the environment. In general, both HAZMAT and hazardous wastes include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, might present substantial danger to public health and welfare or the environment when released or otherwise improperly managed.

In accordance with AFPD 32-70, *Environmental Considerations in Air Force Programs and Activities*, the DAF is committed to performing the following actions:

- cleaning up environmental damage resulting from its past activities,
- meeting all environmental standards applicable to its present operations,
- planning its future activities to minimize environmental impacts,
- responsibly managing the irreplaceable natural and cultural resources it holds in public trust, and
- eliminating pollution from its activities wherever possible.

DAFMAN 32-1067, *Water and Fuel Systems*, identifies compliance requirements for underground storage tanks (USTs) and aboveground storage tanks (ASTs), and associated piping, that store petroleum products and hazardous substances. Evaluation of HAZMAT and hazardous wastes focuses on USTs and ASTs as well as the storage, transport, and use of pesticides, fuels, oils, and lubricants. Evaluation might also extend to generation, storage, transportation, and disposal of hazardous wastes when such activity occurs at or near the project site of a Proposed Action. In addition to being a threat to humans, the improper release of HAZMAT and hazardous wastes can threaten the health and wellbeing of wildlife species, botanical habitats, soil systems, and water resources. In the event of HAZMAT and hazardous wastes release, the extent of contamination would vary based on the type of soil, topography, weather conditions, and water resources that occur in the vicinity of the event.

AFMAN 32-7002, *Environmental Compliance and Pollution Prevention*, establishes procedures and standards that govern management of HAZMAT throughout the DAF. This manual applies to all personnel acting on behalf of the DAF who authorize, procure, issue, use, or dispose of HAZMAT, and to those who manage, monitor, or track any associated activities.

Through the Environmental Restoration Program (ERP) initiated in 1980, a subcomponent of the Defense ERP that became law under SARA (formerly the Installation Restoration Program), each DoD installation is required to identify, investigate, and clean up hazardous waste disposal or release sites. Remedial activities for ERP sites follow the Hazardous and Solid Waste Amendments under the RCRA Corrective Action Program. The ERP provides a uniform, thorough methodology to evaluate past disposal sites, control the migration of contaminants, minimize potential hazards to human health and the environment, and clean up contamination through a series of stages until it is decided that no further remedial action is warranted.

Description of ERP activities provides a useful gauge of the condition of soils, water resources, and other resources that might be affected by contaminants. It also aids in the identification of properties and their usefulness for given purposes (e.g., activities dependent on groundwater usage might be foreclosed where a groundwater contaminant plume remains to complete remediation).

Toxic substances might pose a risk to human health but are not regulated as contaminants under the hazardous waste statutes. Included in this category are asbestos-containing materials (ACMs), lead-based paint (LBP), polychlorinated biphenyls (PCBs), fuel storage, ERP, per- and polyfluoroalkyl substances (PFAS), aqueous film forming foam (AFFF), radon, and pesticides. The presence of special hazards or controls over them might affect, or be affected by, a proposed action. Information on special hazards describing their locations, quantities, and condition assists in determining the significance of a proposed action.

The ROI for this resource is Creech AFB.

## 3.12.2 Existing Conditions

### 3.12.2.1 Hazardous Materials and Wastes

Hazardous substances are used at Creech AFB for aircraft operations support and maintenance, including petroleum, oils, and lubricants management and distribution. Types of hazardous substances found on Creech AFB include paints, solvents, thinners, adhesives, aircraft fuel, diesel, gasoline, lubricants and oils, hydraulic fluids, cleaners, batteries, acids, refrigerants, herbicides, insecticides, rodenticides, and compressed gases (DAF, 2023d). Building 255 functions as the hazardous waste storage and recycling site on the Installation (DAF, 2021).

Hazardous and toxic substances disposal procedures are identified in the Creech AFB Hazardous Waste Management Plan, and all waste is disposed of in compliance with all federal, state, and local regulations (DAF, 2023d). The USEPA considers Creech AFB a small-quantity generator of hazardous waste and maintains the Hazardous Waste EPA ID Number NV0570090019 (DAF, 2021). To maintain the small-quantity generator status, the facility cannot dispose of more than 2,200 lbs of hazardous waste per month. Hazardous waste at Creech AFB is collected at the central accumulation point: Building 255, initial accumulation points, and universal waste collection centers (DAF, 2023d). Activities on the Installation, including aircraft maintenance and support, community services, vehicle maintenance, and facility management operations, are contributors to hazardous waste streams. Basic processes and waste-handling procedures for general and aircraft maintenance activities are identified in the Creech AFB Hazardous Waste Management Plan (DAF, 2023d).

Buildings located on Creech AFB may contain ACMs. These materials were commonly used during construction on buildings built from the 1940s through the 1980s. Nonfriable asbestos are not considered HAZMAT until removed or disturbed. Buildings constructed prior to 1977 are likely to contain friable asbestos in building materials. Disruption of these materials may cause asbestos to become airborne, producing a risk of inhalation. The Air Force manages asbestos in accordance with Air Force Instruction 32-1001, *Civil Engineer Operations*, and applicable USEPA regulations (USEPA, 2024).

The OSHA and the USEPA have determined that human exposure to lead is an adverse health risk. Sources of exposure to lead include dust, soils, and LBPs. In 1973, the Consumer Product Safety

Commission established a maximum lead content in paint of 0.5 percent by weight in a dry film of newly applied paint. In 1978, under the *Consumer Product Safety Act* (15 USC §§ 2051–2089), the Commission lowered the allowable lead level in paint to 0.06 percent (600 parts per million). The Act also restricted the use of LBP in nonindustrial facilities. The DoD implemented a ban on LBP use in 1978; therefore, it is possible that facilities constructed prior to or during 1978 may contain LBP.

PCBs were commonly manufactured in the US until 1929 and found in many industrial and commercial products such as fluorescent light ballasts, thermal insulation, adhesives and tapes, oil-based paint, plastics, and floor finish. The production of PCBs was banned in 1979 but release and exposure from sources prior to the ban are possible. PCBs do not readily break down once they enter the environment and can remain for long periods cycling between water, air, and soil (USEPA, 2024).

#### 3.12.2.2 Fuel Storage

At Creech AFB, fuel is stored in the Bulk Fuel Storage Area, which consists of Buildings 115, 117, and 121 to the south of the airfield in the Southside Operations District. The fuel is stored in ASTs, and the Installation has a total capacity of 171,000 gallons. Fuels managed in this area include aviation fuel (Jet-A) and unleaded gasoline. Jet fuel (JP-8) is also stored in Building 278 (DAF, 2021).

#### 3.12.2.3 Environmental Restoration Program and Other Potentially Contaminated Sites

The Secretary of Defense established the ERP in 1981 to investigate and remediate hazardous waste sites at DoD facilities. The DAF subsequently established its ERP to locate and investigate hazardous waste sites on its installations, termed “ERP sites.” Fully restored and remediated ERP sites present few constraints to future Installation development; however, land use controls[2] may be required. At Creech AFB, there nine active and three closed ERP sites. Eight of the nine active ERP sites are located on areas where historic AFFF release is known to have occurred, and the ninth active site is located on an area where a leak of JP-8 from an underground pipeline is known to have occurred. The three closed ERP sites are former landfills (**Figure 3-3**).

#### 3.12.2.4 Per- and Polyfluoroalkyl Substances and Aqueous Film Forming Foam

PFAS is a group of synthetic fluorinated chemicals employed in a wide variety of residential, commercial, and industrial uses and can be found in everyday items such as nonstick cookware, stain-resistant fabric and carpet, certain types of food packaging, and fire-fighting foam (AFCEC, 2024). Scientific studies have shown that exposure to some PFAS in the environment may be linked to harmful health effects in humans and animals. In recent years, the USEPA has been taking steps to address PFAS and protect communities across the US. In 2016, the USEPA announced advisory levels for two types of PFAS in drinking water, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). In August 2022, the USEPA issued a proposal to designate two of the most widely used PFAS as hazardous substances under CERCLA (USEPA, 2023). In March 2023, the USEPA proposed to establish legally enforceable levels for six PFAS known to occur in drinking water.

AFFF, which the DAF began to use in the 1970s to extinguish petroleum-based fires, contains both PFOS and PFOA. In August of 2016, the DAF began phasing out PFOS-based AFFF and other AFFF products and introduced newer, more environmentally friendly formulas. In August 2017, the DAF finished the phase-out and completed the new foam delivery. Creech AFB replaced AFFF with a synthetic fluorine-free foam that is compatible with the DoD’s Qualified Products List for use as a fire-fighting foam. This synthetic fluorine-free foam is biodegradable and contains no PFAS (Perimeter Solutions, 2022, 2024).

[2] Land use controls may consist of non-engineered instruments, such as administrative and legal controls or engineered and physical barriers (e.g., fences and security guards). Land use controls help to minimize the potential for exposure to contamination and/or protect the integrity of a response action and are typically designed to work by limiting land and/or resource use or by providing information that helps modify or guide human behavior at a site (USEPA, 2022b).

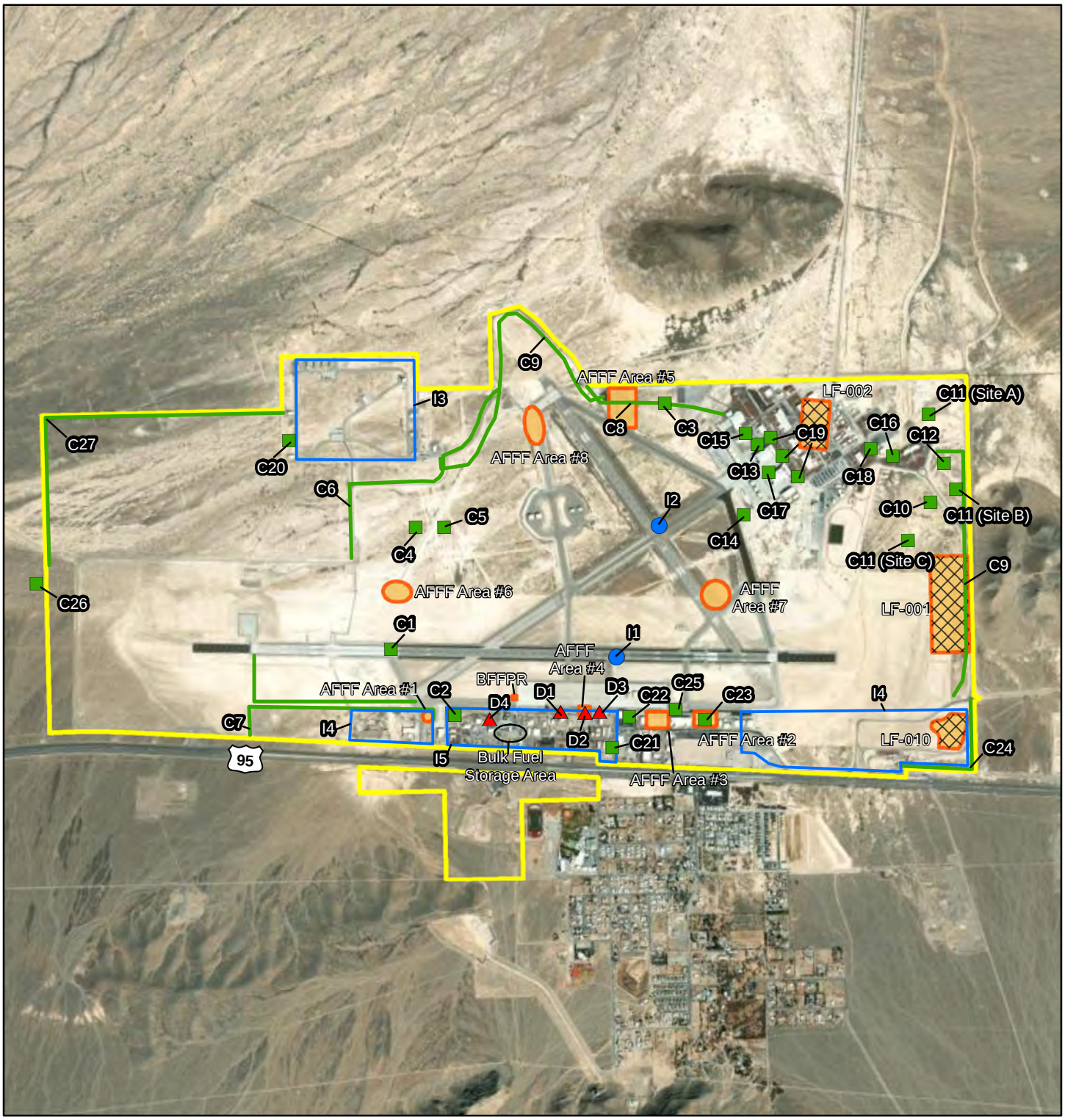


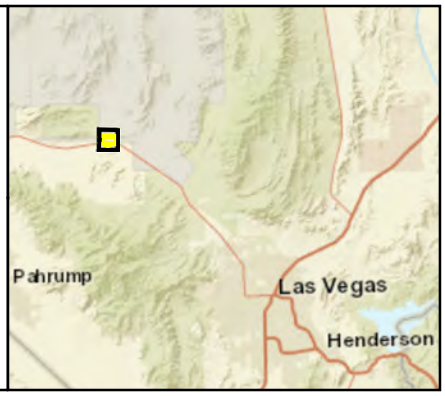

**FIGURE 3-3**
Environmental Restoration Program Sites

- Construction
- Demolition
- Infrastructure
- Linear Construction
- Linear Infrastructure
- Installation Boundary
- Former Landfill
- Environmental Restoration Program Site

N

0 0.25 0.5 Mile

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 11N



All DAF investigation and mitigation work relating to PFOS and PFOA is performed in accordance with CERCLA, applicable state laws, and the USEPA's lifetime drinking water health advisory of 70 parts per trillion (AFCEC, 2024).

The current fire training area has no history of AFFF usage (USACE, 2016). Historically, one former fire training area (AFFF #1) utilized training activities that included the release of unknown quantities of AFFF on bare soil with no liner or collection system. Hangars 707 (AFFF #2) and 718 (AFFF #3) had been equipped with AFFF fire suppression systems; however, there have been no reported releases of AFFF from these systems. Prior to 2016, biennial testing of the system involved the release of approximately 25 gallons of AFFF mixture in the vicinity of the hanger's concrete approach aprons on the northern sides of both buildings. Therefore, areas in the vicinity have the potential for impacted media due to the possibility of unreported historical release (USACE, 2016).

There are two fire stations located on Creech AFB. Prior to the 2017 AFFF phase-out, both fire stations had fire emergency vehicles that were equipped with AFFF storage; Fire Station 2 (AFFF #5) was the primary location for AFFF storage. AFFF resupply of fire emergency vehicles occurred on the approach apron on the northern side of Fire Station 1 (AFFF #4) and on the apron on the south side of Fire Station 2. Small releases of AFFF during resupply would flow onto the adjacent paved areas with the potential to reach unpaved areas. Several 55-gallon drums of AFFF were stored in a designated storage room. There are no reported releases of AFFF at either fire station, and the supply of AFFF was replaced with foam that reduced FOS and PFOA exposure from 2011 to 2017 (AFCEC, 2017). There are three known historical aircraft crash sites where AFFF was released. The emergency response, including the release of unknown quantities of AFFF, occurred in an unpaved area in 1982 directly northwest of Taxiway D (AFFF #7); in 1994 in an open area 250 feet north of Creech AFB Runway 08/26 (AFFF #6); and in 2013 in open desert land about half a mile northeast of the Installation (not shown on the figure) (USACE, 2016).

#### 3.12.2.5 Radon

Radon is an odorless, colorless, radioactive gas that develops from the natural breakdown of uranium in soil and rock. Radon can migrate through permeable rocks and soils and seep into buildings or structures, thereby posing an atmospheric human health risk. The national standard of concern for indoor radon is 4 picocuries per liter (pCi/L) in the air. USEPA and the United States Surgeon General have evaluated the radon potential around the country to organize and assist building code officials in deciding whether radon-resistant features are applicable in new construction. Radon zones can range from 1 (high) to 3 (low). Each zone designation reflects the average short-term radon measurement that can be expected in a building without the implementation of radon control methods. The USEPA radon zone for Clark County, Nevada, is Zone 3 (low potential, predicted indoor average level less than 2 pCi/L); however, radon potential throughout the county can vary (USEPA, 2024a).

#### 3.12.2.6 Pesticides

The application of all pesticides at Creech AFB includes herbicides, fungicides, insecticides, and rodenticides and is authorized by Creech's Integrated Pest Management Program, which manages policies, standards, and requirements meant to establish and maintain safe, effective, and environmentally sound integrated pest management procedures (DAF, 2019b). Invasive species management on Creech AFB is guided by the National Invasive Species Management Plan; *Federal Noxious Weed Act* (7 USC § 2814); Nevada Revised Statutes Chapter 555, *Control of Insects, Pests, and Noxious Weeds*; and the Nellis AFB Integrated Pest Management Plan (DAF, 2019b).

## 3.12.3 Environmental Consequences

### 3.12.3.1 Evaluation Criteria

Impacts from HAZMAT or hazardous wastes would be significant if the Proposed Action:

- generates, uses, or stores HAZMAT or hazardous wastes in violation of federal or state regulations; or
- exposes construction workers to increased health risks from working in existing contamination without proper training and equipment.

