Draft Environmental Assessment

for

Headquarters Space Training and Readiness Command (STARCOM) at One of Multiple Installations

January 2024

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Privacy Notice

This Draft Environmental Assessment (EA) has been provided for public comment in accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality Regulations for Implementing NEPA (Title 40 Code of Federal Regulations [CFR] Parts 1500–1508), and 32 CFR Part 989, Environmental Impact Analysis Process (EIAP). EIAP provides an opportunity for public input on United States Department of the Air Force (DAF) decision-making, allows the public to offer input on alternative ways for DAF to accomplish what it is proposing, and solicits comments on DAF's analysis of environmental effects. Public input allows DAF to make better-informed decisions. Letters or other written or verbal comments provided may be published in this EA. Providing personal information is voluntary. Private addresses will be compiled to develop a mailing list for those requesting copies of this EA. However, only the names of the individuals making comments and specific comments will be disclosed. Personal information, home addresses, telephone numbers, and email addresses will not be published in this EA.

508 Compliance

The electronic version of this document has been formatted to meet Section 508 of the Rehabilitation Act requirements for accessibility to people with disabilities.

Table of Contents

List of Tables

List of Figures

List of Appendices

1 Purpose and Need for the Proposed Action

1.1 Introduction and Location

In July 2020, the USSF began executing an organizational construct with three echelons of command: Field Command (Space Operations Command [SPoC], based at PeSFB; Space Systems Command [SSC], based at Los Angeles Air Force Base [AFB]; and STARCOM, location pending DAF's Strategic Basing Process); Deltas (focused on particular mission sets) or Space Base Deltas; and Squadrons. The USSF currently has HQ STARCOM stationed at PeSFB. This location is temporary until completion of the DAF's Strategic Basing Process and interim facilities at the final basing location become available.

This Environmental Assessment (EA) evaluates the potential environmental impacts associated with the United States Space Force (USSF) decision to locate Strategic Training and Readiness Command Headquarters (HQ STARCOM) at one of multiple U.S. Department of the Air Force (DAF) installations. The installations initially considered to host HQ STARCOM include the following (see Figure 1-1):

1. Buckley Space Force Base, Colorado (BSFB);
2. Los Angeles Air Force Base, California (LA AFB);
3. Patrick Space Force Base, Florida (PaSFB);
4. Peterson Space Force Base, Colorado (PeSFB);
5. Schriever Space Force Base, Colorado (SSFB); and
6. Vandenberg Space Force Base, California (VSFB).

LA AFB was removed from consideration during the strategic basing process (see Section 2.2 for further details).

The National Environmental Policy Act of 1969 (NEPA), as amended (42 United States Code [U.S.C.] § 4321, et seq.); Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA (Title 40 *Code of Federal Regulations* Parts 1500-1508 [40 CFR 1500-1508]); and the DAF's NEPA regulations (32 CFR 989) require lead agencies to evaluate the potential impacts of federal actions on the surrounding environment.

1.2 Purpose and Need for the Proposed Action

The purpose of the Proposed Action is to establish a permanent location with necessary infrastructure and functional requirements to support the mission of STARCOM HQ to prepare the USSF to prevail in competition and conflict through innovative education, training, doctrine, and testing. The Proposed Action is needed to provide HQ STARCOM appropriate permanent facilities of sufficient size and configuration to perform its mission effectively. To enhance the mission's ability to withstand challenges, HQ STARCOM must be situated in close proximity to a USSF Delta. Furthermore, there's a requirement for expanded infrastructure and assistance in terms of sufficient on-base accommodations and accessible amenities like medical, dental, and childcare services to cater to the needs of both HQ STARCOM active-duty personnel and their families.

Figure 1-1. HQ STARCOM Beddown Locations Under Consideration

1.3 Scope of Environmental Analysis

This EA identifies, describes, and evaluates the affected environment and environmental consequences of the Proposed Action and identifies measures to prevent or minimize environmental impacts. The following resource areas are analyzed in detail: Air Quality and Greenhouse Gas/Climate Change, Water Resources, Cultural Resources, Biological Resources, Noise, Transportation, Hazardous Materials and Waste, Socioeconomics, and Environmental Justice. Table 1-1 provides information regarding resources eliminated from detailed analysis.

Table 1-1: Resource Areas Eliminated from Detailed Analysis

Resource	Justification
Soil and Geological Resources	Eliminated from detailed analysis. Construction of required facilities would not have adverse effects on the underlying geology. Locations do not include prime farmland, hydric or other specially designated soils. VSFB's location is within a seismically active area, however the proposed sites would not require extensive grading of topography or impact to geology. The potential for surface fault rupture and liquefaction on Vandenberg SFB would be minimal due to a lack of active fault lines in the area and the presence of compacted well drained soils present.
Land Use	Eliminated from detailed analysis. Locations chosen for HQ STARCOM would not require a change in land use and would be compatible with adjacent land uses and installation master planning.
Utilities and Infrastructure	Eliminated from detailed analysis. As part of the Strategic Basing Process, the DAF determined existing electrical, communications, water, sewer, and stormwater management utilities and infrastructure at or surrounding the potential sites have sufficient capacity to accommodate the Proposed Action.
Public Health and Safety	Eliminated from detailed analysis. Construction activities associated with the Proposed Action would be conducted in accordance with applicable federal, state, DAF, and local worker safety and regulatory requirements and guidelines, including those established by the Occupational Safety and Health Administration.
Visual Resources and Aesthetics	Eliminated from detailed discussion. Proposed facilities would be designed to be compatible with the existing landscape and blend in with existing structures.

1.4 Intergovernmental Coordination, Public and Agency Participation

The DAF coordinated with other federal agencies with jurisdiction by law or special expertise over the Proposed Action and Alternatives to inform the range of issues to be addressed in the EA. Coordination letters, and responses received, are consolidated in Appendix A and discussed in Section 3.0, as appropriate.