### 3.12.3.2 Alternative 1

**Hazardous Materials and Wastes**

Under Alternative 1, a limited use of certain HAZMAT would be required during construction, renovation, and demolition activities. Such HAZMAT might include paints, welding gases, solvents, preservatives, sealants, and pesticides. Additionally, hydraulic fluids and petroleum products, such as diesel and gasoline, would be anticipated to be used in construction and demolition equipment and vehicles. As such, Alternative 1 would have the potential for the accidental discharge or spill of HAZMAT that could contaminate the environment or result in exposure of persons to such contaminants.

Construction activities associated with Alternative 1 would have the potential to unearth contaminants in environmental media not yet known or identified for management action. Even without a major release or discovery event, multiple minor releases of HAZMAT could affect the environment or persons in the vicinity. As a precaution to ensure potable water sources are not contaminated, Creech AFB has implemented BMPs that limit mission actions involving potential HAZMAT to beyond 200 feet of any production well, monitoring well, or natural spring, unless such actions are mission critical (DAF, 2023d).

If encountered, HAZMAT used or generated during construction, renovation, or demolition activities would be handled, stored, and disposed of in accordance with federal, state, and local laws and regulations. All applicable permits for the handling and disposal of HAZMAT would be obtained prior to starting construction, renovation, or demolition activities. Construction, renovation, and demolition work under Alternative 1 would be subject to the procedural requirements of the Creech AFB Hazardous Waste Management Plan and other applicable management plans to prevent and minimize risks associated with contaminant release or transport in the environment. During construction or demolition, if HAZMAT is discovered, work in that location would stop until the potential contamination has been properly evaluated and addressed.

Concerns of ACM, LBP, and PCB are associated with the age of a building, specifically buildings constructed during or before 1974. The use of ACM, LBP, and PCBs was banned in 1977, 1978, and 1979, respectively. Under Alternative 1, buildings associated with Projects D2 (Building 86) and D4 (Buildings 137, 404, and 406) would not be expected to contain ACM, LBP, or PCBs, as they were all constructed after 1984.

With the use of appropriate BMPs, short-term, minor, adverse impacts to hazardous wastes and materials would be anticipated to occur under Alternative 1.

**Fuel Storage**

None of the proposed construction, demolition, or infrastructure projects on the Installation would impact the current fuel storage system; therefore, there would be no adverse impacts to fuel storage under Alternative 1.

**Environmental Restoration Program Sites**

Project C9 would be located within a former landfill, ERP site LF-001. Portions of Projects I4 and C24 would occur within a former landfill, ERP site LF-010. These former landfills have been assessed for continued environmental contamination and have been listed by the DAF as no further action needed. No adverse impacts to these sites would be anticipated to occur under Alternative 1.

**Per- and Polyfluoroalkyl Substances and Aqueous Film Forming Foam**

As of 2017 and in compliance with CERCLA regulations, the DAF has phased out use of PFAS and AFFF.

Projects C8 and C23 would occur on AFFF Area # 5 and AFFF Area #2, respectively. Project C8, the construction of airfield fencing, would cross AFFF Area #5. However, as this project only involves installation of fencing, it would have minimal ground and soil disturbance. Project C23, the construction of GDT towers, would involve replacement of the existing towers where soil disturbance in AFFF Area #2 has already occurred; the likelihood of encountering AFFF-contaminated soils would be reduced, although contamination may still exist within the site. Creech AFB will follow the NDEP recommendations and take measures to ensure that no additional releases of AFFF or PFAS occur as a result of planned activities and that any derived waste, such as contaminated soils from investigation of AFFF release sites, are disposed of in an authorized facility. Short-term, moderate, adverse impacts associated with construction activities within AFFF sites would be anticipated to occur under Alternative 1.

**Radon**

The USEPA radon zone for Clark County is Zone 3 (low potential, predicted indoor average level less than 2 pCi/L). It is unlikely that new facilities constructed under Alternative 1 would have indoor radon screening levels greater than 4 pCi/L. If higher radon levels were detected, post-construction radon management measures, such as installing ventilation systems to remove radon that has already entered the building, would be taken in buildings that test higher than 4 pCi/L. Therefore, there would be no adverse impacts to construction activities from radon exposure under Alternative 1.

**Pesticides**

Under Alternative 1, there could be an increase in the number of pesticides, herbicides, fungicides, insecticides, and rodenticides used during construction, renovation, and demolition activities. Herbicide and pesticide applications would have the potential to adversely impact non-target species, result in downstream contamination from application site runoff, and cause unintentional releases to the environment by spills and application errors of chemicals. Use of pesticides, herbicides, fungicides, insecticides, and rodenticides during demolition or renovation and after construction activities would be conducted on an as-needed basis consistent with federal, state, and local regulations. Therefore, potential adverse impacts from increased pesticide usage would be anticipated to be short term and temporary with under Alternative 1.

### 3.12.3.3 Alternative 2

Under Alternative 2, potential impacts to HAZMAT and hazardous wastes, ERP sites, PFAS, AFFF, radon, and pesticide use would be anticipated to the be same as Alternative 1.

### 3.12.3.4 Alternative 3

Under Alternative 3, potential impacts to HAZMAT and hazardous waste, PFAS, AFFF, radon, and pesticide use would be anticipated to the be same as Alternative 1.

Under Alternative 3, Project C11 (Site C) would be located adjacent to former landfill ERP site LF-001. Depending on the final layout and size of the solar array, a portion of the project may intersect the landfill.

This site has been identified as a closed ERP and has been determined by the DAF as no further action needed. The remaining projects would not change from the analysis under Alternative 1 and potential impacts to ERP sites would be anticipated to the be same as Alternative 1.

#### 3.12.3.5 Cumulative Impacts

When combined with the projects identified in **Table 3-1**, implementation of the Proposed Action Alternatives would result in no significant impacts to HAZMAT and hazardous wastes, toxic substances, or contaminated sites. Any HAZMAT or hazardous waste generated from construction of the Indian Springs Schools or the BLM solar project would be managed at the project site level. Construction under the Proposed Action Alternatives would be anticipated to occur over a 5-year period, reducing the potential for temporary impacts generated during construction, renovation, and demolition actions. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at Creech AFB, no significant cumulative impacts to HAZMAT, hazardous wastes, toxic substances, and contaminated sites would be anticipated to occur with implementation of the Proposed Action.

#### 3.12.3.6 No Action Alternative

Under the No Action Alternative, the DAF would not implement the proposed Installation development projects listed in **Table 2-1**. Development of the facilities and infrastructure that would support the training and flight programs would not take place. Creech AFB would continue to operate under current conditions, facilities would continue to degrade, and no change to HAZMAT and hazardous wastes, as well as contaminated sites, would be expected to occur beyond baseline conditions.

## 3.13 Safety and Occupational Health

### 3.13.1 Definition of the Resource

This section discusses safety and occupational health concerns associated with ground, explosives, and flight activities. Ground safety considers issues associated with ground operations and maintenance activities that support unit operations including arresting gear capability, jet blast/maintenance testing, and safety danger. Aircraft maintenance testing occurs in designated safety zones. Ground safety also considers the safety of personnel and facilities on the ground that may be placed at risk from flight operations in the vicinity of the airfield. Clear zones (CZs) and APZs around the airfield restrict the public's exposure to areas where there is a higher accident potential. Although ground and flight safety are addressed separately, in the immediate vicinity of the runway, risks associated with safety-of-flight issues are interrelated with ground safety concerns.

Explosives safety relates to the management and safe use of ordnance and munitions. Flight safety considers aircraft flight risks such as midair collision, BASH, and in-flight emergency. Creech AFB would adhere to DAF safety procedures and aircraft-specific emergency procedures produced by the original equipment manufacturer. Basic airmanship procedures also exist for handling any deviations to air traffic control procedures due to an in-flight emergency; these procedures are defined in Volume 3 of AFMAN 11-202, *Flight Operations*, and established aircraft flight manuals. The Flight Crew Information File is a safety resource for Aircrew day-to-day operations and contains air and ground operation rules and procedures.

The primary federal statute addressing occupational hazards is the *Occupational Health and Safety Act* (29 USC §§ 651–678) which created OSHA and the National Institute for Occupational Safety and Health. Creech AFB would be required to ensure the occupational health and safety of all personnel through implementation of DAFMAN 91-203, *Air Force Occupational Safety, Fire, and Health Standards* (2022), and AFI 91-202, *The US Air Force Mishap Prevention Program* (2023), which implements Air Force Policy Directive (AFPD) 91-2, *Safety Programs* (2019).

The ROI for safety and occupational health is Creech AFB.

## 3.13.2 Existing Conditions

### 3.13.2.1 Ground and Construction Safety

Under 40 CFR § 989.27, the EIAP for an action must assess direct and indirect impacts of a proposed action and alternatives on the safety and health of DAF employees and others at a work site. DAFPD 91-2 is implemented by AFI 91-202, which manages risks to protect DAF personnel from occupational deaths, injuries, or illnesses and minimize loss of DAF resources. These standards, in addition to adherence to the DAF's Mishap Prevention Program, serve to ensure that all DAF workplaces meet federal safety and health requirements and apply to all DAF activities.

In accordance with AFI 91-202, all construction contractors at Creech AFB must follow safety regulations and worker's compensation programs to avoid posing any risks to workers or personnel on or off the Installation. Construction contractors are responsible for reviewing potentially hazardous workplace operations, monitoring exposure to workplace chemicals (e.g., asbestos, lead, HAZMAT), physical hazards (e.g., noise propagation, slips, trips, falls), and biological agents (e.g., infectious waste, wildlife, poisonous plants). Construction contractors are also required to recommend and evaluate controls (e.g., preventative, administrative, engineering) to ensure that personnel are properly protected and to implement a medical surveillance program to perform occupational health physicals for those workers subject to any accidental chemical exposures.

### 3.13.2.2 Flight Safety

The primary safety concern for military aircraft activity is the potential for aircraft accidents. Research in accident potential conducted by DAF found that most aircraft accidents occurred during takeoff or landing and were clustered along the runway and its extended centerline. This resulted in the designation of safety zones around airfields and restriction of incompatible land uses to reduce the public's exposure to safety hazards. CZs and APZs are designated rectangular safety zones extending outward from the ends of active military airfields that delineate areas recognized as having the greatest risk of aircraft accidents. APZs are further defined as APZ I, APZ II, and APZ III depending on their level of accident potential with APZ III being the least restrictive.

Within the Installation, CZs flank the western and eastern portions of Runway 08/26, followed by APZ I. APZ II for Runway 08/26 extends beyond the boundaries of Creech AFB. Additional CZs are associated with Runway 13/31, which is oriented southeast to northwest, perpendicular to Runway 08/26. The northern CZ of Runway 13/31 extends beyond the Installation boundary, while its southern CZ ends at US-95 before extending to APZ I (**Figure 3-4**).

### 3.13.2.3 Explosives Safety

Defense Explosives Safety Regulation 6055.09 DAFMAN 91-201, *Explosives Safety Standards,* establishes the size of the clearance zone around facilities used to store, handle, and maintain munitions based on the quantity-distance criteria. Defined distances are maintained between munitions storage areas and a variety of other types of facilities. These distances, called explosives safety quantity-distance (ESQD) arcs, are associated with munitions storage and hot cargo pads, the CZs associated with the runway, and the noise zones associated with airfield operations. Within these ESQD arcs, development is either restricted or prohibited (DAF, 2015). The ESQD arcs within Creech AFB are located centrally in the Airfield District and in the northwestern portion of the Installation surrounding the Munitions Storage Area District (**Figure 3-4**).

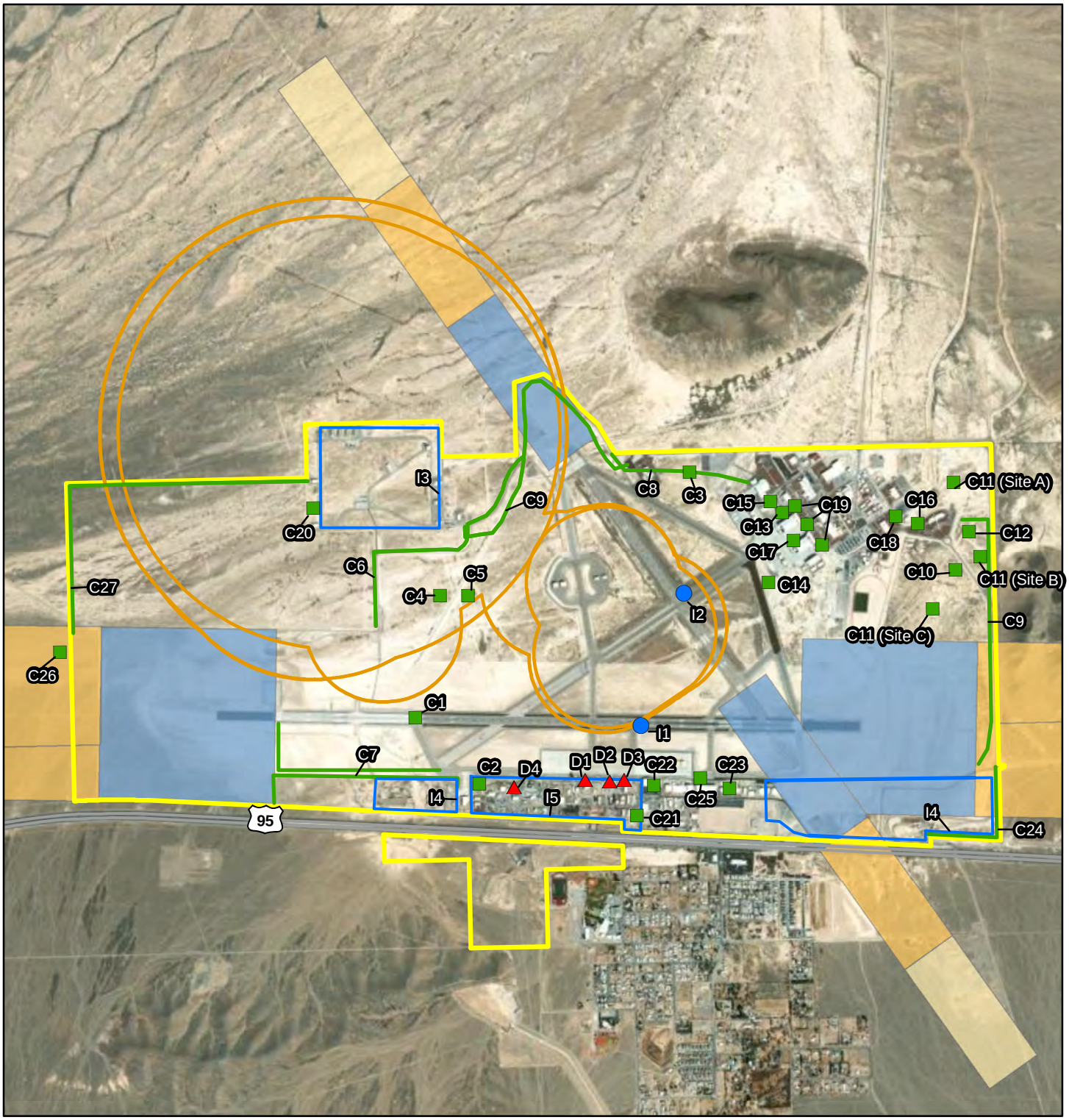


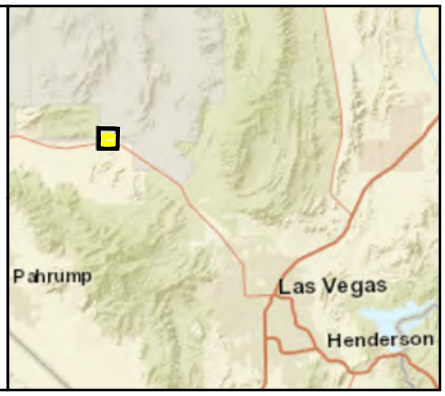

**FIGURE 3-4**
Safety

- Construction
- Demolition
- Infrastructure
- Linear Construction
- Linear Infrastructure
- Installation Boundary
- Explosive Safety Quantity Distance Arc
- Accident Potential Zone I
- Accident Potential Zone II
- Clear Zones

N

0 0.25 0.5 Mile

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 11N



### 3.13.2.4 Bird/Wildlife Aircraft Strike Hazards

Creech AFB implements a BASH program to support the avoidance of potential aircraft collisions with birds and wildlife while maintaining mission capability. Migratory birds and raptors can present serious strike hazards to aircraft when they get into the flight path. Other wildlife, such as deer and coyotes, also pose a strike risk for landing aircraft by crossing onto the runway (DAF, 2023a). The Creech AFB Natural Resources Program and 432nd Wing Flight Safety cooperate to conduct avian point-count surveys around the flightline and apply for state and federal depredation permits. Bird surveys are conducted to quantify seasonal trends in bird density and abundance in areas in and next to the flight path. The Creech AFB Natural Resources Program also traps small mammals around the flight lines to reduce the number of prey for raptors and coyotes that could create BASH problems. Creech AFB also has a Bird Hazard Working Group to discuss BASH issues and review the BASH program (DAF, 2023a).