Consistent with the National Historic Preservation Act of 1966, as amended (NHPA) implementing regulations (36 CFR 800), Department of Defense (DoD) Instruction 4710.02, *Interactions with Federally Recognized Tribes*, DAFI 90-2002, *Air Force Interaction with Federally Recognized Tribes,* and Air Force Manual (AFMAN) 32- 7003, *Environmental Conservation*, the DAF is also consulting with federally recognized Tribes that are historically affiliated with the geographic region of each Proposed Alternative site being considered for the Proposed Action regarding the potential to affect properties of cultural, historical, or religious significance to the Tribes. Appendix A provides information regarding the Native American Tribes consulted with, including copies of communications. Note to Reviewer: Additional government to government consultation is ongoing. All remaining communications regarding NHPA consultations will be included in the appendices of the final EA.

2 Proposed Action and Alternatives

2.1 Proposed Action

STARCOM serves as the USSF's education, training, doctrine, and test field command with five subordinate Delta units. Responsibilities of STARCOM include:

- Developing, educating, and training members of the USSF (known as Guardians);
- Conducting operational test and evaluation of USSF-fielded systems and capabilities; and
- Developing space doctrine, tactics, techniques, and procedures.

Table 2.1-1 summarizes the organization and location of STARCOM units.

Table 2.1-1 STARCOM Structure

Unit	Function	Current Headquarters Location	Status
HQ	Field Command Headquarters	Peterson SFB, CO	Temporary
Space Delta 1	Space training	Vandenberg SFB, CA	Permanent
Space Delta 10	Space doctrine and wargaming	Peterson SFB, CO	Temporary
Space Delta 11	Space range and aggressor	Schriever SFB, CO	Temporary
Space Delta 12	Space test and evaluation	Schriever SFB, CO	Temporary
Space Delta 13	Space education	Maxwell AFB, AL	Temporary

HQ STARCOM would require 68,599 square feet of facility space and 94,500 square feet of parking area at both the temporary interim and permanent locations to support approximately 350 authorized positions. Authorized positions began filling in 2022 and will continue to be added over the next 3 years. Table 2.1-2 summarizes the anticipated personnel authorizations of HQ STARCOM from fiscal year 2022 (FY22) through FY25.

Table 2.1-2 HQ STARCOM Personnel Authorizations FY22-FY25

Personnel Type	FY22	FY23	FY24	FY25	Total
Officer	26	16	24	3	69
Enlisted	20	12	16	1	49
Civilian	34	40	55	7	136
Contractor	32	35	20	9	96
Total	**112**	**103**	**114**	**21**	**350**

2.1.1 Facility Design

The proposed facility design to meet square footage requirements would vary by alternative site location (e.g., building height, number of buildings, construction of new buildings and/or renovation and reuse of existing buildings, etc.).

Functions and components of the proposed facilities would include the following:

- Operations center(s);
- Associated offices, conference rooms, and administrative areas;
- Training and exercise space;
- Communications and infrastructure equipment, including the potential installment of antennas;
- Kitchen and dining area;

- Loading dock and shipping/receiving areas; and
- Energy management including electric vehicle charging stations.

Proposed facilities would be served by redundant and resilient utility infrastructure including electricity; natural gas; heating, ventilation, and air conditioning (HVAC); water/sewer; communications/data; fire protection and life safety; and stormwater management.

2.1.2 Construction

Construction of the proposed facilities would include site preparation (e.g., vegetation clearing; soil excavation, filling, grading, and leveling; trenching or directional boring to install/extend utilities); identification and extension of utility and infrastructure systems; installation of foundation piles and concrete foundation slab; erection of structural steel; establishment of vehicle parking areas; and modification or extension of existing roads and pedestrian sidewalks to the new facilities. The amount of land disturbance and excavation and the amount of demolition or construction would depend on the site selected for implementation. Initial Operational Capability (performance of mission/tasks at HQ STARCOM's permanent location) would be anticipated in the 4th quarter of FY24, while Full Operational Capability (HQ STARCOM has all authorizations and performs mission/tasks in permanent location) would be expected in the 1st quarter of FY27.

Temporary laydown areas and storage areas would be established prior to construction and renovation. It is assumed these areas would be located within the overall site footprint or in adjacent parking or designated laydown areas not requiring additional disturbance. Site preparation would include the installation of erosion and sediment control best management practices (BMPs) and the clearing and grubbing of existing vegetation on the site, as needed. Once the site is prepared, excavation would begin for foundation footings and utilities using heavy excavation equipment. If not currently existing at the selected site, communication, electricity, potable water, sanitary sewer, and stormwater utilities, would be extended from existing utility infrastructure while excavations are open. Once complete, excavations outside the foundation would be backfilled and compacted to create the designed ground contours around the building. Vertical construction of the facility would occur after the foundation is complete. Construction contractors would complete the superstructure, exterior finishes, utilities work, and interior finishes of the facility. Construction materials would be delivered via a designated construction traffic route from off-site vendors. Construction of exterior paved areas (e.g., sidewalks, plazas, parking areas) and exterior perimeter security measures would occur during this time. Any asbestos-containing material, if present, would be removed prior to demolition or renovation activities and disposed of at a proper facility. Materials such as concrete, steel, and asphalt from any demolition or renovation activities would be recycled or otherwise diverted from landfills to the extent practicable. Machinery such as mobile cranes, loaders, tractors, forklifts, air compressors, and welding equipment may be used during this phase. Following construction, areas temporarily disturbed would be re-seeded with approved seed mixtures. Finally, grading and landscaping would occur.

2.2 Selection Standards for Alternatives

2.2.1 Strategic Basing Criteria

DAFI 10-503, *Strategic Basing*, applies to all DAF entities regardless of basing location and all non-Air Force entities requesting a basing action on DAF real property. The process ensures all strategic basing actions involving DAF units and associated missions follow environmental guidance, consider the overall fiscal ramifications of the proposed action, and optimize use of DAF land, facilities, infrastructure, and airspace. The Strategic Basing process considered six

existing Space Force installations for permanent basing of HQ STARCOM (BSFB, LA AFB, PaSFB, PeSFB, SSFB, and VSFB).

Environmental factors, including air quality, cultural resources, and biological resources, were considered at a cursory level as part of the Strategic Basing Process; however, this does not equate to an environmental assessment that meets EIAP requirements. Environmental site selection criteria from the EIAP perspective are discussed in Section 2.2.2. In addition, while cost is not one of the selection criteria under NEPA, it is considered during the Strategic Basing Process and will be a factor in location selection.

The Site Survey Report identified a lack of available space at Los Angeles AFB to meet HQ STARCOM requirements. As such, the installation was not assessed for many of these criteria and was not considered for basing in this EA.

2.2.2 Environmental Impact Assessment Process (EIAP) Siting Criteria

Table 2.2-2 outlines specific screening criteria related to alternatives considered during the EIAP.

Table 2.2-1 EIAP Siting Criteria

1: Reduce Level of Disturbance by Maximizing Existing Regional Infrastructure
• Leverage existing DAF installations and USSF infrastructure and resources to minimize requirements for additional facilities and related environmental impacts from construction and operations. • Proximity to commercial large hub airport to reduce transportation, noise, and air quality impacts from operations.
2: Minimize Environmental and Socioeconomic Impacts
• Avoid or reduce adverse impacts to air quality, noise, cultural resources, wetlands, surface waters and floodplains, and protected species. • Avoid contaminated sites for which remediation is not feasible • Avoid sites that are located in runway evacuation/clear zones or other potential hazards (e.g., explosive transport routes). • Maximize use of existing roadways, utilities, security (fencing/security access control measures) and available buildings and parking areas to reduce overall level of disturbance. • Utilize previously disturbed sites to avoid impacts to undisturbed lands or open space. • Compatible with installation area development plans. • Ability to support authorized personnel and their families, including housing availability, medical services, chaplain, child care, and fitness center.

2.3 Alternatives Carried Forward for Analysis

2.3.1 Buckley Space Force Base

Permanent siting for the HQ STARCOM beddown would occur on a 12-acre area open field located within the Aspen Corridor area of the installation northwest of Building 1005. This alternative would comply with the existing BSFB Installation Development Plan and the Aspen Corridor Area Development Plan. Minimal infrastructure upgrades would be required to accommodate the proposed facilities. This area is convenient to the Mississippi Gate, which serves as the installation's primary access point, and to the main areas of BSFB. The 12-acre location is of sufficient size to accommodate the currently proposed facilities of HQ STARCOM and is large enough to support future facility expansion, if necessary. Construction in this area would avoid the traffic concerns of construction within the more congested areas of the installation around the restricted area parking, Delta 4 headquarters, and the Air National Guard headquarters. While some existing parking areas do currently exist within this site, construction of additional parking spaces would be required to support the proposed HQ STARCOM. Figure 2.4-1 depicts the location of the considered site alternative within BSFB.

2.3.1.1 Temporary Facilities

During construction of a permanent beddown location, HQ STARCOM personnel would be temporarily located in RLFs to be installed within near Patriot Hall, an existing dormitory, until construction of permanent facilities is complete. An existing gravel lot could provide some parking, but an additional parking area would be required to meet the needs of HQ STARCOM.

Figure 2.4-1 Proposed Interim and Permanent Beddown Locations within BSFB

2.3.2 Patrick Space Force Base (Preferred Alternative)

The considered site located north of the existing Buildings 984 and 989 encompasses over 6 acres and currently supports communications and utility infrastructure. However, this site was previously developed, once housing a paint booth, a one-ton crane, transformer storage area, a heavy electrical equipment repair shop, a machine shop, a circuit board lab, a geophysical data terminal, a motion picture lab, and a photographic lab. Past site investigations of the site have identified contamination in both soil (pesticides and polycyclic aromatic hydrocarbons (PAHs)) and groundwater (PAHs, pesticides, metals, and semi-volatile organic compounds (SVOCs)) in excess of screening criteria. Additional investigations of groundwater and soils is planned as a part of a future remedial investigation (RI) to identify appropriate remedies and address contamination allowing the site to be developed for unrestricted reuse. Cleanup of any contamination must occur prior to Congressional authorization of a military construction project. Following the anticipated beddown of Delta 10 at PaSFB, this proposed alternative would support both HQ STARCOM and Delta 10, to include a wargaming facility. Figure 2.4-2 depicts the location of the considered site alternative within PaSFB. The DAF has identified PaSFB as the preferred location for HQ STARCOM.

2.3.2.1 Temporary Facilities

Initially, HQ STARCOM personnel would conduct operations from a temporary location in the existing Building 560 as-is, with no renovations. This structure is not an option for permanent beddown as it is located in the clear zone. Per AFI 32-1015, “Existing Air Force facilities and land uses in the Clear Zone may continue. However, the Base Civil Engineer would program replacement facilities as part of the normal planning and programming process and site such facilities outside the Clear Zone.” Building 560 was constructed under previous design standards and, per DoDI 4165.67, should be “programmed for replacement away from the airfield environment at the end of their useful life or when mission needs dictate earlier replacement.” Initial Operational Capacity (IOC) timing requirements dictates the utilization of this temporary location in which STARCOM HQ is scheduled to perform mission/tasks at permanent location by the fourth quarter of fiscal year 2024.