Small mammals are discouraged from using areas around the airfield through habitat management. This includes removal of vegetation and soil stabilization with chemical solutions to ensure that there is no suitable habitat for prey that would attract BASH predators. Creech AFB maintains an internal DAF waiver of AFI 91-202 grass height standards, allowing the total removal of vegetation as a best practice for wildlife mitigation in desert environments. Additionally, drainage channels are in place to avoid water ponding, and vegetation is regularly removed from the channels to prevent birds from taking up residence (DAF, 2023a).

### 3.13.2.5 Alternative 1

**Ground and Construction Safety**

Construction and demolition activities can potentially expose personnel to health and safety hazards from heavy-equipment operation, HAZMAT and chemical use, and poorly ventilated, noisy environments. Therefore, short-term, negligible-to-minor, adverse impacts on contractor health and safety would be anticipated as a result of proposed construction activities under Alternative 1. To minimize health and safety risks, contractors would be required to use appropriate personal protective equipment and establish and maintain site-specific health and safety programs that follow all applicable OSHA regulations for their employees. Additionally, all construction contractors at Creech AFB would be required to follow industry-accepted safety practices, ground safety regulations, and worker's compensation programs to avoid posing any risks to workers or personnel on or off the Installation.

Under Alternative 1, Projects C4, C5, C17, and C21–C23 would be anticipated to result in moderate, long-term, beneficial impacts to ground safety through the construction of GDT towers and infrastructure to reduce interference among communications systems for the airfield, improving the safety of ongoing operations.

Projects C6–C8, C19, C24, and C27, which would involve the construction of fences along portions of the flightline and installation of an automatic gate system for flightline ECPs, would be anticipated to result in moderate, long-term, beneficial impacts to ground safety by controlling access to the airfield and reducing security risks to airfield operations. These projects would enclose the airfield and create a more secure environment and would include ECPs that would allow for greater regulation of airfield access. Project C19, installation of the automatic gate system, would result in additional moderate, long-term, beneficial impacts by providing points of direct access for emergency and response vehicles that would otherwise need to enter via main access points, increasing their response time in cases of emergency.

Project C9, construction of a finished electrical loop system, and Project C11, installation of solar and battery systems, would be anticipated to have moderate, long-term, beneficial impacts on ground safety by providing backup power sources and supplying emergency power to Installation-critical facilities in the event of electrical outages. Creech AFB does not currently have emergency backup power for Installation-critical facilities. These projects would also allow for increased energy resilience, which would have the potential for moderate, long-term, beneficial impacts to ground safety by enabling Creech AFB to be more prepared

in the event of any emergency situations where primary power sources are incapacitated and by putting systems in place that would allow for quicker recovery from any power disruptions.

Project C26 would be anticipated to have minor, long-term, beneficial impacts on ground safety by allowing for more efficient inspection of commercial vehicles entering the Installation, increasing safety and security for Installation personnel. This project would also relieve current traffic congestion and highway closure issues due to backups that are created by current commercial vehicle inspection capabilities at Creech AFB entry points, which would be anticipated to have moderate, long-term, beneficial impacts on ground safety by creating safer traffic conditions on Installation access roads and on the nearby portion of US-95.

Projects D1–D4 would be anticipated to have minor, long-term, beneficial impacts to ground safety by removing outdated, unused facilities that have the potential to pose a safety risk to Installation personnel if the facilities were to remain standing and left to degrade over time.

Projects I1 and I2 would repair degraded sections of airfield pavement and would be anticipated to have moderate, long-term, beneficial impacts on ground safety by reducing safety risks to Aircrew and equipment due to poor pavement conditions.

Projects I3–I5 would repair waterlines in Zones I–III. Waterlines are considered crucial infrastructure on Creech AFB, and the water supply system on the Installation does not currently meet fire protection needs (DAF 2015, 2019b). These projects would result in moderate, long-term, beneficial impacts to ground safety by ensuring that the water system is adequately able to meet fire protection needs in the event of an emergency.

An approximately 4,031-foot-long section of Project I4 would be within the CZ, as well as approximately 503 lf of C7 and 2,505 lf of C9. Project C26 would be located entirely within APZ I, as well as approximately 2,146 lf of C9, 855 lf of C24, and 125 lf of C27. Project I4 would repair existing water lines and would not conflict with the use of the CZ. Project C7 would construct an airfield fence, which would result in long-term, beneficial impacts to ground and construction safety by regulating access to the CZ. Project C9 would construct an underground electrical loop that would not conflict with the CZ.

Portions of Projects C9 and C24 would be located in APZ I of Runway 08/26. These projects involve utilities and fencing improvements and are in compliance with the land use for APZ I. The access road portion of Project C26 would cross APZ I of Runway 08/26. The exact location of the commercial vehicle gate facility has not been determined but would be constructed in compliance with airfield CZ and APZs.

Implementation of the above projects under Alternative 1 would be anticipated to result in moderate, long-term, beneficial impacts to ground safety.

**Flight Safety**

Projects C4, C5, C17, C21, C22, and C23 under Alternative 1 would involve the construction of GDT towers and infrastructure and streamline airfield operations facilities. These projects would have the potential to result in moderate, long-term, beneficial impacts to flight safety by lowering the chances of disruptions to airfield operations and by reducing interference among communications systems, including those used by the ground control station to communicate with the RPA for launch and recovery operations. All other projects under Alternative 1 would have no impact to flight safety.

**Explosives Safety**

Project C20, which would construct an aboveground munitions storage igloo to support operations growth and increase storage capabilities, would not be anticipated to result in impacts to explosives safety.

Projects C4–C6, C20, I2, and I3 would be completely within the ESQD arc. Approximately 4,118 lf of C9 and 3,470 lf of C27 also would be within the ESQD arc, and I1 would overlap with part of the arc's boundary

to the southeast. Projects C4 and C5 would support the construction of new GDT towers, resulting in improved communications capabilities. While these towers would be located within the ESQD arcs, they would provide a necessary benefit to airfield safety. Project C6 would construct an airfield fence, which would result in restricted access to the area, reducing the opportunity for accidental access to the ESQD arc area. Projects C9 and I1–I3 would improve critical infrastructure and would not be in conflict with the ESQD arcs. Project C20, the construction of a munitions storage igloo, would be in compliance with ESQD arc regulations and allow for proper storage of munitions as the operations and missions of Creech AFB continue to expand. Therefore, there would be no adverse impacts to explosives safety under Alternative 1.

**Bird/Wildlife Aircraft Strike Hazard**

The fences constructed under Projects C6–C8, C24, and C27 could have the potential to result in minor, long-term, beneficial impacts to BASH safety by deterring or preventing some small mammals from accessing the airfield and creating hazards for flight operations.

#### 3.13.2.6 Alternative 2

Under Alternative 2, potential impacts to ground and construction safety, flight safety, explosives safety, and bird/wildlife aircraft strike hazards would be anticipated to the same as Alternative 1.

#### 3.13.2.7 Alternative 3

Under Alternative 3, potential impacts to ground and construction safety, flight safety, explosives safety, and bird/wildlife aircraft strike hazards would be anticipated to the same as Alternative 1.

#### 3.13.2.8 Cumulative Impacts

When combined with the projects identified in **Table 3-1**, implementation of the Proposed Action Alternatives would have moderate, long-term, beneficial impacts to ground and construction safety; minor, long-term, beneficial impacts to explosives safety; and minor-to-moderate, long-term, beneficial impacts to flight and BASH safety. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at Creech AFB, no significant adverse cumulative impacts to safety and occupational health would be anticipated to occur with implementation of the Proposed Action.

#### 3.13.2.9 No Action Alternative

Under the No Action Alternative, the DAF would not implement the proposed Installation development projects listed in **Table 2-1**. Development of the facilities and infrastructure that would support the training and flight programs would not take place. Creech AFB would continue to operate under current conditions, safety risks associated with substandard components of Creech AFB's built environment would persist, and no change to safety and occupational health would be expected to occur beyond baseline conditions.

## 3.14 SOCIOECONOMICS

### 3.14.1 Definition of the Resource

Socioeconomics is the relationship between economics and social elements, such as population levels and economic activity. Several factors can be used as indicators of economic conditions for a geographic area, such as demographics, median household income, unemployment rates, percentage of dependents living below the poverty level, employment, and housing data. Employment data identify gross numbers of employees, employment by industry or trade, and unemployment trends. Data on industrial, commercial, and other sectors of the economy provide baseline information about the economic health of a region. Socioeconomic data are typically presented at county, state, and national levels to characterize baseline socioeconomic conditions in the context of regional, state, and national trends.

The ROI is defined as Creech AFB and the surrounding communities in Clark County, Nevada.

## 3.14.2 Existing Conditions

### 3.14.2.1 Population

Creech AFB lies entirely within Clark County,1 mile north of Indian Springs Nevada, and 35 miles northwest of Las Vegas, Nevada. The Installation occupies 2,085 acres of land with a majority of its operations located on the northern side of US-95. In 2022, the population of Clark County was estimated to be 2,322,985 people (**Table 3-7**). Between 2012 and 2022, the populations of both Nevada and Clark County increased by 2.1 percent. Over the same period, the population of Indian Springs decreased by 1.1 percent (USCB, 2022a).

**Table 3-7.**
**Population Characteristics**

| Location | Census Year | | AARG | Total Growth (Percent) |
|---|---|---|---|---|
| | 2012 | 2022 | | |
| United States | 313,914,040 | 333,287,562 | 0.6 | 6.2 |
| Nevada | 2,758,931 | 3,177,772 | 0.2 | 2.1 |
| Clark County | 2,000,759 | 2,322,985 | 0.2 | 2.1 |
| Indian Springs | 938 | 837 | -0.1 | -1.1 |

Source: USCB 2022a
AARG = average annual growth rate

### 3.14.2.2 Employment

In 2022, the unemployment rate in Clark County was 6 percent. In comparison, the 2022 unemployment rate in the state of Nevada and the US was 5.4 percent and 3.6 percent, respectively. The state of Nevada had a marginally lower unemployment rate than Clark County but a higher rate than the US overall (BLS, 2022, 2024).

In 2023, the top three sectors by employment in Clark County were Accommodation and Food Services, Retail Trade, and Health Care and Social Assistance (BEA, 2024). The single largest employer in Clark County is the DAF, with more than 10,000 federal civilian employees, non-appropriated fund civilian employees, and private-business employees based out of Nellis AFB; an additional approximately 3,500 employees support Creech AFB (Nevada Workforce, 2024).

### 3.14.2.3 Housing

There is no housing on Creech AFB. Installation personnel wanting to live on a military Installation are referred to Nellis AFB, located approximately 50 miles southeast of Creech AFB. Housing on Nellis AFB is handled by Hunt Military Communities, a private company (Military OneSource, 2024).

Many employed by Creech AFB opt to live in the more populated areas of Clark County, such as the city of Las Vegas; however, the closest off-Installation housing is available in Indian Springs, Nevada, a small, unincorporated town with limited amenities. Indian Springs' housing availability is limited due to its size and population. The current median listing price for homes in Indian Springs is approximately $150,000 less than the median listing price for homes in Clark County (USCB, 2022b, 2022c).

Nevada housing rates show vacancy rates above the federal level (**Table 3-8**). Approximately 71 percent of the vacant homes in Nevada are located within Clark County, where the average cost for housing is higher than the national average (**Table 3-8**) (USCB, 2022b).

### 3.14.2.4 Schools

The Clark County School District provides education within the ROI. Indian Springs Schools, located south of Creech AFB, supports education from Pre-Kindergarten through 12th grade (K–12). Current enrollment includes 124 elementary-aged students, 73 middle school students, and 74 high school students (Indian Springs Schools, 2024). Additionally, the Clark County School District has 44 magnet schools available for students to attend pending an application process that caters to K–12 students. There are several private and religious schools not associated with the Clark County School District. There are no schools located at the Installation.

**Table 3-8.**
**Housing**

| Property Description | Indian Springs | Clark County | Nevada | US |
|---|---|---|---|---|
| Total units | 375 | 950,927 | 1,328,788 | 143,772,895 |
| Owner-occupied (percent) | 65.7 | 57.8 | 60.3 | 65.2 |
| Renter-occupied (percent) | 34.3 | 42.2 | 39.7 | 34.8 |
| Vacant units | 92 | 93,565 | 130,432 | 13,901,967 |
| Homeowner vacancy rate[a] (percent) | 2 | 1.1 | 1.1 | 0.8 |
| Rental vacancy rate[b] (percent) | 5.8 | 6.9 | 6.8 | 5.1 |
| Median value[c] | 273,300 | 432,300 | 434,700 | 320,900 |

Source: USCB 2022b, 2022c
Notes:
a Homeowner vacancy rate is the proportion of the homeowner inventory that is vacant "for sale."
b Rental vacancy rate is the proportion of the rental inventory that is vacant "for rent."
c Median value of owner-occupied units.

### 3.14.2.5 Public Services

**Police**

On Creech AFB, the 432nd Security Forces Squadron provides law enforcement services, responds to incidents, and provides security. Incidents occurring outside the Installation boundaries receive response from the Clark County Police Department.

**Fire**

The Creech AFB Fire Department and the Clark County Fire Department provide fire and emergency services on and for Creech AFB. The Clark County Fire Department is supported by 30 locations throughout Clark County, with 10 stations operated by volunteers. Because of the large size (region and population) of the county and many volunteer first responders, Creech AFB occasionally responds to calls off the Installation, such as in the nearby town of Indian Springs. Clark County Fire District Station 83 is located in Indian Springs, Nevada.

**Hospitals**

There are no hospitals on Creech AFB; medical services for Creech AFB personnel are routed through Nellis AFB or other local community doctors. There are no urgent care or medical facilities in Indian Springs; however, as common in any metropolitan area, medical facilities are plentiful throughout the Las Vegas Valley, including several hospitals and smaller, non-emergency clinics.

## 3.14.3 Environmental Consequences

### 3.14.3.1 Evaluation Criteria

Consequences to socioeconomic resources are assessed in terms of the potential impacts on the local economy from implementation of a proposed action. The level of impacts from expenditures associated with the Proposed Action was assessed in terms of direct impacts on the local economy and indirect impacts on other socioeconomic resources (e.g., housing, employment). The magnitude of potential impacts can vary greatly depending on the location of an action. For example, implementation of an action that creates 10 employment positions might be unnoticed in an urban area but might have significant impacts in a rural region. In addition, if potential socioeconomic changes from a Proposed Action result in substantial shifts in population trends or in adverse effects on regional spending and earning patterns, such changes may be considered adverse.

### 3.14.3.2 Alternative 1

**Population**

Alternative 1 is anticipated to have minimal to no adverse impacts to population levels in the ROI. The Proposed Action would not change the current population on Creech AFB.

**Employment**

Alternative 1 is anticipated to have short-term, minor, beneficial impacts to the socioeconomic condition of the ROI. Construction and demolition operations under Alternative 1 would be anticipated to result in a temporary increase in construction employees working on the Installation. The exact number of temporary personnel is unknown and would be anticipated to vary depending on the number of concurrent projects and their size.

**Housing**

Alternative 1 is anticipated to have no impact to housing levels and availability in the ROI. Although the availability of vacant homes in the ROI is adequate, the need for additional housing requirements under Alternative 1 would not be expected.

**Schools**

Alternative 1 is anticipated to have no impact to school population levels in the ROI. There would be no increase in demand for educational resources in the ROI. Military families would continue to use regional educational facilities as is currently being done.

**Public Services**

Alternative 1 would have no impact to public services in the ROI. Alternative 1 would not be anticipated to contribute to an increase in demand for police, fire, or hospital services.

### 3.14.3.3 Alternative 2

Under Alternative 2, potential impacts to socioeconomic conditions would be anticipated to the same as Alternative 1.

### 3.14.3.4 Alternative 3

Under Alternative 3, potential impacts to socioeconomic conditions would be anticipated to the same as Alternative 1.

### 3.14.3.5 Cumulative Impacts

When combined with projects identified in **Table 3-1**, implementation of the Proposed Action Alternatives would have short-term, minor impacts to socioeconomics. The Indian Springs Schools, operated by the Clark County School District, has proposed construction and demolition activities to take place in 2025 resulting in new schools to replace the existing facilities. A temporary increase in construction and demolition jobs would be anticipated to occur, resulting in short-term, beneficial, indirect impacts to the economy in the vicinity of Creech AFB. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at Creech AFB, no cumulative effects to socioeconomics would be anticipated to occur with implementation of the Proposed Action.

### 3.14.3.6 No Action Alternative

Under the No Action Alternative, the DAF would not implement the proposed Installation development projects listed in **Table 2-1**. Development of the facilities and infrastructure that would support the training and flight programs would not take place. Creech AFB would continue to operate under current conditions, facilities would continue to degrade, and no change to socioeconomic conditions would be expected to occur beyond baseline conditions.

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# APPENDIX A. INTERGOVERNMENTAL COORDINATION, PUBLIC AND AGENCY PARTICIPATION

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**Mailing List**

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2730 N. Deer Run Road
Carson City, NV 89701

Area Support Team
USACE – Arizona-Nevada Area Office
3636 N. Central Avenue, Ste. 900
Phoenix, AZ 85012

Jamie Gottlieb
Natural Resource Conservation Service
Las Vegas Service Center
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Las Vegas, NV 89119

Bill Dunkelberger
Forest Supervisor
Humboldt-Toiyabe National Forest
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Las Vegas, NV 89130

Field Manager
BLM – Southern Nevada Field Office
4701 North Torrey Pines Drive
Las Vegas, NV 89130

Alan Jenne, Director
Nevada Department of Wildlife – Headquarters
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Reno, NV 89511

Brad Hardenbrook
Supervisory Habitat Biologist
Nevada Department of Wildlife – Southern Region
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Las Vegas, NV 89120

Kacey KC
State Forester
Nevada Division of Forestry – State Office
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Carson City, NV 89701

James Gibson
Chairperson
Clark County Commission
500 Grand Central Parkway
Las Vegas, NV 89109

Jacob Snow
General Manager
Regional Transportation Commission of Southern Nevada
600 S. Grand Central Parkway
Suite 350
Las Vegas, NV 89106

Gregory Blackburn, Director
City of North Las Vegas – Community Development
2200 Civic Center Drive
Las Vegas, NV 89030

Jennifer Olsen
Southern Nevada Regional Planning
240 Water Street, Mail Stop 115
Henderson, NV 89009

Marci Henson, Director
Clark County Department of Environment and Sustainability
500 S. Grand Central Parkway
Las Vegas, NV 89155

John Mendoza, Senior Planner
Clark County Air Quality Planning Division
500 S. Grand Central Parkway
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Charles Donohue
State Lands Admnistrator
Nevada Division of State Lands
901 S Stewart St., Ste. 5003
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Bradley Crowell, Director
Nevada Department of Conservation and Natural Resources
901 S. Stewart St.
Ste. 1003
Carson City, NV 89701

Martha Guzman
Regional Administrator
USEPA Pacific Southwest - Region 9
75 Hawthorne St.
San Francisco, CA 94105

Rebecca Palmer
State Historic Preservation Officer
Nevada State Historic Preservation Office
901 S. Stewart St., Suite 5004
Carson City, NV 89701

Robin Reed
Deputy State Historic Preservation Officer
Nevada State Historic Preservation Office
901 S. Stewart St., Suite 5004
Carson City, NV 89701

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 432D WING
CREECH AIR FORCE BASE NEVADA

18 July 2024

Colonel Nicholas R. Pederson, USAF
Commander
Perimeter Road, Building 1065
Creech AFB NV 89018

Ms Martha Guzman
Regional Administrator
USEPA Pacific Southwest – Region 9
75 Hawthorne St
San Francisco CA 94105

Dear Ms Guzman

The United States Department of the Air Force (USAF) is preparing an Environmental Assessment (EA) for proposed installation development plan projects at Creech Air Force Base (AFB), Nevada. The EA will evaluate the potential environmental impacts associated with construction, renovation, and demolition projects that make up the Proposed Action. To account for possible environmental concerns, the USAF is engaging early with all potentially affected resource agencies as it formulates this undertaking. Accordingly, the USAF seeks consultation with your office.

**Project Location**

The Proposed Action would implement 36 short-term development actions and real-property improvements on Creech AFB from approximately 2024 to 2029. The Proposed Action would occur across five planning districts on the Installation: Airfield, Community Support, Mission Operations Complex, Munitions Storage Area, and Southside Operations (**Attachment 1**).

**Proposed Action**

The Proposed Action involves a total of 36 short-term development actions and real-property improvements that range in scope from new construction and demolition actions to repairs, renovations, and upgrades (**Attachment 2**). The USAF proposes to implement these projects from approximately 2024 to 2029. The intent of these projects is to provide improvements and infrastructure necessary to support the mission of Creech AFB. The installation development projects included as part of the Proposed Action were selected based on current and future needs at Creech AFB identified through the installation planning process, as required by Air Force Instruction 32-1015, *Integrated Installation Planning*.

**Purpose and Need**

The purpose of the Proposed Action is to support Creech AFB's current and future mission of remotely piloted aircraft employment and aircrew training. The Proposed Action would ensure the continued operational abilities of Creech AFB through the development of facilities and infrastructure supporting the training and flight programs. The Proposed Action is needed to address deficiencies and degradation of the support facilities at Creech AFB. Left unchecked, deficiencies in facilities and infrastructure would degrade the Base's ability to meet the USAF's current and future needs. The individual purpose and need for each of the 36 development projects has been identified in support of the overall goal of the Proposed Action (see again **Attachment 2**).

**Environmental Assessment**

The EA will assess the potential environmental consequences of the Proposed Action and No Action Alternative. Potential impacts identified for evaluation in the EA include effects to airspace, air quality (including an assessment of greenhouse gases), climate change, noise/acoustic environment, cultural resources, biological/natural resources, water resources, hazardous materials and waste, land use, infrastructure and utilities, earth resources, socioeconomics, environmental justice, and safety and occupational health. The EA will also examine the cumulative effects when combined with past, present, and reasonably foreseeable environmental trends and planned actions at Creech AFB. In support of this process, we request your input in identifying general or specific issues or areas of concern you believe should be addressed in the EA.

We intend to notify your agency when the Draft EA is completed and welcome comments and input at that time as well. Please inform us if someone else within your agency other than you should receive the Draft EA. So that we remain on schedule to complete the environmental impact analysis process in a timely manner, please provide your response no later than 30 days from receipt of this correspondence. Please send your response via postal mail or email (preferred) to:

**ATTN: Sean Dorrough**
US Department of the Air Force
432 SPTS/CE
1065 Perimeter Road
Creech AFB NV 89018
Phone: 702-404-1836
Email: sean.dorrough.1@us.af.mil

The USAF appreciates your interest in and support of its military mission at Creech AFB. We thank you in advance for your assistance and look forward to your response.

Sincerely

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Date: 2024.06.25 10:34:08 -07'00'

NICHOLAS R. PEDERSON, Colonel, USAF
Commander

Attachments:
1. Project Area and Locations
2. Details of the Proposed Action

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 432D WING
CREECH AIR FORCE BASE NEVADA

18 July 2024

Colonel Nicholas R. Pederson, USAF
Commander
Perimeter Road, Building 1065
Creech AFB NV 89018

Amelia Flores
Tribal Chairperson
Colorado River Indian Tribes
26600 Mohave Road
Parker AZ 85344

Dear Chairperson Flores

The United States Department of the Air Force (USAF) is preparing an Environmental Assessment (EA) associated with installation development plan projects at Creech Air Force Base (AFB), Nevada. The EA will evaluate the potential environmental impacts associated with construction, renovation, and demolition projects that make up the Proposed Action.

**Project Location**

The Proposed Action would implement 36 short-term development actions and real-property improvements on Creech AFB from approximately 2024 to 2029. The Proposed Action would occur across five planning districts on the Installation: Airfield, Community Support, Mission Operations Complex, Munitions Storage Area, and Southside Operations (**Attachment 1**).

**Proposed Action**

The 36 development actions and real-property improvements range in scope from new construction and demolition actions to repairs, renovations, and upgrades (**Attachment 2**). The intent of these projects is to provide improvements and infrastructure necessary to support the mission of Creech AFB. The installation development projects included as part of the Proposed Action were selected based on current and future needs at Creech AFB identified through the installation planning process, as required by Air Force Instruction 32-1015, *Integrated Installation Planning*.

**Purpose and Need**

The overall purpose of the Proposed Action is to support Creech AFB's current and future mission of remotely piloted aircraft employment and aircrew training. The Proposed Action would ensure the continued operational abilities of Creech AFB through the development of facilities and infrastructure supporting the training and flight programs. The Proposed Action is needed to address deficiencies and degradation of the support facilities at Creech AFB. Left unchecked, deficiencies in facilities and infrastructure would degrade the Base's ability to meet the USAF's current and future

needs. The individual purpose and need for each of the 36 development projects has been identified in support of the overall goal of the Proposed Action (see again **Attachment 2**).

Pursuant to Section 106 of the *National Historic Preservation Act* (NHPA), implementing regulations at 36 CFR Part 800, and Department of Defense (DoD) Instruction 4710.02, *DoD Interactions with Federally Recognized Tribes,* we would like to initiate government-to-government consultation on the Proposed Action. Pursuant to 36 CFR §§ 800.4(a) and (b), we request your assistance in defining the Area of Potential Effect and seek information on any historic properties located therein that may be affected by the proposed undertaking. The USAF desires to discuss the proposal in detail with you early in the EA process so that we may understand and consider any comments, concerns, and suggestions you may have. We invite you, pursuant to 36 CFR § 800.4(a)(4), to provide information on any properties of historic, religious, or cultural significance that may be affected by our proposed undertaking. The USAF is committed to complying with the *Native American Graves Protection and Repatriation Act* by informing the Colorado River Indian Tribes of any inadvertent discovery of archaeological or human remains and consulting on their disposition.

If you have any questions or concerns, please contact the Creech AFB Environmental Program Manager, Sean Dorrough, via postal mail, US Department of the Air Force, 432 SPTS/CE 1065 Perimeter Road, Creech AFB NV 89018, or by email, sean.dorrough.1@us.af.mil. Thank you in advance for your assistance in this effort. We look forward to your input on this important federal undertaking.

Sincerely

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NICHOLAS R. PEDERSON, Colonel, USAF
Commander

Attachments:
1. Project Area and Locations
2. Details of the Proposed Action

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 432D WING
CREECH AIR FORCE BASE NEVADA

18 July 2024

Colonel Nicholas R. Pederson, USAF
Commander
Perimeter Road, Building 1065
Creech AFB NV 89018

Ms Rebecca Palmer
State Historic Preservation Officer
Nevada State Historic Preservation Office
901 S. Stewart Street, Suite 5004
Carson City NV 89701

Dear Ms Palmer

The United States (US) Department of the Air Force (USAF) is preparing an Environmental Assessment (EA) for proposed installation development plan projects at Creech Air Force Base (AFB), Nevada. The EA will evaluate the potential environmental impacts associated with construction, renovation, and demolition projects that make up the Proposed Action. To account for possible environmental concerns, the USAF is engaging early with all potentially affected resource agencies as it formulates this undertaking. Accordingly, the USAF seeks consultation with the State Historic Preservation Office.

**Project Location**

The Proposed Action would implement 36 short-term development actions and real-property improvements on Creech AFB from approximately 2024 to 2029. The Proposed Action would occur across five planning districts on the Installation: Airfield, Community Support, Mission Operations Complex, Munitions Storage Area, and Southside Operations (**Attachment 1**).

**Proposed Action**

The 36 short-term development actions and real-property improvements range in scope from new construction and demolition actions to repairs, renovations, and upgrades (**Attachment 2**). The intent of these projects is to provide improvements and infrastructure necessary to support the mission of Creech AFB. The installation development projects included as part of the Proposed Action were selected based on current and future needs at Creech AFB identified through the installation planning process, as required by Air Force Instruction 32-1015, *Integrated Installation Planning*.

Pursuant to 36 CFR §§ 800.4(a) and (b), we request your assistance defining the Area of Potential Effect (APE) and information on any historic properties located therein that may be affected by the proposed undertaking.

**Purpose and Need**

The overall purpose of the Proposed Action is to support Creech AFB's current and future mission of remotely piloted aircraft employment and aircrew training. The Proposed Action would ensure the continued operational abilities of Creech AFB through the development of facilities and infrastructure supporting the training and flight programs. The Proposed Action is needed to address deficiencies and degradation of the support facilities at Creech AFB. Left unchecked, deficiencies in facilities and infrastructure would degrade the Base's ability to meet the USAF's current and future needs. The individual purpose and need for each of the 36 development projects has been identified in support of the overall goal of the Proposed Action (see also **Attachment 2**).

**Environmental Assessment**

The EA will assess the potential environmental consequences of the Proposed Action and No Action Alternative. Potential impacts identified for evaluation in the EA include effects to airspace, air quality (including an assessment of greenhouse gases), climate change, noise/acoustic environment, cultural resources, biological/natural resources, water resources, hazardous materials and waste, land use, infrastructure and utilities, earth resources, socioeconomics, environmental justice, and safety and occupational health. The EA will also examine the cumulative effects when combined with past, present, and reasonably foreseeable environmental trends and planned actions at Creech AFB. In support of this process, we request your input in identifying general or specific issues or areas of concern you believe should be addressed in the EA.

The USAF would appreciate any input regarding concerns of potential effects of the Proposed Action on historic properties as well as assistance in defining the APE for the Proposed Action. We intend to notify your agency when the Draft EA is completed and welcome comments and input at that time as well. Please inform us if someone else within your agency other than you should receive the Draft EA. So that we remain on schedule to complete the environmental impact analysis process in a timely manner, please provide your response no later than 30 days from receipt of this correspondence. Please send your response via postal mail or email (preferred) to:

**ATTN: Sean Dorrough**
US Department of the Air Force
432 SPTS/CE
1065 Perimeter Road
Creech AFB NV 89018
Phone: 702-404-1836
Email: sean.dorrough.1@us.af.mil

The USAF appreciates your interest in and support of its military mission at Creech AFB. We thank you in advance for your assistance and look forward to your response.

Sincerely

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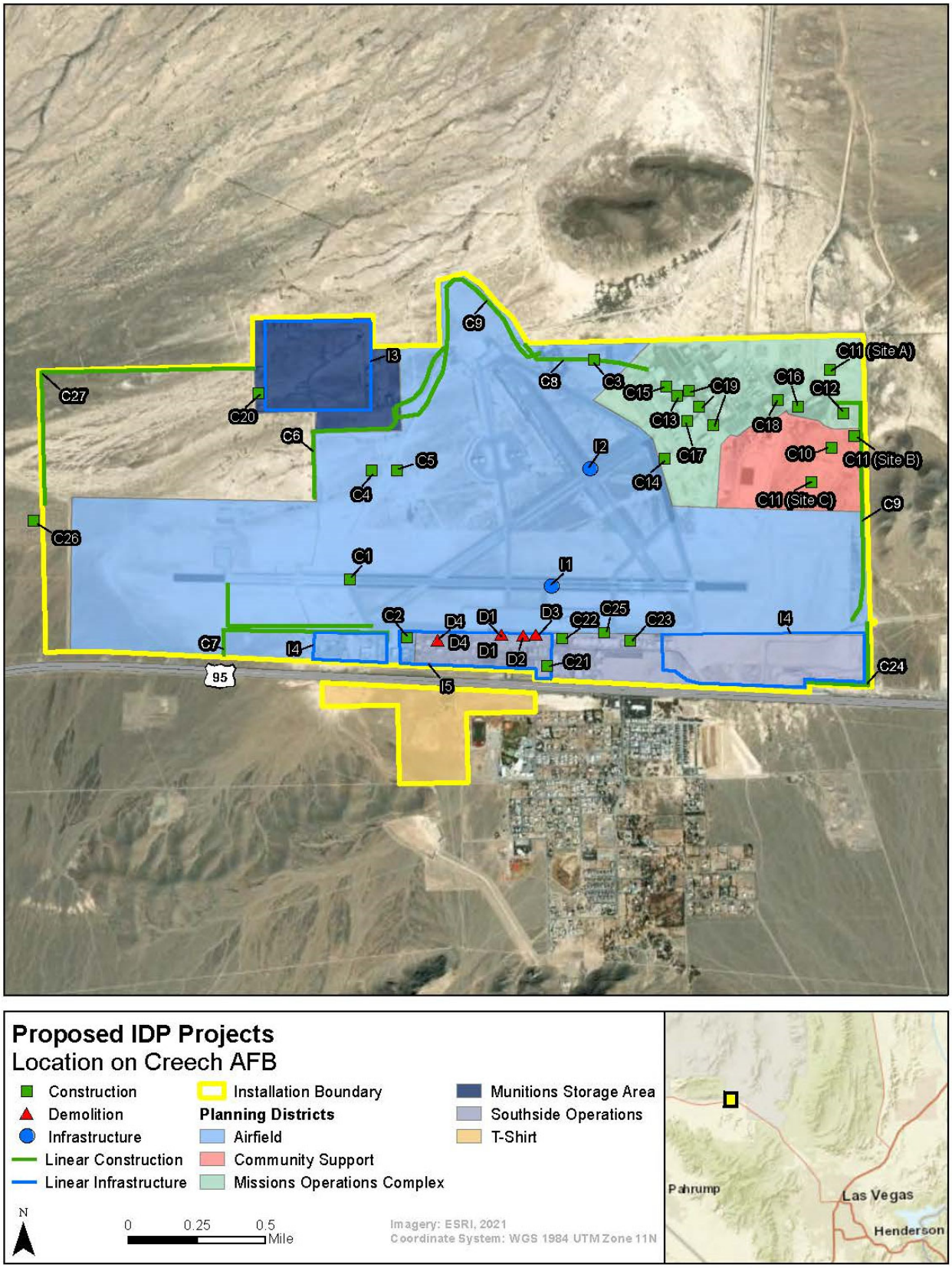
NICHOLAS R. PEDERSON, Colonel, USAF
Commander