Following installation of RLFs in an open area near the Defense Equal Opportunity Management Institute, which is planned for future use as a new lodging facility, HQ STARCOM would relocate temporary operations until construction of permanent facilities is complete. Temporary structures used by HQ STARCOM would be removed following permanent beddown to allow for construction of the planned lodging facility. The available land, encompassing approximately 12 acres, currently supports communications and utility infrastructure.

Figure 2.4-2 Proposed Interim and Permanent Beddown Locations at PaSFB

2.3.3 Peterson Space Force Base

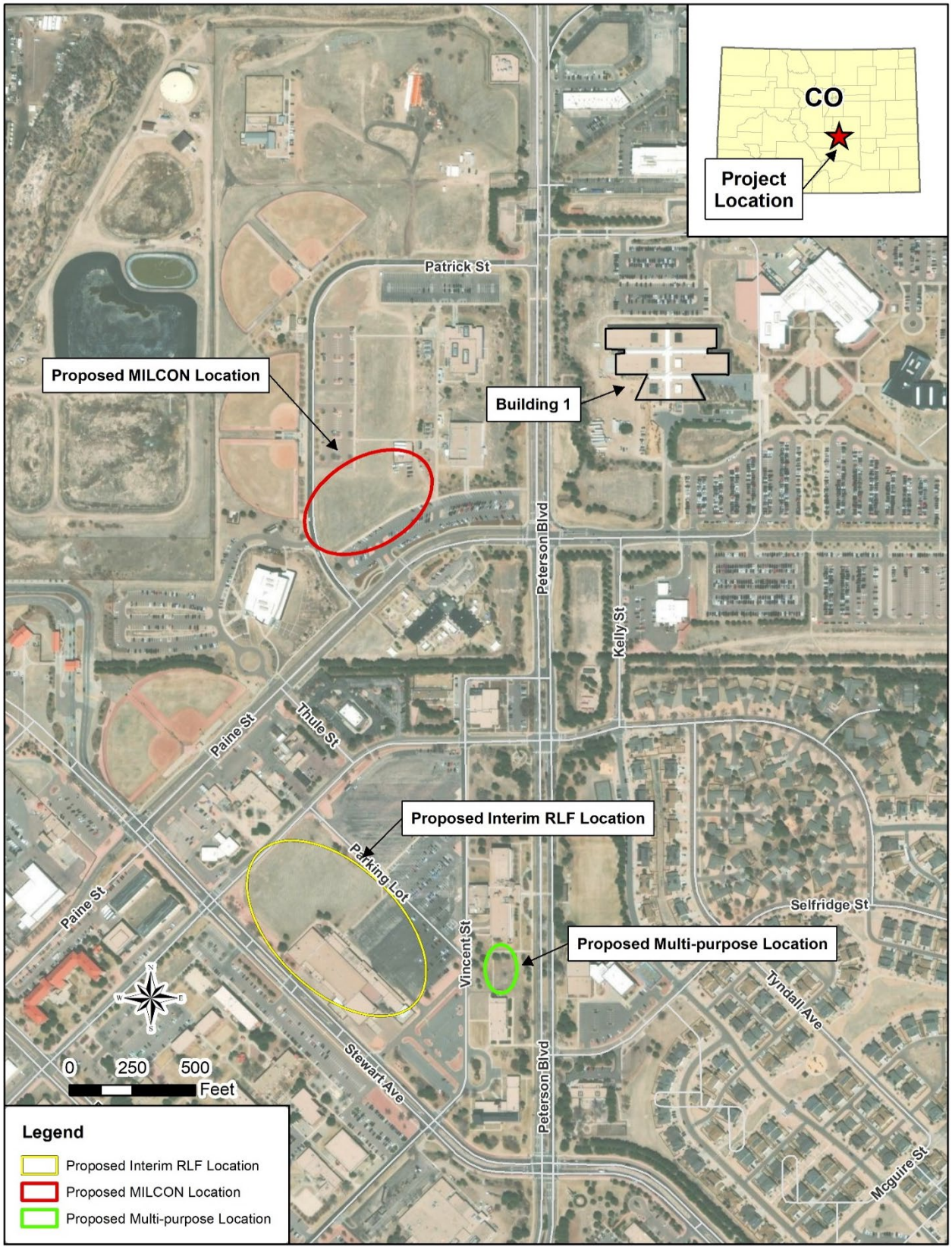
No existing facilities are available for use by HQ STARCOM. An interim beddown and new construction would be required. New construction for permanent beddown of HQ STARCOM would be in the Command West area located west of Building 1840. This 4-acre site would be prepared for military construction of a two- to four-story building, which could support the proposed HQ STARCOM. This is in compliance with the installation development plan, which identified a headwaters/administrative type facility at this location. Nearby communications and utilities can support HQ STARCOM, but relocation of communications and possibly one electrical line would be required.

Figure 2.4-3 depicts the location of the considered site alternatives within PeSFB.

2.3.3.1 Temporary Facilities

HQ STARCOM personnel would be temporarily located in RLFs to be installed on the former site of the commissary and base exchange until construction of permanent facilities is complete. Once vacant, the total land available would total 9 acres (i.e., 5 acres in the old commissary area and 4 acres at the former base exchange). Nearby communications and utility infrastructure can support HQ STARCOM. Following permanent beddown of HQ STARCOM, the temporary facilities utilized during interim beddown would need to be removed to accommodate a planned hotel and community area.