Attachments:
1. Project Area and Locations
2. Details of the Proposed Action

## Attachment 1: Project Area and Locations



# Attachment 2: Details of the Proposed Action

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **AIRFIELD DISTRICT** | | | | | | |
| **Construction Projects** | | | | | | |
| **C1** | Taxiway Alpha Addition | This project would construct a taxiway extension and arm/disarm pad that extends the existing Taxiway Alpha to the west threshold of Runway 08/26. This project would include asphalt taxiway; concrete arm/disarm pad; paved shoulders; airfield lighting, markings, and guidance signage; addition of an access roadway leading to the arm/disarm pad; airfield storm drainage; utilities; and all other work as necessary. | **Purpose:** The purpose of the proposed project is to add additional capacity to the airfield taxiway and to allow aircraft to taxi to the arm/disarm pad.<br>**Need:** The project is needed because currently, Aircraft must back-taxi on the runway, which has caused delays and runway inefficiencies. | 2026 | 539,175 $ft^2$ | +539,175 $ft^2$ |
| **C2** | Weapons Load Trainer Facility | This project would construct a MQ-9 Weapons Load Crew Training Facility utilizing conventional design and construction methods. The facility would be constructed with a reinforced concrete foundation/floor slab, structural-steel frame, metal panel with brick veneer exterior, and standing seam metal roof. Construction associated with this project would include information systems, fire protection and alarm systems, cybersecurity measures, intrusion detection system installation, and energy monitoring and control systems connection. Supporting facilities would include a training bay access apron, parking areas, construction of an access roadway, security lighting, storm drainage, site improvements, signage, and all other necessary features to make a complete and useable facility. | **Purpose:** The purpose of the proposed project is to prevent disruptions to the Weapons Load Crew Training and to provide secure, dedicated space for the training to occur.<br>**Need:** The proposed project is needed because the current training area is inadequate for current operational needs and training capabilities are disrupted. Creech AFB needs a dedicated training facility to keep up with manning increases. | 2026 | 42,033 $ft^2$ | +42,033 $ft^2$ |

## Attachment 2: Details of the Proposed Action

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C3** | LRS Deployment Center | This project would construct a two-story Deployment Processing Center and include an aircraft parking apron capable of supporting two C-17's or one C-5 airframe. | **Purpose:** The purpose of the proposed project is to support Creech AFB's mission and training requirements with increased efficiency through functional centralization and the optimization of existing resources.<br>**Need:** The proposed project is needed due to the outdated and inefficient infrastructure that currently supports the Missions Operations Complex District. Considerations of the adjacent Community Support District with regard for future infrastructure development and facility siting also drive the need. | 2026 | 43,075 $ft^2$ | +43,075 $ft^2$ |
| **C4** | MQ-9 CPIP GDT Antenna Complex | The project would construct a properly sited and configured antenna tower complex for the installation of eight MQ-9 ground data terminal (GDT) systems. The GDT antenna system provides a mission-critical line-of-site communications link from the ground control station to the RPA for launch and recovery operations. This project provides 50-ft-high fixed towers that would be used to support the GDT system. The Defense Spectrum Organization – Joint Spectrum Center identified a preferred site location for the antennas that would mitigate existing C-band video link mishaps due to existing GDT locations and resulting electro-magnetic interference saturation. The proposed antenna complex is located north of Runway 08/26 and west of the live ordnance loading area. This site ensures that saturation-induced interference is precluded during airfield operations and avoids existing building and fence line obstructions. | **Purpose:** The purpose of the proposed project is to increase safety and communication for airfield operations by reducing saturation-induced interference between communications systems.<br>**Need:** The proposed project is needed because currently, C-band video link mishaps occur due to existing GDT locations and electro-magnetic interference saturation. Communication expansion is needed to reduce radio interference. | 2025 | 4,000 $ft^2$ | 4,000 $ft^2$ |

## Attachment 2: Details of the Proposed Action

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C5** | Construct GDT Tower Site | This project would construct a GDT tower site. | **Purpose:** The purpose of the proposed project is to revitalize and expand communication capabilities at Creech AFB.<br>**Need:** The proposed project is needed because the current towers require reconstruction due to their condition and age. Communication expansion is also needed to reduce radio interference. | 2024 | 2,000 $ft^2$ | 2,000 $ft^2$ |
| **C6** | Construct Northwest Frangible Airfield Fence | This project would construct a fence between Northwest Perimeter Road and the flightline. | **Purpose:** The purpose of the proposed project is to provide security for airfield operations by enclosing the airfield.<br>**Need:** The proposed project is needed because the airfield is not currently enclosed, leaving a security risk for airfield operations. | 2025 | 9,400 lf | +9,400 lf |
| **C7** | Construct Frangible Airfield Fence First Street | This project would construct a fence between West Perimeter Road and the flightline. | **Purpose:** The purpose of the proposed project is to provide security for airfield operations by enclosing the airfield.<br>**Need:** The proposed project is needed because the airfield is not currently enclosed, leaving a security risk for airfield operations. | 2025 | 9,100 lf | +9,100 lf |
| **C8** | Construct Central Frangible Airfield Fence | This project would construct a fence between North Perimeter Road and the flightline. | **Purpose:** The purpose of the proposed project is to provide security for airfield operations by enclosing the airfield.<br>**Need:** The proposed project is needed because the airfield is not currently enclosed, leaving a security risk for airfield operations. | 2025 | 4,600 lf | +4,600 lf |

## Attachment 2: Details of the Proposed Action

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C9** | North Side Electrical Loop | This project would construct a finished electrical loop system of approximately 30,000 linear feet (lf) from the southwest side of the Base to the north side of the Base. This would be accomplished by running a new electrical line from the intersection of Box Canyon and Hunters Road to Building 1065 (B1065). | **Purpose:** The purpose of the proposed project is to increase energy resilience with back feed capabilities.<br>**Need:** The proposed project is needed to provide power backup and restoration in case of outage caused by feeder damage. | 2025 | 30,000 lf | +30,000 lf |
| | **Infrastructure Projects** | | | | | |
| **I1** | Repair Southern Airfield Pavements | This project would repair airfield pavements identified in the 2015 Airfield Pavement Evaluation. Recommendations for repair include the mill and overlay of sections R03C1, R03C2, R04A1, and R04A2. | **Purpose:** The purpose of the proposed project is to improve the condition of degraded airfield pavement sections.<br>**Need:** The proposed project is needed to address poor pavement conditions reported by inspection. | 2024 | 884,475 $ft^2$ | N/A |
| **I2** | Repair Northern Airfield Pavements | This project would repair airfield pavements identified in the 2015 Airfield Pavement Evaluation. Recommendations include the mill and overlay of sections T21A, T25A, and T32A. Full replacement is recommended for sections R09A, R10A, and T20A. | **Purpose:** The purpose of the proposed project is to improve the condition of degraded airfield pavement sections.<br>**Need:** The proposed project is needed due to address poor pavement conditions reported by inspection. | 2024 | 502,500 $ft^2$ | N/A |

# Attachment 2: Details of the Proposed Action

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **COMMUNITY SUPPORT DISTRICT** | | | | | | |
| **Construction Projects** | | | | | | |
| **C10** | Warrior Fitness Center | This project would construct basketball and racquetball courts, a 1/10th mile elevated indoor running track, unit physical training/group exercise areas, weight rooms, administration, lockers, showers, and restrooms. Supporting facilities include all required utilities, staff and customer parking areas, sidewalks, lighting, signage, and other site improvements. The project would incorporate sustainability and energy measures, stormwater mitigation, and meet antiterrorism force protection standoff requirements. | **Purpose:** The purpose of the proposed project is to support Creech AFB's mission and training requirements with increased efficiency through functional centralization and the optimization of existing resources.<br>**Need:** The proposed project is needed due to the outdated and inefficient infrastructure that currently supports the Missions Operations Complex District. Considerations of the adjacent Community Support District with regard for future infrastructure development and facility siting also drive the need. | 2026 | 44,000 $ft^2$ | +44,000 $ft^2$ |

# Attachment 2: Details of the Proposed Action

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C11** | Install Solar and Battery Systems | This project would design and install a cybersecure microgrid control system integrated with large-scale photovoltaic (PV) arrays, battery energy storage system (BESS), and thermal energy storage system to address physical, cybersecurity, and climate threats as described in Creech AFB's Energy Resilience Assessment. Installation activities would include new electrical infrastructure, new automated main switchgear, new automated sectionalizing switches, step-up transformers, new fiber/ supervisory control and data acquisition, and a megawatt charging system (MCS) integrated with existing Utility MCS. The system would dispatch distributed energy resources to respond to grid disruptions and control automated switching sequences for microgrid operation, separation of critical and non-critical loads, and dispatch of electricity to recover from system faults, anomalies, or outages. This project would be located within the existing fence line on the northeast corner of Creech AFB and would potentially include up to 71.2 acres primarily for PV arrays, including 19.4 acres on a closed landfill location. Additional locations considered in this area have been previously reserved for unrelated future projects. A PV with 4.0 megawatts (MW) of capacity would be installed. For the BESS, a lithium iron phosphate battery chemistry is the current basis of design; 5.8 MW/11.6 kilowatt-hours will meet microgrid peak demand. | **Purpose:** The purpose of the proposed project is to support continued mission operations in the event of power loss, provide Base-critical facilities with emergency backup power, and increase Creech AFB's energy resilience.<br>**Need:** The proposed project is needed because Base-critical facilities currently lack emergency backup power capabilities in the event of power loss. | 2025 (estimated) | 3,101,472 $ft^2$ | +3,101,472 $ft^2$ |

## Attachment 2: Details of the Proposed Action

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **MISSIONS OPERATIONS COMPLEX DISTRICT** | | | | | | |
| **Construction Projects** | | | | | | |
| **C12** | Mission Support Facility | This project would construct a Mission Support Center, providing a permanent, consolidated facility for the 432d Mission Support Group and Force Support Squadron in support of mission and support services for all personnel on Creech AFB. | **Purpose:** The purpose of the proposed project is to support Creech AFB's mission and training requirements with increased efficiency through functional centralization and the optimization of existing resources. **Need:** The proposed project is needed because the infrastructure that currently supports the Missions Operations Complex District is outdated and inefficient. Considerations of the adjacent Community Support District with regard for future infrastructure development and facility siting also drive the need. | 2026 | 36,966 $ft^2$ | +36,966 $ft^2$ |
| **C13** | RPA Structural Repair Facility | This project would construct an RPA Structural Repair Facility and a separate Corrosion Control Utility Storage Building. The proposed facility would provide a modern, functional space capable of supporting required MQ-9 structural and composite repair as well as non-destructive inspection. | **Purpose:** The purpose of the proposed project is to support Creech AFB's mission and training requirements with increased efficiency through functional centralization and the optimization of existing resources. **Need:** The proposed project is needed because the infrastructure that currently supports the Missions Operations Complex District is outdated and inefficient. Considerations of the adjacent Community Support District with regard for future infrastructure development and facility siting also drive the need. | 2025 | 52,124 $ft^2$ | +52,124 $ft^2$ |

## Attachment 2: Details of the Proposed Action

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C14** | RPA Maintenance Hangar | This project would construct an RPA Maintenance Hangar adequately configured to support eight MQ-9s and provide administrative and maintenance space for the activation of a new Aircraft Maintenance Unit. | **Purpose:** The purpose of the proposed project is to provide additional administrative and maintenance space for the activation of a new Aircraft Maintenance Unit.<br>**Need:** The proposed project is needed because an increase in RPAs requires more space than is currently available. RPAs that are due for maintenance are currently being parked outside while awaiting space. | 2027 | 77,887 $ft^2$ | +77,887 $ft^2$ |
| **C15** | Casket & WRM AGE Storage Facility | This project would construct a War Reserve Materiel (WRM) Aerospace Ground Equipment (AGE) Storage Facility with a consolidated and secure, climate-controlled storage space that would enhance the capability of the 432d Maintenance Group to sustain and deploy critical RPA mission equipment. The facility would also provide an AGE storage bay, bench stock/tool room, parts cleaning, and a semi-enclosed wash rack area. | **Purpose:** The purpose of the proposed project is to support Creech AFB's mission and training requirements with increased efficiency through functional centralization and the optimization of existing resources.<br>**Need:** The proposed project is needed because the infrastructure that currently supports the Missions Operations Complex District is outdated and inefficient. Considerations of the adjacent Community Support District with regard for future infrastructure development and facility siting also drive the need. | 2026 | 21,000 $ft^2$ | +21,000 $ft^2$ |

## Attachment 2: Details of the Proposed Action

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C16** | Wing Advance Programs Facility | This project would construct a facility to house the 432 Wing Advance Programs. This facility would require additional space to accommodate current staffing. | **Purpose:** The purpose of the proposed project is to provide dedicated space to accommodate current staffing of the 432d Wing Advance Programs.<br>**Need:** The proposed project is needed because the Wing Advance Programs team does not have adequate staffing space. The team is currently operating out of a small office and is unable to accommodate all assigned personnel. | 2026 | 2,000 $ft^2$ | +2,000 $ft^2$ |
| **C17** | Construct North GDT Towers | The project would repair by replacing current GDT towers on the north airfield apron. This project is currently being reevaluated for removal of the current three towers. | **Purpose:** The purpose of the proposed project is to revitalize and expand communication capabilities at Creech AFB.<br>**Need:** The proposed project is needed because the current towers require reconstruction due to their condition and age. Communication expansion is also needed to reduce radio interference. | 2024 | 1,000 $ft^2$ | 1,000 $ft^2$ |
| **C18** | Construct CAT/EOC Facility | This project would construct a structure that would be co-located with B1209. This structure would be a single-floor facility and utilize the existing parking lot. | **Purpose:** The purpose of the proposed project is to provide dedicated space for CAT/EOC teams and alleviate mission disruptions and Creech AFB.<br>**Need:** The proposed project is needed because CAT/EOC teams do not have a designated location at Creech AFB. The current location is dual-purposed and interrupts other missions when activated. | 2025 | 5,000 $ft^2$ | +5,000 $ft^2$ |

## Attachment 2: Details of the Proposed Action

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C19** | Construct North Flightline ECP Barriers | This project would install fencing and an automatic gate system for flightline entry control point access. | **Purpose:** The purpose of the proposed project is to establish a secure entry control point for the airfield.<br>**Need:** The proposed project is needed because no entry point currently exists with direct access to airfield operations. All vehicles destined for this location must enter through the main access control points. | 2023 | 400 lf | +400 lf |
| **MUNITIONS STORAGE AREA DISTRICT** | | | | | | |
| **Construction Projects** | | | | | | |
| **C20** | Munitions Storage Igloo | This project would construct an aboveground earth-covered munitions storage igloo with a reinforced concrete foundation/floor slab and a pre-engineered reinforced concrete panel exterior with earth covering. The project would include blast-resistant steel doors, interior and exterior lighting, grounding, surge protection, intrusion detection system, and an exterior concrete access apron. | **Purpose:** The purpose of the proposed project is to provide additional space for munitions storage<br>**Need:** The proposed project is needed to support operations growth. The current capabilities are unable to support anticipated expansions at Creech AFB. | 2026 | 2,046 $ft^2$ | +2,046 $ft^2$ |
| | **Infrastructure Projects** | | | | | |
| **I3** | Repair Water Lines Zone III | This project would repair water lines in Zone 3 as identified in the Creech AFB Installation Development Plan (IDP). | **Purpose:** The purpose of the proposed project is to ensure consistent delivery of water on Creech AFB.<br>**Need:** The proposed project is needed because Base water lines are considered crucial infrastructure at Creech AFB. Routine inspection and repair of the water lines are required to ensure proper maintenance. | 2027 | 7,820 lf | N/A |

## Attachment 2: Details of the Proposed Action

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C21** | Network Control Center | This project would consolidate four communication flight facilities by constructing a new facility. The structure would be sized to encompass the whole of the communications flight and a communication node for Creech AFB. | **Purpose:** The purpose of the proposed project is to upgrade the communication capabilities and consolidate flight facilities at Creech AFB to improve efficiency.<br>**Need:** The proposed project is needed because equipment upgrades and replacements are necessary to maintain operation and security missions at Creech AFB. | 2028 | 2,500 $ft^2$ | +2,500 $ft^2$ |
| **C22** | Airfield Operations Center | This project would construct an approximately 15,000-$ft^2$ facility, which would consolidate deployed Operations, Transit Alert, and Air Traffic Control. This construction is currently planned for fiscal year 2025 to relocate B93 to the current location of B726. A parking lot to the west of B726 is being discussed. | **Purpose:** The purpose of the proposed project is to support efficient airfield operations and improve security and communications.<br>**Need:** The proposed project is needed because current airfield operations units are separated into individual facilities, disrupting operations. By removing an aging control tower, Creech AFB would consolidate airfield operations into one streamlined facility. | 2026 | 15,000 $ft^2$ | +15,000 $ft^2$ |
| **C23** | Construct south GDT Towers | This project would construct a replacement for the current GDT towers on the south airfield. | **Purpose:** The purpose of the proposed project is to revitalize and expand communication capabilities at Creech AFB.<br>**Need:** The proposed project is needed because the current towers require reconstruction due to their condition and age. Communication expansion is also needed to reduce radio interference. | 2024 | 1,000 $ft^2$ | 1,000 $ft^2$ |