Figure 2.4-3 Proposed Interim and Permanent Beddown Locations at PeSFB



2.3.4 Schriever Space Force Base

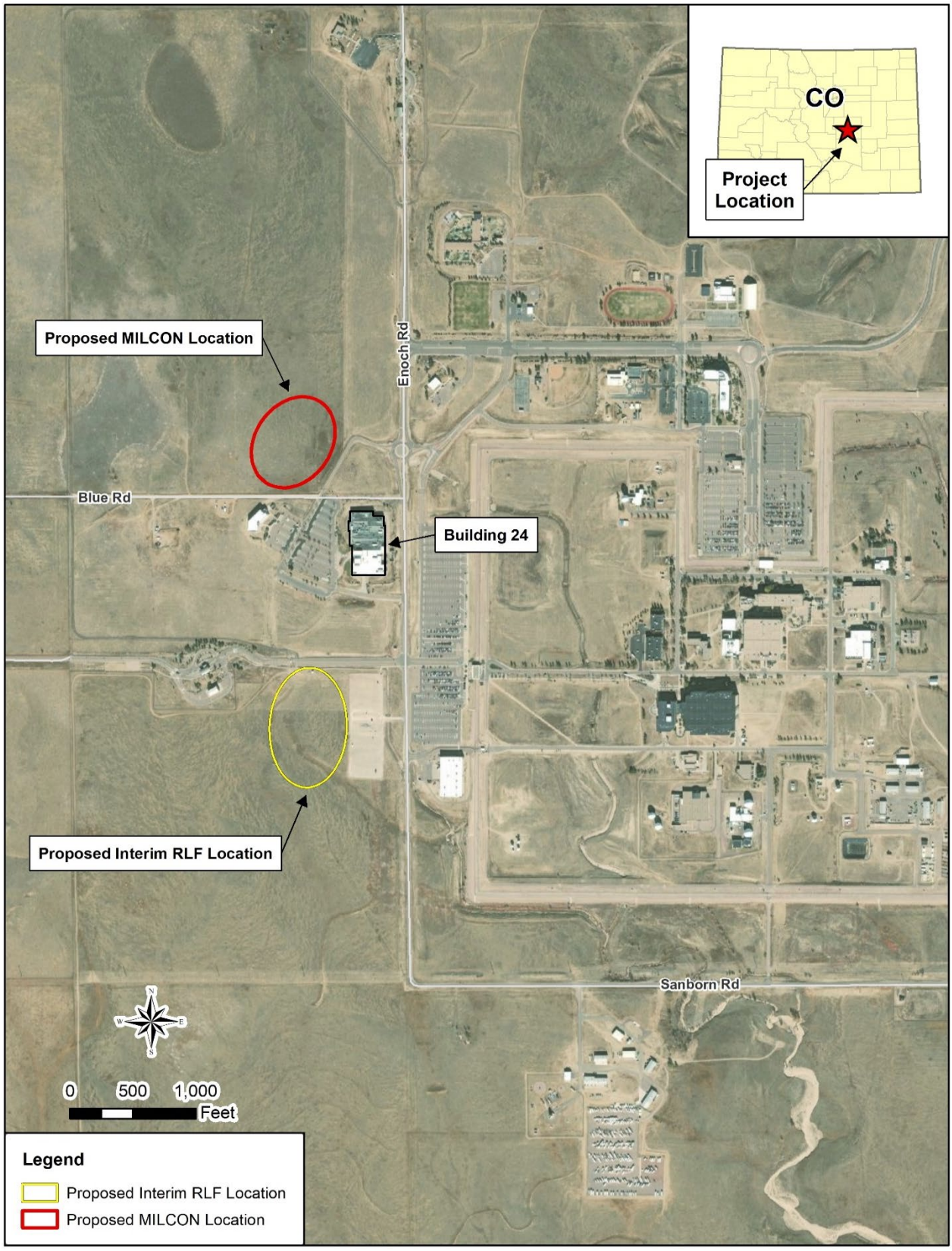
The proposed site at SSFB is a 6-acre vacant parcel of land in the northwest portion of SSFB, north of Blue Road, south of a notional extension of Falcon Parkway, and west of Enoch Road/Talon Way. Minimal site preparation would be needed; however, development at this site would require new utility connections to the existing utility corridors paralleling the roads (at a distance of approximately 1,500 feet). Connector roads within the 6-acre footprint would also be required between Blue and Enoch Roads and just east of the perimeter fence line. This alternative would also include a connector road (possibly an east-west extension of Hubble Avenue) bisecting the parcel.

Figure 2.4-4 depicts the location of the considered site alternative within SSFB.

2.3.4.1 Temporary Facilities

HQ STARCOM personnel would be temporarily located in RLFs to be located in the modular facilities campus area near the west side entrance of the restricted area until construction of permanent facilities is complete. Nearby communications and utilities could support these interim facilities. Existing parking in the restricted area west gate and overflow parking lot would support needs of personnel during interim beddown. Following permanent beddown of HQ STARCOM, temporary facilities would be removed to accommodate future plans to turn this land into an industrial area.

Figure 2.4-4 Proposed Interim and Permanent Beddown Locations within SSFB



2.3.5 Vandenberg Space Force Base

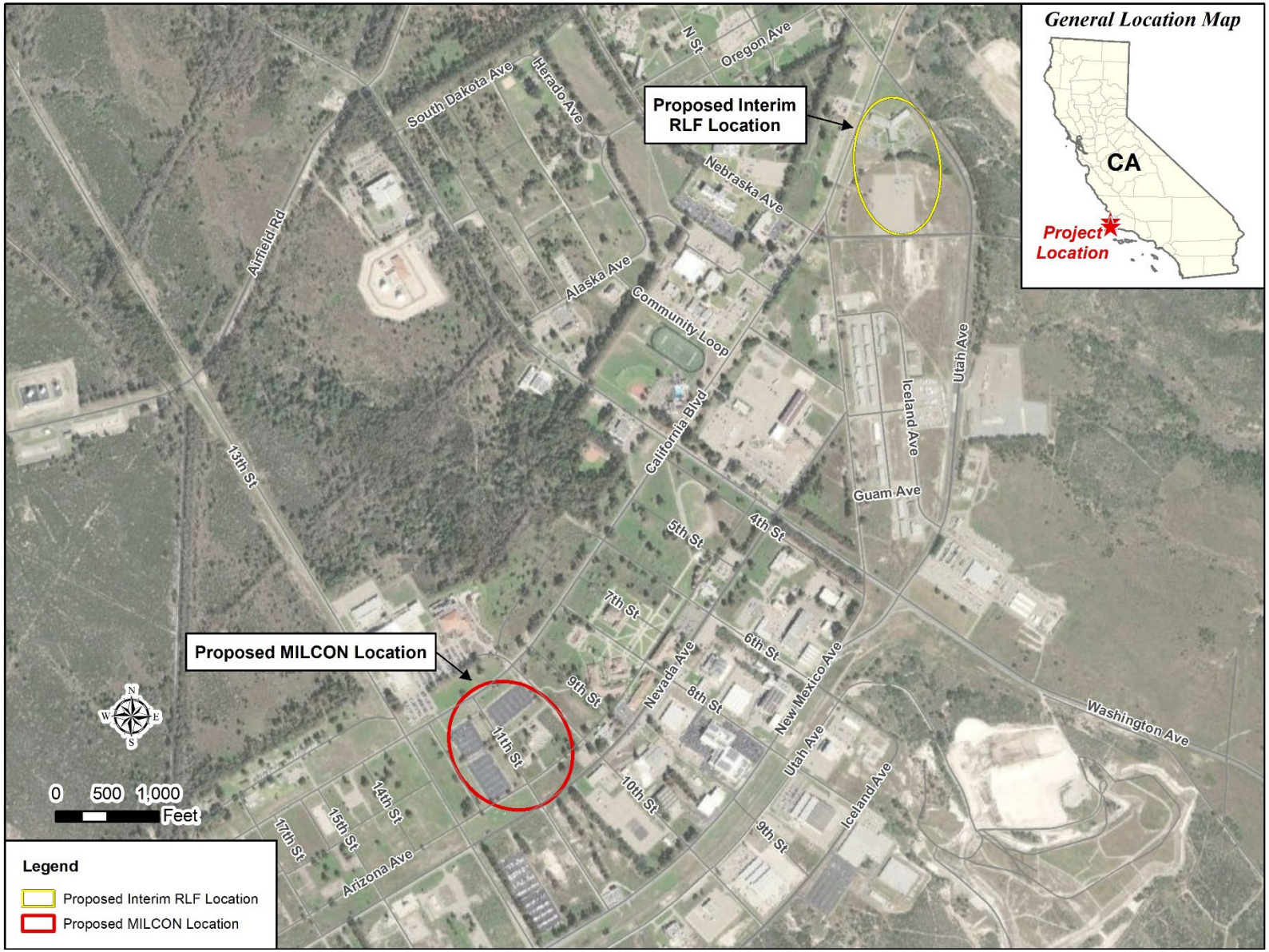
Under this alternative, HQ STARCOM would be constructed on an approximately 27-acre lot located on the southwest side of the intersection of 10th Street and California Boulevard. This site, known as California South, has been previously disturbed; the site currently supports three existing parking lots and a concrete slab supporting the temporary site of American Water. As such, there are minimal anticipated environmental concerns. Adjacent utilities and communication infrastructure is available.

Figure 2.4-5 depicts the location of the considered site alternative within VSFB.

2.3.5.1 Temporary Facilities

During construction of permanent facilities, HQ STARCOM personnel would be temporarily located in RLFs to be installed in the 34-acre Building 11777/Parade Ground area. The Parade Ground area has been previously disturbed, so there are minimal anticipated environmental concerns. However, the Parade Ground area overlies a contaminated groundwater plum under active treatment. As such, multiple injection and monitoring wells exist throughout the area, and these would be protected and left unobstructed during installation and use of RLFs. Electrical, water, communications, and sewer utilities exist within the area and could support HQ STARCOM needs during interim beddown.

Figure 2.4-5 Proposed Interim and Permanent Beddown Locations within VSFB



2.3.6 No Action Alternative

Under the No Action Alternative, the proposed permanent beddown of HQ STARCOM would not occur. Permanent beddown of HQ STARCOM would require DAF Strategic Basing reconsideration and potential further NEPA analysis.

2.4 Alternatives Eliminated from Detailed Analysis

The DAF considered potential alternative sites within the locations selected through the Strategic Basing process. Alternatives considered for permanent basing of HQ STARCOM and eliminated based on the Strategic Basing and EIAP screening criteria are outlined in Tables 2.3-1.

Table 2.3-1 Alternatives Eliminated

Alternatives Eliminated	Reasoning
BSFB	
Town Square	• Increased costs and impacts to existing parking and traffic congestion. • Town square is currently conceptual and a planned project under BSFBs Area Development Plan.
Notional Mission Campus - North	• Would require construction within an already congested area of the installation, which would likely cause traffic and road concerns. • HQ STARCOM facilities would be located within existing parking areas utilized by the Air National Guard; this parking area would need to be replaced incurring additional costs.
Addition to Building 1030	• The construction would extend into an existing parking area; these parking spaces would need to be replaced. • Space Base Delta 2 personnel who currently work within Building 1030 would need to relocate - the existing space for STARCOM personnel would need to be situated contiguously with the property add-on.
Old Skeet Range Area	• Environmental remediation work is currently under contract in this area. • Limited ingress/egress into area due to two-lane road. Current infrastructure unable to support additional personnel.
Family Housing Neighborhood	• Area considered as a location for the temporary modular facilities during construction. Area is within a future housing development space. The unknown timeframe of completing the proposed MILCON leads to an unknown period of time during which the proposed RLFs would occupy the location, potentially delaying future residential construction.
Outdoor Recreation Relocation	• Area considered as a location for the temporary modular facilities during construction. Presence of asbestos in the soil requires remediation.
A-Basin Avenue East	• Risk of perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) in the soil exists. PFOS/PFOA are persistent man-made chemicals that pose potential health risks.
PaSFB	