## Attachment 2: Details of the Proposed Action

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **C24** | Construct Perimeter Road Fence | This project would provide re-enforcement of the southeast fence. | **Purpose:** The purpose of the proposed project is to provide security for airfield operations by enclosing the perimeter road.<br>**Need:** The proposed project is needed because the southeast fence needs re-enforcement to provide increased airfield security for airfield operations. | 2025 | 9,100 lf | +9,100 lf |
| **C25** | Construct AGE Storage Facility | This project would construct a warehouse and administrative space on the north apron beside B1131. | **Purpose:** The purpose of the proposed project is to provide adequate storage for aircraft ground equipment.<br>**Need:** The proposed project is needed to protect equipment stored on the north side of Creech AFB from outside elements. | 2025 | 13,993 $ft^2$ | +13,993 $ft^2$ |
| **Demolition Projects** | | | | | | |
| **D1** | Demo Airfield Lighting Vault B95 | This project would demolish the Airfield Lighting Vault, B95. | **Purpose:** The purpose of the proposed project is to reduce the USAF footprint.<br>**Need:** The proposed project is needed because unused facilities require costs associated with infrastructure upkeep. Removing these facilities reduces costs and provides space for new infrastructure. | 2023 | N/A | -500 $ft^2$ |
| **D2** | Demo B86 | This project would demolish B86. | **Purpose:** The purpose of the proposed project is to reduce the USAF footprint.<br>**Need:** The proposed project is needed because unused facilities require costs associated with infrastructure upkeep. Removing these facilities reduces costs and provides space for new infrastructure. | 2023 | N/A | -1,700 $ft^2$ |

## Attachment 2: Details of the Proposed Action

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **D3** | Demo HQ Admin B55 | This project would demolish the Headquarters Administration Building, B55. | **Purpose:** The purpose of the proposed project is to reduce the USAF footprint.<br>**Need:** The proposed project is needed because unused facilities require costs associated with infrastructure upkeep. Removing these facilities reduces costs and provides space for new infrastructure. | 2024 | N/A | -5,200 $ft^2$ |
| **D4** | Demo Buildings (B137, B404, B406) | This project would demolish B137, B404, and B406. | **Purpose:** The purpose of the proposed project is to reduce the USAF footprint.<br>**Need:** The proposed project is needed because unused facilities require costs associated with infrastructure upkeep. Removing these facilities reduces costs and provides space for new infrastructure. | 2023 | N/A | -5,000 $ft^2$ |
| **Infrastructure Projects** | | | | | | |
| **I4** | Repair Water Lines Zone II | This project would repair water lines in Zone 2 as identified in the Creech AFB IDP. | **Purpose:** The purpose of the proposed project is to ensure consistent delivery of water on Creech AFB.<br>**Need:** The proposed project is needed because Base water lines are considered crucial infrastructure at Creech AFB. Routine inspection and repair of the water lines are required to ensure proper maintenance. | 2027 | 12,275 lf | N/A |

| Map ID Number | Project Title | Project Description | Purpose and Need | Estimated Construction Year | Estimated New Facility or Infrastructure Size | Estimated Change in Facility Footprint |
|---|---|---|---|---|---|---|
| **I5** | Repair Water Lines Zone I | This project would repair water lines in Zone 1 as identified in the Creech AFB IDP. | **Purpose:** The purpose of the proposed project is to repair crucial infrastructure on Creech AFB.<br>**Need:** The proposed project is needed because Base water lines are considered crucial infrastructure at Creech AFB. Routine inspection and repair of the water lines are required to ensure proper maintenance. | 2027 | 6,115 lf | N/A |
| **PROJECTS LOCATED OUTSIDE OF PLANNING DISTRICTS** | | | | | | |
| **Construction Projects** | | | | | | |
| **C26** | Commercial Vehicle Gate | This project would construct a new 6,000-$ft^2$ commercial vehicle inspection facility with gatehouse inspection bays. The area for construction would need to be graded and formed to provide a stable foundation. All utilities would be hydro excavated to a depth of 3 to 6 ft. The primary electrical circuit would run approximately 500 ft, communications lines would run approximately 2,700 ft, and water lines would run approximately 3,000 ft to trench to the main feed. Sewage would be trenched for a septic tank and septic field. New asphalt road construction would be needed approximately 6,100 ft from US Highway 95 to a newly constructed guard facility. | **Purpose:** The purpose of the proposed project is to provide security and safety protection to base personnel while alleviating traffic congestion concerns along Highway 95.<br>**Need:** The proposed project is needed because the current access location results in closures to both personnel entry and highway travel by the Base. Disruptions are a result of current entry-point conditions caused by commercial vehicle inspections. The project is needed to resolve both concerns. | 2026 | 4,660 $ft^2$ | +4,660 $ft^2$ |
| **C27** | Northwest Perimeter Fence | This project would construct a fence to contain the remaining land owned by Creech AFB in the northwest parcel. | **Purpose:** The purpose of the proposed project is to provide security of Creech AFB-owned land by enclosing the parcel.<br>**Need:** The proposed project is needed because the Creech AFB-owned parcel is not currently enclosed, posing a security risk. | 2025 | 11,000 lf | +11,000 lf |

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# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Southern Nevada Fish And Wildlife Office
4701 N. Torrey Pines Drive
Las Vegas, NV 89130-2301
Phone: (702) 515-5230 Fax: (702) 515-5231

In Reply Refer To: December 14, 2023
Project Code: 2024-0026923
Project Name: Creech AFB IDP EA Version 2 (without Nellis)

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

To Whom It May Concern:

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

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

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

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

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

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

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

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

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

Attachment(s):

- Official Species List

# OFFICIAL SPECIES LIST

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

This species list is provided by:

**Southern Nevada Fish And Wildlife Office**
4701 N. Torrey Pines Drive
Las Vegas, NV 89130-2301
(702) 515-5230

# PROJECT SUMMARY

Project Code: 2024-0026923
Project Name: Creech AFB IDP EA Version 2 (without Nellis)
Project Type: Military Development
Project Description: Creech AFB IDP EA Version 2 (without Nellis)
For EAS 2023

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.590409550000004,-115.67142109007196,14z


Counties: Clark County, Nevada

# ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

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

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

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

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

## BIRDS

| NAME | STATUS |
|---|---|
| Southwestern Willow Flycatcher *Empidonax traillii extimus*<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/6749 | Endangered |
| Yellow-billed Cuckoo *Coccyzus americanus*<br>Population: Western U.S. DPS<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/3911 | Threatened |

## REPTILES

| NAME | STATUS |
|---|---|
| Desert Tortoise *Gopherus agassizii*<br>Population: Wherever found, except AZ south and east of Colorado R., and Mexico<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/4481 | Threatened |

## FISHES

| NAME | STATUS |
|---|---|
| Devils Hole Pupfish *Cyprinodon diabolis*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/7409 | Endangered |

## INSECTS

| NAME | STATUS |
| --- | --- |
| Monarch Butterfly *Danaus plexippus* | Candidate |

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

## CRITICAL HABITATS

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

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

## IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Elyse Maurer
Address: 2320 Easton Ave
City: Richland
State: WA
Zip: 99354
Email elyse.maurer@easbio.com
Phone: 5099441383

## LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers

Comment # 1

**From:** Brendon Grant
**Agency:** Nevada Division of Environmental Protection NDEP
**Title:**
**Phone:** 775-687-9524
**Email:** bgrant@ndep.nv.gov
**Date Received:** 07/30/2024

Projects to construct or extend the public water system at Creech Air Force Base (NV0001081) shall be reviewed and approved by the Bureau of Safe Drinking Water prior to construction. Please contact Brendon Grant at (775) 687-9524 or bgrant@ndep.nv.gov for any questions regarding the engineering submittal and review process.

Comment # 2

**From:** Greta Gaddis
**Agency:** Nevada Division of Water Resources
**Title:** Supervisor III
**Phone:** 775-684-2800
**Email:** ggaddis@water.nv.gov
**Date Received:** 08/14/2024

See attached

**Nevada State Clearinghouse**
*Department of Conservation and Natural Resources*
*901 South Stewart Street, Suite 5003*
*Carson City, NV 89701*
*775-684-2723*
***http://clearinghouse.nv.gov***
***www.lands.nv.gov***

DATE: 8/14/2024
Division of Water Resources
**Nevada SAI # E2025-029**

Project: **Creech Air Force Base, Nevada**

☐No comment on this project ☒Comments on project below

AGENCY COMMENTS:

**NRS – Nevada Revised Statutes**
**NAC – Nevada Administrative Code**

**General:**

Compliance with Nevada water law is required.

All waters of the State belong to the public and may be appropriated for beneficial use pursuant to the provisions of NRS Chapters 533 and 534 and not otherwise.

Water shall not be used from any source unless the use of that water is authorized through a permit issued by the State Engineer. For underground sources, certain uses of water may be authorized through the issuance of a waiver pursuant to NRS Chapter 534 and NAC Chapter 534.

Any surface or underground water developments constructed and utilized for a beneficial use must be done so in compliance with the referenced chapters of the NRS.

Any water from a water purveyor may require a change application if the place of use is outside of their service area.

The basin in which the project is located is a designated basin pursuant to NRS 534.030. The State Engineer is authorized to make rules, regulations, and orders when groundwater is being depleted in the designated area. Order 728 was issued establishing rules for the Indian Springs Valley Hydrographic Basin 161.

**Water for Construction Projects:**

Any water used on the described lands for the project for any manner of use shall be provided by an established utility or under permit or temporary change application or waiver issued by the State Engineer's Office with a manner of use acceptable for suggested project's water needs.

The scoping document does not indicate the source of water to support the construction operation.

**Water Rights Ownership:**

Any ownership transfer of water rights shall be sufficiently documented through a chain of title and a report of conveyance submitted to the State Engineer's Office as provided by NRS 533.384. The State Engineer is authorized and is responsible for maintaining water right files and accompanying documents as per NRS Chapters 111, 240, 375, 532, 533 and 534.

**Wells:**

All wells must be noticed, drilled, constructed, and plugged in accordance with NRS Chapter 534 and NAC Chapter 534, and the work must be completed by a licensed well driller as provided by NRS Chapter 534.

Pursuant to NRS Chapter 534 and NAC Chapter 534A, a water right or waiver is required prior to drilling a well in a designated basin.

A waiver to drill a well must comply with the provisions of NRS Chapter 534 and NAC Chapter 534 and the terms of the waiver approval.

The use of water issued under a waiver must comply with the provisions of NRS Chapter 534 and NAC Chapter 534 and the terms of the waiver approval. (oil, gas, geothermal, or mineral exploration other than dissolved mineral exploration).

Monitoring wells require a waiver from the State Engineer's Office pursuant to NRS Chapter 534 and NAC Chapter 534 and must comply with the provisions of NAC Chapter 534.

All replacement wells shall comply with NRS Chapter 534 and NAC Chapter 534. The replaced well must be plugged and abandoned as required in NAC Chapter 534.

Any unauthorized or unpermitted drill holes/wells (water wells, monitor wells or geotechnical soil borings) that may be located on existing, acquired or transferred lands, are ultimately the responsibility of the owner of the property and must be plugged and abandoned as required in NAC Chapter 534.

Abandoned wells need to be reported to the State Engineer's Office and must be plugged in accordance with NAC Chapter 534.

If artesian conditions are encountered in any well or borehole it shall be controlled as required by NRS Chapter 534 and NAC Chapter 534 and plugged in accordance with NAC Chapter 534.

REGION 9
SAN FRANCISCO, CA 94105

September 18, 2024

Sean Dorrough
Department of the Air Force
1065 Perimeter Road
Creech AFB, Nevada 89018

Subject: Scoping comments for proposed installation development plan projects, Creech Air Force Base, Nevada

Dear Sean Dorrough:

The U.S. Environmental Protection Agency has reviewed your early coordination letter, dated July 17, 2024, inviting comments on the proposed action. The letter indicated that comments were due 30 days from receipt of the letter. Since the notification was sent via hard copy to our Regional Administrator, there was substantial delay and our office received it on August 19, 2024. I informed you of this via email message on August 20, 2024 and indicated that 30 days from the receipt of the letter would be September 18, 2024. Our comments are provided pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508) and our NEPA review authority under Section 309 of the Clean Air Act.

The Proposed Action would implement 36 short-term development action and real-property improvement on Creech AFB from approximately 2024 through 2029 across five planning districts on the installation: Airfield, Community Support, Mission Operations Complex, Munitions Storage Area, and Southside Operations. We have the following suggestions for your consideration when preparing the Draft Environmental Assessment (DEA):

**Soil and Water Contamination**

The Draft EA should identify areas of contamination to assist in project planning, waste management, and safe construction practices.

Identify any hazardous contaminants and remediation sites on the Base that are in proximity to the development areas and provide a general overview of the status of any cleanup that is occurring. Explain how the proposed development could interface with any cleanup remedies. The DEA should indicate whether the physical development of the proposed action could expose construction and maintenance workers, visitors, occupants, or ecological systems to potential hazards associated with contaminants.

**Perfluorinated Compounds (PFAS)**

Provide an update of the investigations and actions regarding characterizing the nature and extent of PFOS and PFOA contamination on Creech AFB. According to the 2018 Site Investigation (SI), PFOS contamination exceeded the SI's Project Action Levels (PALs) in several areas. We note that the PALS in the Site Investigation for groundwater were derived from EPA's 2016 Lifetime Health Advisory of 70 parts per trillion (ppt). Since that time, EPA finalized its PFAS National Primary Drinking Water Regulation (https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas). The MCL is much lower than the 70 ppt health advisory and supersedes it. The Draft EA should discuss contamination in the project areas with reference to the existing standard, not the interim health advisory level nor levels derived from it. The 70 parts per trillion (ppt) interim health advisory level should not be referenced or used in the impact assessment methodology.

The SI report identified potential PFAS exposure pathways for groundwater, soil, and air and these should be discussed in relation to the IDP project sites. According to the scoping notice, a number of PFOA/PFAS contaminated sites appear proximate to IDP projects, such as water line repair, fencing projects, and perhaps the Munitions Storage Igloo. The SI indicates that potential air migration pathways exist for the human receptors within four miles of the Time-Distance Spray Testing Area, including the worker population at Creech AFB (approximately 3,500 individuals) and the resident population of Indian Springs (approximately 1,000 individuals). Potential ecological targets for the air exposure pathway include the sensitive species that exist within the Desert National Wildlife Refuge to the north of Creech AFB. Ensure these potential impacts and risks are disclosed in the DEA.

Because of the new PFAS MCL which was not considered in the SI, we recommend conducting testing in all PFAS source areas where construction is planned prior to any earth movement. Knowledge of PFAS presence is needed if materials will be moved, as the receiving location could become a new source. Indicate whether any material will be reused on site. Discuss in the DEA where and how PFAS-contaminated materials will be identified, managed and disposed. If off-site disposal is possible, we recommend exploring availability of disposal sites. While some facilities do take PFAS-contaminated material, they may have restrictions. Discuss how contaminated groundwater encountered during construction would be managed, treated and disposed. Since inhalation is an exposure pathway for PFAS in soils, we recommend the Air Force consider dust monitoring and requiring contractors to establish worker health protections for dust inhalation.

**Impacts to Wildlife**

There are multiple new fence projects proposed in the list of IDP projects. New fencing has the potential to disrupt wildlife corridors, which are of increasing importance under climate change as they allow wildlife to move and adapt to new climate regimes. We recommend the DEA discuss existing wildlife corridors near Creech and assess how new fencing might disrupt wildlife movements. According to the Nevada Department of Wildlife mapping program, there are Bighorn Sheep movement corridors between populations in the Pintwater Range to the north and Indian Ridge to the south. Consider security options that do not impede these movement corridors, such as fencing certain assets instead of Base perimeter fencing.

**Impacts to ephemeral streams and from increased precipitation patterns**

We strongly recommend avoiding any development in the ephemeral stream located north of the airfield that runs southwest to northeast to an inland water feature. Designate a protective buffer

around this drainage to mark the area of no construction. Due to increased extreme precipitation volumes and intensities, it is important to maintain drainages for stormwater conveyance and to avoid flooding damages. Additionally, drainages are often wildlife movement corridors.

**Renewable Energy Project**

***Maximize photovoltaics***

We appreciate that Project C11 in the northeast portion of the base would consist of a large-scale photovoltaic (PV) system. While this is a valuable addition, it need not be the only photovoltaics incorporated into the project. We recommend photovoltaics be installed on new buildings and on carports over parking lots, such as those at Marine Corps Air Station Miramar, which are especially advantageous since they significantly reduce heat impacts to drivers.

***Utilize smart construction techniques***

For the large-scale PV system, we recommend utilizing the lessons learned from many PV projects in the desert; specifically, the industry has evolved towards design features that minimize grading, soil disturbance, and vegetation removal during construction. Keeping vegetation in place provides a more hospitable habitat for native species and pollinators, stabilizes soil, preserves soil structure, reduces erosion and dust and valley fever risk to workers, and reduces the need for restoration. We recommend:

- Avoiding site grading and disk-and-roll preparation techniques and utilizing less intrusive measures such as overland travel
- Limiting grading to specific areas only – roads, substations, O&M facilities, laydown areas, and some equipment pads
- Utilize smaller rubber-wheeled vehicles, lightweight skid steers, small cranes, tractors, and rubber-tired forklifts to minimize soil disturbance
- Mount batteries, transformers, and inverters on elevated platforms to allow soils underneath to remain pervious

***Protect workers and residents from Valley Fever***

The project is in an area the Centers for Disease Control and Prevention indicates is endemic for Coccidioides immitis, a fungus causing Valley fever (Coccidioidomycosis) in humans.[1] As a result, fugitive dust generated during ground disturbing activities could disperse Coccidioides spores, if present. This occurred on one PV solar project construction site in California[2] and at several other gatherings where soil was disrupted. Valley fever can result in mild to severe symptoms, and if severe, it can take months to recover. Valley fever can also be fatal. To reduce the human health risk of contracting Valley fever, we recommend the Air Force create and implement a strict fugitive dust control plan. Include this plan in the DEA and Finding of No Significant Impact (FONSI).

The plan should include measures to prevent or reduce the risk of exposure to workers, including training for workers and supervisors on the potential presence of Valley Fever spores, methods to minimize exposure, and how to recognize symptoms. Mitigation measures could include limiting workers' exposure to outdoor dust in disease-endemic areas by (1) providing air-conditioned cabs for

[1] https://www.cdc.gov/valley-fever/areas/index.html
[2] https://www.cdc.gov/mmwr/volumes/67/wr/mm6733a4.htm

vehicles that generate dust and making sure workers keep windows and vents closed, (2) suspending work during heavy winds, and (3) directing them to remove dusty clothing after fieldwork and store in closed plastic bags until washed. When exposure to dust is unavoidable, provide approved respiratory protection to filter particles.

**Planning for Extreme Heat**

Heat is a serious climate change effect that can be fatal. According to the FEMA National Risk Index, Clark County has a very high risk for extreme heat, with annual days with maximum temperature over 90 degrees predicted between 134 and 141 by midcentury, and annual days with temperature over 100 degrees between 74 and 81 days per year.

We strongly recommend the Installation Development be designed to minimize excessive heat by integrating heat mitigation strategies into site plans. Use cool surfaces and pavements that store less heat than traditional pavements. Heat islands, areas dominated by hard surfaces and lacking trees and green space, can be more than 20 degrees hotter than nearby areas with trees and grass. Use of vegetation cools surrounding areas through evapotranspiration.

Provide a certain amount of shading through either trees or built shade structures. Orient buildings with local climate and geographic conditions in mind which can improve natural ventilation, avoid solar heat gain, decrease energy usage, and improve human thermal comfort. On building sides with high solar exposure, improvements such as shade screens, window glazing, and smaller windows on the east and west sides can help shade and keep the inside of buildings cooler.[3] We recommend integrating in as many design elements as possible into the projects to help Creech AFB reduce excessive heat health risks.

**Utilities**

We recommend the DEA have a section on utilities and discuss quantity and quality of drinking water sources, especially considering PFA contamination, and describe the current and new components to the wastewater treatment system. Ensure stormwater management systems are upsized to accommodate the more intense precipitation patterns now being experienced.

The EPA appreciates the opportunity to comment on preparation of the DEA. When the Draft EA is released for public review, please send an electronic copy to me at vitulano.karen@epa.gov. If you have questions, please contact me at (415) 947-4178 or by email.

Sincerely,

Karen Vitulano
Environmental Scientist
Environmental Review Section 2

cc: Jasmine C. Kleiber, Nevada Department of Wildlife

[3] See: https://planning-org-uploaded-media.s3.amazonaws.com/publication/download_pdf/PAS-Report-600-r1.pdf

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# APPENDIX B. AIR CONFORMITY APPLICABILITY MODEL ANALYSIS

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

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

**a. Action Location:**

**Base:** CREECH AFB
**State:** Nevada
**County(s):** Clark
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Creech AFB Installation Development Plan (IDP)

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

**d. Projected Action Start Date:** 1 / 2024

**e. Action Description:**

- Creech AFB proposes to implement 36 short-term development projects, including demolition of aging facilities, new facility construction, facility upgrades, facility repair and renovation, utilities upgrades, community living upgrades, infrastructure improvement, recreational upgrades, natural infrastructure management projects, and strategic sustainability performance projects to be completed or implemented over the next 5 years (FY 2024–2029). Projects include:
- Taxiway Alpha Addition: This project would construct a taxiway extension and arm/disarm pad that extends the existing Taxiway Alpha to the west threshold of Runway 08/26. This project would include asphalt taxiway; concrete arm/disarm pad; paved shoulders; airfield lighting, markings, and guidance signage; addition of an access roadway leading to the arm/disarm pad; airfield storm drainage; utilities; and all other work as necessary.
- Weapons Load Trainer Facility: This project would construct a MQ-9 Weapons Load Crew Training Facility utilizing conventional design and construction methods. The facility would be constructed with a reinforced concrete foundation/floor slab, structural-steel frame, metal panel with brick veneer exterior, and standing seam metal roof. Construction associated with this project would include information systems, fire protection and alarm systems, cybersecurity measures, intrusion detection system installation, and energy monitoring and control systems connection. Supporting facilities would include a training bay access apron, parking areas, construction of an access roadway, security lighting, storm drainage, site improvements, signage, and all other necessary features to make a complete and useable facility.
- LRS Deployment Center: This project would construct a two-story Deployment Processing Center and include an aircraft parking apron capable of supporting two C-17's or one C-5 airframe.
- MQ-9 CPIP GDT Antenna Complex: The project would construct a properly sited and configured antenna tower complex for the installation of eight MQ-9 ground data terminal (GDT) systems.
- Construct Airfield Fencing: These projects would construct a fencing needed to reduce the security risk to airfield operations by regulating access to the airfield.
- North Side Electrical Loop: This project would construct a finished electrical loop system of approximately 30,000 linear feet (lf) from the southwest side of the Base to the north side of the Base. This would be accomplished by running a new electrical line from the intersection of Box Canyon and Hunters Road to Building 1065 (B1065).
- Repair Airfield Pavements: This project would repair airfield pavements identified in the 2015 Airfield Pavement Evaluation.
- Warrior Fitness Center: This project would construct basketball and racquetball courts, a 1/10th mile elevated indoor running track, unit physical training/group exercise areas, weight rooms, administration, lockers, showers, and restrooms. Supporting facilities include all required utilities, staff and customer

parking areas, sidewalks, lighting, signage, and other site improvements. The project would incorporate sustainability and energy measures, stormwater mitigation, and meet antiterrorism force protection standoff requirements.

- Install Solar and Battery Systems: This project would design and install a cybersecure microgrid control system integrated with large-scale photovoltaic (PV) arrays, battery energy storage system (BESS), and thermal energy storage system to address physical, cybersecurity, and climate threats as described in Creech AFB's Energy Resilience Assessment.
- Mission Support Facility: This project would construct a Mission Support Center, providing a permanent, consolidated facility for the 432d Mission Support Group and Force Support Squadron in support of mission and support services for all personnel on Creech AFB.
- RPA Structural Repair Facility: This project would construct an RPA Structural Repair Facility and a separate Corrosion Control Utility Storage Building. The proposed facility would provide a modern, functional space capable of supporting required MQ-9 structural and composite repair as well as non-destructive inspection.
- RPA Maintenance Hangar: This project would construct an RPA Maintenance Hangar adequately configured to support eight MQ-9s and provide administrative and maintenance space for the activation of a new Aircraft Maintenance Unit.
- Casket & WRM AGE Storage Facility: This project would construct a War Reserve Materiel (WRM) Aerospace Ground Equipment (AGE) Storage Facility with a consolidated and secure, climate-controlled storage space that would enhance the capability of the 432d Maintenance Group to sustain and deploy critical RPA mission equipment. The facility would also provide an AGE storage bay, bench stock/tool room, parts cleaning, and a semi-enclosed wash rack area.
- Wing Advance Programs Facility: This project would construct a facility to house the 432 Wing Advance Programs. This facility would require additional space to accommodate current staffing.
- Construct North GDT Towers: The project would repair by replacing current GDT towers on the north airfield apron. This project is currently being reevaluated for removal of the current three towers.
- Construct CAT/EOC Facility: This project would construct a structure that would be co-located with B1209. This structure would be a single-floor facility and utilize the existing parking lot.
- Munitions Storage Igloo: This project would construct an aboveground earth-covered munitions storage igloo with a reinforced concrete foundation/floor slab and a pre-engineered reinforced concrete panel exterior with earth covering. The project would include blast-resistant steel doors, interior and exterior lighting, grounding, surge protection, intrusion detection system, and an exterior concrete access apron.
- Repair Water Lines: This project would repair water lines as identified in the Creech AFB Installation Development Plan (IDP).
- Network Control Center: This project would consolidate four communication flight facilities by constructing a new facility. The structure would be sized to encompass the whole of the communications flight and a communication node for Creech AFB.
- Airfield Operations Center: This project would construct an approximately 15,000-ft2 facility, which would consolidate deployed Operations, Transit Alert, and Air Traffic Control. This construction is currently planned for fiscal year 2025 to relocate B93 to the current location of B726. A parking lot to the west of B726 is being discussed.
- Construct AGE Storage Facility: This project would construct a warehouse and administrative space on the north apron beside B1131.
- Commercial Vehicle Gate: This project would construct a new 6,000-ft2 commercial vehicle inspection facility with gatehouse inspection bays

**f. Point of Contact:**

**Name:** J. Michael Nied, PE (WI)
**Title:** Project Manager / Environmental Engineer
**Organization:** Environmental Assessment Services, LLC
**Email:** mnied@easbio.com
**Phone Number:** (608) 797-1326

# 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" (hsba.e., no net gain/loss in emission stabilized and the action is fully implemented) emissions. The ACAM analysis uses the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the *USAF Air Emissions Guide for Air Force Stationary Sources*, the *USAF Air Emissions Guide for Air Force Mobile Sources*, and the *USAF Air Emissions Guide for Air Force Transitory Sources*.

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

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

**Analysis Summary:**

**2024**

| Pollutant | Action Emissions (ton/yr) | INSIGNIFICANCE INDICATOR | |
|---|---|---|---|
| | | Indicator (ton/yr) | Exceedance (Yes or No) |
| NOT IN A REGULATORY AREA | | | |
| **VOC** | 0.136 | 250 | No |
| **NOx** | 1.127 | 250 | No |
| **CO** | 1.472 | 250 | No |
| **SOx** | -0.099 | 250 | No |
| **PM 10** | 0.174 | 250 | No |
| **PM 2.5** | 0.046 | 250 | No |
| **Pb** | 0.000 | 25 | No |
| **NH3** | 0.001 | 250 | No |

**2025**

| Pollutant | Action Emissions (ton/yr) | INSIGNIFICANCE INDICATOR | |
|---|---|---|---|
| | | Indicator (ton/yr) | Exceedance (Yes or No) |
| NOT IN A REGULATORY AREA | | | |
| **VOC** | 0.220 | 250 | No |
| **NOx** | 1.099 | 250 | No |
| **CO** | 1.674 | 250 | No |
| **SOx** | -0.122 | 250 | No |
| **PM 10** | 0.059 | 250 | No |
| **PM 2.5** | 0.044 | 250 | No |
| **Pb** | 0.000 | 25 | No |
| **NH3** | 0.002 | 250 | No |

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

## 2026

| Pollutant | Action Emissions (ton/yr) | INSIGNIFICANCE INDICATOR | |
|---|---|---|---|
| | | Indicator (ton/yr) | Exceedance (Yes or No) |
| NOT IN A REGULATORY AREA | | | |
| **VOC** | 0.550 | 250 | No |
| **NOx** | 2.514 | 250 | No |
| **CO** | 3.036 | 250 | No |
| **SOx** | 0.519 | 250 | No |
| **PM 10** | 19.709 | 250 | No |
| **PM 2.5** | 0.080 | 250 | No |
| **Pb** | 0.000 | 25 | No |
| **NH3** | 0.002 | 250 | No |

## 2027

| Pollutant | Action Emissions (ton/yr) | INSIGNIFICANCE INDICATOR | |
|---|---|---|---|
| | | Indicator (ton/yr) | Exceedance (Yes or No) |
| NOT IN A REGULATORY AREA | | | |
| **VOC** | 2.914 | 250 | No |
| **NOx** | 4.957 | 250 | No |
| **CO** | 4.521 | 250 | No |
| **SOx** | 3.078 | 250 | No |
| **PM 10** | 138.943 | 250 | No |
| **PM 2.5** | 0.158 | 250 | No |
| **Pb** | 0.000 | 25 | No |
| **NH3** | 0.004 | 250 | No |

## 2028

| Pollutant | Action Emissions (ton/yr) | INSIGNIFICANCE INDICATOR | |
|---|---|---|---|
| | | Indicator (ton/yr) | Exceedance (Yes or No) |
| NOT IN A REGULATORY AREA | | | |
| **VOC** | 1.070 | 250 | No |
| **NOx** | 2.933 | 250 | No |
| **CO** | 2.044 | 250 | No |
| **SOx** | 3.884 | 250 | No |
| **PM 10** | 9.196 | 250 | No |
| **PM 2.5** | 0.076 | 250 | No |
| **Pb** | 0.000 | 25 | No |
| **NH3** | 0.002 | 250 | No |

## 2029

| Pollutant | Action Emissions (ton/yr) | INSIGNIFICANCE INDICATOR | |
|---|---|---|---|
| | | Indicator (ton/yr) | Exceedance (Yes or No) |
| NOT IN A REGULATORY AREA | | | |
| **VOC** | 0.132 | 250 | No |
| **NOx** | 2.577 | 250 | No |
| **CO** | 1.381 | 250 | No |
| **SOx** | 3.915 | 250 | No |
| **PM 10** | 0.226 | 250 | No |
| **PM 2.5** | 0.064 | 250 | No |
| **Pb** | 0.000 | 25 | No |
| **NH3** | 0.004 | 250 | No |

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

## 2030 - (Steady State)

| Pollutant | Action Emissions (ton/yr) | INSIGNIFICANCE INDICATOR | |
|---|---|---|---|
| | | Indicator (ton/yr) | Exceedance (Yes or No) |
| NOT IN A REGULATORY AREA | | | |
| **VOC** | 0.031 | 250 | No |
| **NOx** | 1.812 | 250 | No |
| **CO** | 0.453 | 250 | No |
| **SOx** | 3.913 | 250 | No |
| **PM 10** | 0.112 | 250 | No |
| **PM 2.5** | 0.042 | 250 | No |
| **Pb** | 0.000 | 25 | No |
| **NH3** | 0.000 | 250 | No |

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

J. Michael Nied, PE (WI), Project Manager / Environmental Engineer — Jun 07 2024

**Name, Title** — **Date**

# AIR CONFORMITY APPLICABILITY MODEL REPORT
# GREENHOUSE GAS (GHG) EMISSIONS

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to estimate GHG emissions and assess the theoretical Social Cost of Greenhouse Gases (SC GHG) associated with the action. The analysis was performed in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the USAF Air Quality Environmental Impact Analysis Process (EIAP) Guide. This report provides a summary of GHG emissions and SC GHG analysis.

**a. Action Location:**

**Base:** CREECH AFB
**State:** Nevada
**County(s):** Clark
**Regulatory Area(s):** NOT IN A REGULATORY AREA

**b. Action Title:** Creech AFB Installation Development Plan (IDP)

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

**d. Projected Action Start Date:** 1 / 2024

**e. Action Description:**

- Creech AFB proposes to implement 36 short-term development projects, including demolition of aging facilities, new facility construction, facility upgrades, facility repair and renovation, utilities upgrades, community living upgrades, infrastructure improvement, recreational upgrades, natural infrastructure management projects, and strategic sustainability performance projects to be completed or implemented over the next 5 years (FY 2024–2029). Projects include:
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**f. Point of Contact:**

**Name:** J. Michael Nied, PE (WI)
**Title:** Project Manager / Environmental Engineer
**Organization:** Environmental Assessment Services, LLC
**Email:** mnied@easbio.com
**Phone Number:** (608) 797-1326

# AIR CONFORMITY APPLICABILITY MODEL REPORT
# GREENHOUSE GAS (GHG) EMISSIONS

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

**GHG Emissions Analysis Summary:**

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

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

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

| Action-Related Annual GHG Emissions (mton/yr) | | | | | | |
|---|---|---|---|---|---|---|
| **YEAR** | **CO2** | **CH4** | **N2O** | **CO2e** | **Threshold** | **Exceedance** |
| 2024 | 148 | 0.00609627 | -0.00022426 | 149 | 68,039 | No |
| 2025 | 195 | 0.00762995 | -0.00026559 | 195 | 68,039 | No |
| 2026 | 739 | 0.02989518 | 0.01408615 | 742 | 68,039 | No |
| 2027 | 2,293 | 0.09188197 | 0.06561081 | 2,300 | 68,039 | No |
| 2028 | 2,086 | 0.08425446 | 0.07649268 | 2,093 | 68,039 | No |
| 2029 | 2,095 | 0.08259601 | 0.0764278 | 2,102 | 68,039 | No |
| 2030 [SS Year] | 1,849 | 0.0750217 | 0.0750217 | 1,855 | 68,039 | No |
| 2031 | 1,849 | 0.0750217 | 0.0750217 | 1,855 | 68,039 | No |
| 2032 | 1,849 | 0.0750217 | 0.0750217 | 1,855 | 68,039 | No |
| 2033 | 1,849 | 0.0750217 | 0.0750217 | 1,855 | 68,039 | No |
| 2034 | 1,849 | 0.0750217 | 0.0750217 | 1,855 | 68,039 | No |
| 2035 | 1,849 | 0.0750217 | 0.0750217 | 1,855 | 68,039 | No |
| 2036 | 1,849 | 0.0750217 | 0.0750217 | 1,855 | 68,039 | No |
| 2037 | 1,849 | 0.0750217 | 0.0750217 | 1,855 | 68,039 | No |
| 2038 | 1,849 | 0.0750217 | 0.0750217 | 1,855 | 68,039 | No |
| 2039 | 1,849 | 0.0750217 | 0.0750217 | 1,855 | 68,039 | No |
| 2040 | 1,849 | 0.0750217 | 0.0750217 | 1,855 | 68,039 | No |