Cape Canaveral Space Force Station (SFS) Range of the Future (ROTF) District	• The area is currently undeveloped and would require additional funding to bring in utilities and communication links as the first potential user of the land. • Future missions at Cape Canaveral SFS could create the need to evacuate the area during launches or landings. Residing in the evacuation zone would cause impacts and interruptions to the HQ STARCOM mission.
Malabar Transmitter Annex	• A lack of supporting functions exist at the Annex. Malabar Transmitter Annex is located approximately 25 miles south of PaSFB which is not ideal for HQ STARCOM.
South Housing	• The land is conveyed for privatized housing, which could cause implications with lease and sub-lease agreements and DoD authorities. • Requires leasing a communications circuit and available information suggests utilities require upgrading.
Site of Building 989 and 984	• Requires the demolition of Buildings 984 and 989. Due to the age of these structures and an existing Programmatic Agreement, demolition Buildings 984 and 989 would require consultation with the SHPO regarding potential eligibility for the National Register of Historic Places (NRHP). Evaluation, consultation, and demolition would require increased costs.
PeSFB	
Command East (East of Building 3)	• Selection of this alternative would require a full parking buildout, relocation of an installation boundary fence, and extension of utility and communication infrastructure. • HQ STARCOM personnel in addition to other organizations also planning to come to the same area could create traffic concerns on the existing two-lane roadway.
Golf Course	• Area not ready for development in the near future and may require remediation due to discovery of potentially hazardous buried materials during property management due diligence investigations. • Currently unknown if remediation is feasible for the contaminated site.
Colorado Springs Airport (COSA) Land	• Stormwater management improvements would be required, and utility and communications connection capabilities remain unknown at this time. • COSA would lease this land to PeSFB, requiring a prolonged Air Force Civil Engineer Center (AFCEC) leasing process. • This site is currently being evaluated for potential sources of current or historic contamination.
SSFB	

Building 400	• The current building occupants, the National Space Defense Center, plans to move, but a timeline remains uncertain. • Building 400 is located within the restricted area, and HQ STARCOM does not require this additional force protection.
Building 24	• This location was not selected due to risk and uncertainty of what would occur with occupancy by the United States Space Command (USSPACECOM).It is possible that USSPACECOM would continue to remain in this facility indefinitely.
West side entrance of the restricted area (by the overflow parking lot)	• The SSFB Installation Development Plan designates this area for industrial purposes.
VSFB	
California North	• This site primarily consists of an undisturbed greenfield in the cantonment area. • Potential environmental concerns related to nearby wetlands and a high groundwater table exist. • A full parking lot buildout would be required to support the needs of HQ STARCOM.
Building 11777/Parade Ground	• Building 11777 was determined to be in excess and would be demolished if this site is selected. • Consultation with California SHPO would be required to determine the potential eligibility of this structure for inclusion on the NRHP requiring increased costs associated with demolition.
Spaceport Tech Center North	• The current state of the natural gas utility remains unchanged and could potentially have leaks. An extra communication line would be necessary, and approximately 1 mile of sewer line would be needed to link existing utilities. • The location is partly within a floodplain. • A full parking lot buildout would be required to support the needs of HQ STARCOM.

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3 Affected Environment and Environmental Consequences

3.1 Air Quality and Greenhouse Gas/Climate Change

3.1.1 Affected Environment

3.1.1.1 Criteria Pollutants

The ambient air quality in an area is classified by whether it complies with the National Ambient Air Quality Standards (NAAQS). Areas where monitored outdoor air concentrations are within an applicable NAAQS are considered in attainment of that NAAQS. According to the USEPA AirData Air Quality Monitoring Map (USEPA, 2022), the PaSFB, PeSFB, SSFB, and VSFB sites are located in counties considered in attainment/unclassifiable. Therefore, the General Conformity Rule does not apply to these alternatives (see Appendix D for additional information on the General Conformity Rule). BSFB is located within a CO maintenance area and an 8-hour O_3 nonattainment area; this EA considers whether the General Conformity Rule may apply to this alternative (USEPA, 2023). Table 3.1-1 describes the air quality attainment status at each of the proposed sites.

Table 3.1-1 Air Quality at Each HQ STARCOM Alternative

Site Considered	Regulatory Authority	Air Quality ROI	NAAQs Attainment Status
BSFB	Region 8; CDPHE	Metropolitan Denver Intrastate AQCR	Within CO maintenance area and 8-hour O_3 nonattainment area
PaSFB	Region 4; FDEP	Central Florida Intrastate AQCR	Attainment/Unclassifiable
PeSFB	Region 8; CDPHE	San Isabel Intrastate AQCR	Attainment/Unclassifiable
SSFB	Region 8; CDPHE	San Isabel Intrastate AQCR	Attainment/Unclassifiable
VSFB	Region 9; California Air Resources Board	Santa Barbara County APCD	Attainment/Unclassifiable

Source: USEPA, 2023

Notes: APCD – Air Pollution Control District; AQCR – Air Quality Control Region; BSFB – Buckley Space Force Base; CDPHE – Colorado Department of Public Health and Environment; FDEP – Florida Department of Environmental Protection; NAAQS – National Ambient Air Quality Standard; PaSFB – Patrick Space Force Base; PeSFB – Peterson Space Force Base; ROI – Region of Influence; SSFB – Schriever Space Force Base; VSFB – Vandenberg Space Force Base

3.1.1.2 Greenhouse Gas Emissions

Table 3.1-2 summarizes baseline general climate conditions and county greenhouse gas (GHG) emissions for each alternative. GHG emissions are presented as tons of carbon dioxide equivalent (CO2e) (see Appendix D for additional information on the relevance of CO2e).