# AIR CONFORMITY APPLICABILITY MODEL REPORT
# GREENHOUSE GAS (GHG) EMISSIONS

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

| State's Annual GHG Emissions (mton/yr) | | | | |
|---|---|---|---|---|
| **YEAR** | **CO2** | **CH4** | **N2O** | **CO2e** |
| 2024 | 39,602,863 | 85,229 | 6,288 | 39,694,380 |
| 2025 | 39,602,863 | 85,229 | 6,288 | 39,694,380 |
| 2026 | 39,602,863 | 85,229 | 6,288 | 39,694,380 |
| 2027 | 39,602,863 | 85,229 | 6,288 | 39,694,380 |
| 2028 | 39,602,863 | 85,229 | 6,288 | 39,694,380 |
| 2029 | 39,602,863 | 85,229 | 6,288 | 39,694,380 |
| 2030 [SS Year] | 39,602,863 | 85,229 | 6,288 | 39,694,380 |
| 2031 | 39,602,863 | 85,229 | 6,288 | 39,694,380 |
| 2032 | 39,602,863 | 85,229 | 6,288 | 39,694,380 |
| 2033 | 39,602,863 | 85,229 | 6,288 | 39,694,380 |
| 2034 | 39,602,863 | 85,229 | 6,288 | 39,694,380 |
| 2035 | 39,602,863 | 85,229 | 6,288 | 39,694,380 |
| 2036 | 39,602,863 | 85,229 | 6,288 | 39,694,380 |
| 2037 | 39,602,863 | 85,229 | 6,288 | 39,694,380 |
| 2038 | 39,602,863 | 85,229 | 6,288 | 39,694,380 |
| 2039 | 39,602,863 | 85,229 | 6,288 | 39,694,380 |
| 2040 | 39,602,863 | 85,229 | 6,288 | 39,694,380 |

| U.S. Annual GHG Emissions (mton/yr) | | | | |
|---|---|---|---|---|
| **YEAR** | **CO2** | **CH4** | **N2O** | **CO2e** |
| 2024 | 5,136,454,179 | 25,626,912 | 1,500,708 | 5,163,581,798 |
| 2025 | 5,136,454,179 | 25,626,912 | 1,500,708 | 5,163,581,798 |
| 2026 | 5,136,454,179 | 25,626,912 | 1,500,708 | 5,163,581,798 |
| 2027 | 5,136,454,179 | 25,626,912 | 1,500,708 | 5,163,581,798 |
| 2028 | 5,136,454,179 | 25,626,912 | 1,500,708 | 5,163,581,798 |
| 2029 | 5,136,454,179 | 25,626,912 | 1,500,708 | 5,163,581,798 |
| 2030 [SS Year] | 5,136,454,179 | 25,626,912 | 1,500,708 | 5,163,581,798 |
| 2031 | 5,136,454,179 | 25,626,912 | 1,500,708 | 5,163,581,798 |
| 2032 | 5,136,454,179 | 25,626,912 | 1,500,708 | 5,163,581,798 |
| 2033 | 5,136,454,179 | 25,626,912 | 1,500,708 | 5,163,581,798 |
| 2034 | 5,136,454,179 | 25,626,912 | 1,500,708 | 5,163,581,798 |
| 2035 | 5,136,454,179 | 25,626,912 | 1,500,708 | 5,163,581,798 |
| 2036 | 5,136,454,179 | 25,626,912 | 1,500,708 | 5,163,581,798 |
| 2037 | 5,136,454,179 | 25,626,912 | 1,500,708 | 5,163,581,798 |
| 2038 | 5,136,454,179 | 25,626,912 | 1,500,708 | 5,163,581,798 |
| 2039 | 5,136,454,179 | 25,626,912 | 1,500,708 | 5,163,581,798 |
| 2040 | 5,136,454,179 | 25,626,912 | 1,500,708 | 5,163,581,798 |

**GHG Relative Significance Assessment:**

A Relative Significance Assessment uses the rule of reason and the concept of proportionality along with the consideration of the affected area (yGba.e., global, national, and regional) and the degree (intensity) of the proposed action's effects. The Relative Significance Assessment provides real-world context and allows for a reasoned choice against alternatives through a relative comparison analysis. The analysis weighs each alternative's annual net change in GHG emissions proportionally against (or relative to) global, national, and regional emissions.

# AIR CONFORMITY APPLICABILITY MODEL REPORT
# GREENHOUSE GAS (GHG) EMISSIONS

The action's surroundings, circumstances, environment, and background (context associated with an action) provide the setting for evaluating the GHG intensity (impact significance). From an air quality perspective, context of an action is the local area's ambient air quality relative to meeting the NAAQSs, expressed as attainment, nonattainment, or maintenance areas (this designation is considered the attainment status). GHGs are non-hazardous to health at normal ambient concentrations and, at a cumulative global scale, action-related GHG emissions can only potentially cause warming of the climatic system. Therefore, the action-related GHGs generally have an insignificant impact to local air quality.

However, the affected area (context) of GHG/climate change is global. Therefore, the intensity or degree of the proposed action's GHG/climate change effects are gauged through the quantity of GHG associated with the action as compared to a baseline of the state, U.S., and global GHG inventories. Each action (or alternative) has significance, based on their annual net change in GHG emissions, in relation to or proportionally to the global, national, and regional annual GHG emissions.

To provide real-world context to the GHG and climate change effects on a global scale, an action's net change in GHG emissions is compared relative to the state (where action will occur) and U.S. annual emissions. The following table provides a relative comparison of an action's net change in GHG emissions vs. state and U.S. projected GHG emissions for the same time period.

| Total GHG Relative Significance (mton) | | | | | |
|---|---|---|---|---|---|
| | | **CO2** | **CH4** | **N2O** | **CO2e** |
| 2024-2040 | State Total | 673,248,663 | 1,448,895 | 106,897 | 674,804,455 |
| 2024-2040 | U.S. Total | 87,319,721,043 | 435,657,499 | 25,512,030 | 87,780,890,571 |
| 2024-2040 | Action | 27,893 | 1.127593 | 1.057366 | 27,989 |
| | | | | | |
| Percent of State Totals | | 0.00414311% | 0.00007782% | 0.00098915% | 0.00414768% |
| Percent of U.S. Totals | | 0.00003194% | 0.00000026% | 0.00000414% | 0.00003188% |

**Climate Change Assessment (as SC GHG):**

On a global scale, the potential climate change effects of an action are indirectly addressed and put into context through providing the theoretical SC GHG associated with an action. The SC GHG is an administrative and theoretical tool intended to provide additional context to a GHG's potential impacts through approximating the long-term monetary damage that may result from GHG emissions affect on climate change. It is important to note that the SC GHG is a monetary quantification, in 2020 U.S. dollars, of the theoretical economic damages that could result from emitting GHGs into the atmosphere.

The SC GHG estimates are derived using the methodology and discount factors in the "Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990," released by the Interagency Working Group on Social Cost of Greenhouse Gases (IWG SC GHGs) in February 2021.

The speciated IWG Annual SC GHG Emission associated with an action (or alternative) are first estimated as annual unit cost (cost per metric ton, $/mton). Results of the annual IWG Annual SC GHG Emission Assessments are tabulated in the IWG Annual SC GHG Cost per Metric Ton Table below:

# AIR CONFORMITY APPLICABILITY MODEL REPORT
# GREENHOUSE GAS (GHG) EMISSIONS

IWG SC GHG Discount Factor: 2.5%

| IWG Annual SC GHG Cost per Metric Ton ($/mton [In 2020 $]) | | | |
|---|---|---|---|
| **YEAR** | **CO2** | **CH4** | **N2O** |
| 2024 | $82.00 | $2,200.00 | $29,000.00 |
| 2025 | $83.00 | $2,200.00 | $30,000.00 |
| 2026 | $84.00 | $2,300.00 | $30,000.00 |
| 2027 | $86.00 | $2,300.00 | $31,000.00 |
| 2028 | $87.00 | $2,400.00 | $32,000.00 |
| 2029 | $88.00 | $2,500.00 | $32,000.00 |
| 2030 [SS Year] | $89.00 | $2,500.00 | $33,000.00 |
| 2031 | $91.00 | $2,600.00 | $33,000.00 |
| 2032 | $92.00 | $2,600.00 | $34,000.00 |
| 2033 | $94.00 | $2,700.00 | $35,000.00 |
| 2034 | $95.00 | $2,800.00 | $35,000.00 |
| 2035 | $96.00 | $2,800.00 | $36,000.00 |
| 2036 | $98.00 | $2,900.00 | $36,000.00 |
| 2037 | $99.00 | $3,000.00 | $37,000.00 |
| 2038 | $100.00 | $3,000.00 | $38,000.00 |
| 2039 | $102.00 | $3,100.00 | $38,000.00 |
| 2040 | $103.00 | $3,100.00 | $39,000.00 |

Action-related SC GHG were estimated by calendar-year for the projected action's lifecycle. Annual estimates were found by multiplying the annual emission for a given year by the corresponding IWG Annual SC GHG Emission value (see table above).

| Action-Related Annual SC GHG ($K/yr [In 2020 $]) | | | | |
|---|---|---|---|---|
| **YEAR** | **CO2** | **CH4** | **N2O** | **GHG** |
| 2024 | $12.18 | $0.01 | ($0.01) | $12.18 |
| 2025 | $16.16 | $0.02 | ($0.01) | $16.17 |
| 2026 | $62.07 | $0.07 | $0.42 | $62.56 |
| 2027 | $197.16 | $0.21 | $2.03 | $199.41 |
| 2028 | $181.47 | $0.20 | $2.45 | $184.12 |
| 2029 | $184.34 | $0.21 | $2.45 | $186.99 |
| 2030 [SS Year] | $164.55 | $0.19 | $2.48 | $167.22 |
| 2031 | $168.25 | $0.20 | $2.48 | $170.92 |
| 2032 | $170.10 | $0.20 | $2.55 | $172.85 |
| 2033 | $173.80 | $0.20 | $2.63 | $176.63 |
| 2034 | $175.65 | $0.21 | $2.63 | $178.48 |
| 2035 | $177.50 | $0.21 | $2.70 | $180.41 |
| 2036 | $181.19 | $0.22 | $2.70 | $184.11 |
| 2037 | $183.04 | $0.23 | $2.78 | $186.04 |
| 2038 | $184.89 | $0.23 | $2.85 | $187.97 |
| 2039 | $188.59 | $0.23 | $2.85 | $191.67 |
| 2040 | $190.44 | $0.23 | $2.93 | $193.60 |

# AIR CONFORMITY APPLICABILITY MODEL REPORT
# GREENHOUSE GAS (GHG) EMISSIONS

The following two tables summarize the U.S. and State's Annual SC GHG by calendar-year. The U.S. and State's Annual SC GHG are in 2020 dollars and were estimated by each year for the projected action lifecycle. Annual SC GHG estimates were found by multiplying the U.S. and State's annual five-year average GHG emissions for a given year by the corresponding IWG Annual SC GHG Cost per Metric Ton value.

| State's Annual SC GHG ($K/yr [In 2020 $]) | | | | |
|---|---|---|---|---|
| **YEAR** | **CO2** | **CH4** | **N2O** | **GHG** |
| 2024 | $3,247,434.73 | $187,504.10 | $182,353.34 | $3,617,292.17 |
| 2025 | $3,287,037.59 | $187,504.10 | $188,641.38 | $3,663,183.08 |
| 2026 | $3,326,640.45 | $196,027.02 | $188,641.38 | $3,711,308.85 |
| 2027 | $3,405,846.18 | $196,027.02 | $194,929.43 | $3,796,802.62 |
| 2028 | $3,445,449.04 | $204,549.93 | $201,217.48 | $3,851,216.45 |
| 2029 | $3,485,051.90 | $213,072.85 | $201,217.48 | $3,899,342.22 |
| 2030 [SS Year] | $3,524,654.76 | $213,072.85 | $207,505.52 | $3,945,233.13 |
| 2031 | $3,603,860.49 | $221,595.76 | $207,505.52 | $4,032,961.77 |
| 2032 | $3,643,463.35 | $221,595.76 | $213,793.57 | $4,078,852.68 |
| 2033 | $3,722,669.08 | $230,118.67 | $220,081.61 | $4,172,869.36 |
| 2034 | $3,762,271.94 | $238,641.59 | $220,081.61 | $4,220,995.14 |
| 2035 | $3,801,874.80 | $238,641.59 | $226,369.66 | $4,266,886.05 |
| 2036 | $3,881,080.53 | $247,164.50 | $226,369.66 | $4,354,614.69 |
| 2037 | $3,920,683.39 | $255,687.42 | $232,657.71 | $4,409,028.51 |
| 2038 | $3,960,286.25 | $255,687.42 | $238,945.75 | $4,454,919.42 |
| 2039 | $4,039,491.98 | $264,210.33 | $238,945.75 | $4,542,648.06 |
| 2040 | $4,079,094.84 | $264,210.33 | $245,233.80 | $4,588,538.97 |

| U.S. Annual SC GHG ($K/yr [In 2020 $]) | | | | |
|---|---|---|---|---|
| **YEAR** | **CO2** | **CH4** | **N2O** | **GHG** |
| 2024 | $421,189,242.68 | $56,379,205.70 | $43,520,521.44 | $521,088,969.82 |
| 2025 | $426,325,696.86 | $56,379,205.70 | $45,021,229.08 | $527,726,131.63 |
| 2026 | $431,462,151.04 | $58,941,896.86 | $45,021,229.08 | $535,425,276.98 |
| 2027 | $441,735,059.39 | $58,941,896.86 | $46,521,936.72 | $547,198,892.97 |
| 2028 | $446,871,513.57 | $61,504,588.03 | $48,022,644.35 | $556,398,745.96 |
| 2029 | $452,007,967.75 | $64,067,279.20 | $48,022,644.35 | $564,097,891.30 |
| 2030 [SS Year] | $457,144,421.93 | $64,067,279.20 | $49,523,351.99 | $570,735,053.12 |
| 2031 | $467,417,330.29 | $66,629,970.37 | $49,523,351.99 | $583,570,652.65 |
| 2032 | $472,553,784.47 | $66,629,970.37 | $51,024,059.62 | $590,207,814.46 |
| 2033 | $482,826,692.83 | $69,192,661.54 | $52,524,767.26 | $604,544,121.62 |
| 2034 | $487,963,147.01 | $71,755,352.70 | $52,524,767.26 | $612,243,266.97 |
| 2035 | $493,099,601.18 | $71,755,352.70 | $54,025,474.90 | $618,880,428.78 |
| 2036 | $503,372,509.54 | $74,318,043.87 | $54,025,474.90 | $631,716,028.31 |
| 2037 | $508,508,963.72 | $76,880,735.04 | $55,526,182.53 | $640,915,881.29 |
| 2038 | $513,645,417.90 | $76,880,735.04 | $57,026,890.17 | $647,553,043.11 |
| 2039 | $523,918,326.26 | $79,443,426.21 | $57,026,890.17 | $660,388,642.63 |
| 2040 | $529,054,780.44 | $79,443,426.21 | $58,527,597.80 | $667,025,804.45 |

**Relative Comparison of SC GHG:**

To provide additional real-world context to the potential climate change impact associate with an action, a Relative Comparison of SC GHG Assessment is also performed. While the SC GHG estimates capture an indirect approximation of global climate damages, the Relative Comparison of SC GHG Assessment provides a better perspective from a regional and global scale.

# AIR CONFORMITY APPLICABILITY MODEL REPORT
# GREENHOUSE GAS (GHG) EMISSIONS

The Relative Comparison of SC GHG Assessment uses the rule of reason and the concept of proportionality along with the consideration of the affected area (yGba.e., global, national, and regional) and the SC GHG as the degree (intensity) of the proposed action's effects. The Relative Comparison Assessment provides real-world context and allows for a reasoned choice among alternatives through a relative contrast analysis which weighs each alternative's SC GHG proportionally against (or relative to) existing global, national, and regional SC GHG. The below table provides a relative comparison between an action's SC GHG vs. state and U.S. projected SC GHG for the same time period:

| Total SC-GHG ($K [In 2020 $]) | | | | | |
|---|---|---|---|---|---|
| | | **CO2** | **CH4** | **N2O** | **GHG** |
| 2024-2040 | State Total | $62,136,891.27 | $3,835,311.24 | $3,634,490.67 | $69,606,693.17 |
| 2024-2040 | U.S. Total | $8,059,096,606.85 | $1,153,211,025.60 | $867,409,013.61 | $10,079,716,646.06 |
| 2024-2040 | Action | $2,611.38 | $3.05 | $36.89 | $2,651.33 |
| | | | | | |
| Percent of State Totals | | 0.00420263% | 0.00007958% | 0.00101511% | 0.00380901% |
| Percent of U.S. Totals | | 0.00003240% | 0.00000026% | 0.00000425% | 0.00002630% |

From a global context, the action alternative's total SC GHG percentage of total global SC GHG for the same time period is: 0.00000352%.*

* Global value based on the U.S. emits 13.4% of all global GHG annual emissions (2018 Emissions Data, Center for Climate and Energy Solutions, accessed 7-6-2023, https://www.c2es.org/content/international-emissions).

J. Michael Nied, PE (WI), Project Manager / Environmental Engineer — Jun 07 2024

**Name, Title** — **Date**