Table 3.1-2 Climate Conditions at Each HQ STARCOM Alternative

Climate Feature	BSFB	PaSFB	PeSFB	SSFB	VSFB
General Climate Description	Humid Continental	Humid subtropical	Humid continental	Humid continental	Hot semi-arid
Average Annual Precipitation (inches)	16.3	36.7	20.9	20.9	11.1
Wettest Month/ Average Monthly Precipitation (inches)	May 2.6	September 5.8	July 3.1	July 3.1	February 2.1

Table 3.1-2 Climate Conditions at Each HQ STARCOM Alternative

Climate Feature	BSFB	PaSFB	PeSFB	SSFB	VSFB
Driest Month/ Average Monthly Precipitation (inches)	January 0.6	April 1.9	December 0.6	December 0.6	July 0
Annual Mean Temp (°F)	49	73.3	46.5	46.5	65.4
Warmest Month (°F)	July 74.3	August 81.1	July 70.6	July 70.6	July 85.2
Coolest Month (°F)	December 26.6	January 62.9	December 24.7	December 24.7	December 48.8
County Baseline GHG Emissions (tons CO_2e)	2,680,349.7	4,382,313.7	3,166,517.6	3,166,517.6	2,266,899.9

Source: USEPA, 2020

Note: Counties are El Paso County, Colorado; Santa Barbara County, California; Arapahoe County, Colorado; and Brevard County, Florida.

BSFB – Buckley Space Force Base; CO2e – carbon dioxide equivalent; °F – degrees Fahrenheit; GHG – greenhouse gas; PaSFB – Patrick Space Force Base; PeSFB – Peterson Space Force Base; SSFB – Schriever Space Force Base; VSFB – Vandenberg Space Force Base

3.1.1.3 Climate Hazard Assessment

The Fourth National Climate Assessment (Reidmiller et al., 2018) details the regional historical effects and projected impact of climate change. The assessment breaks down the U.S. into regions, and PaSFB is located within the Southeast region. BSFB, PeSFB, SSFB, and VSFB are located in the Southwest region.

The Southeast region faces extreme weather events and rising temperatures, although temperatures have had a lesser impact than in other parts of the U.S. The extreme weather events expected to have a significant impact are hurricanes, heat waves, and drought. Rising sea levels and potential changes in hurricane intensity are aspects of climate change that are expected to have a tremendous effect on coastal ecosystems in the Southeast (Reidmiller et al., 2018).

The Southwest region faces extreme weather events and rising temperatures. Exposure to hotter temperatures and heat waves already leads to heat-associated deaths in California. Mortality risk during a heat wave is exacerbated on days with elevated levels of ground-level ozone or particulate air pollution. In parts of the region, hotter temperatures contribute to reductions of seasonal maximum snowpack and its water content. The increase in heat and reduction of snow under climate change have amplified recent hydrological droughts in the Colorado River Basin and Rio Grande. Snow droughts can arise from a lack of precipitation, temperatures that are too warm for snow, or a combination (Reidmiller et al., 2018).

3.1.2 Environmental Consequences

The air quality impact analysis presented in this EA follows EIAP Air Quality Guidelines for criteria pollutants and GHG emissions (Solutio Environmental, 2019). This EA uses the Air Conformity Applicability Model (ACAM) to analyze potential air quality impacts associated with the Proposed Action, in accordance with AFMAN 32-7002, the EIAP, and the General Conformity Rule (40 CFR 63 Subpart B).

Construction and operational (“steady state”) emissions resulting from the Proposed Action were calculated using ACAM. Such emissions are presented annually. For air quality analysis purposes, construction activities are expected to begin in January 2025 and occur until December

2025, for a total of 12 months. Personnel movement is expected to occur in 4th quarter of FY2024. Full-year steady state emissions begin in 2026 and continue indefinitely.

Current DAF guidance presented methodology for an Air Quality EIAP Level II, Quantitative Assessment, which assesses whether an action is expected to have insignificant impact on air quality (Solutio Environmental, 2019). An action is considered to have an insignificant impact on air quality if it does not cause or contribute to exceedance of one or more of the NAAQs. The DAF defines "insignificance indicators" for each criteria pollutant according to current air quality conditions.

The change in climate conditions caused by GHGs is a global effect. The Proposed Action would contribute incrementally to global and regional GHG emissions and global climate change. It is recognized that vulnerable communities may be disproportionally affected by global climate change. For further discussion on the impacts of the Proposed Action on vulnerable communities please refer to Section 3.8.2. For comparative purposes, this EA analyzes the potential GHG emissions for each alternative, as calculated by the ACAM. DAF has adopted the PSD threshold for GHG of 68,039 metric tons per year (mton/yr) as a threshold of insignificance (Solutio Environmental Inc. 2023). This indicator does not define a significant impact; however, it provides a threshold to identify actions that are de minimis.

The CEQ's interim guidance on NEPA and climate change also directs agencies to provide estimates of the social cost of greenhouse gases (SC-GHG) associated with agency actions. Estimates of SC-GHG provide an aggregated monetary measure (in U.S. dollars) of the net harm to society associated with an incremental metric ton of emissions in a given year. These estimates include, but are not limited to, climate change impacts associated with net agricultural productivity, human health effects, property damage from increased risk of natural disasters, disruption of energy systems, risk of conflict, environmental migration, and the value of ecosystem services. In this way, SC-GHG estimates can help the public and federal agencies understand or contextualize the potential impacts of GHG emissions and, along with information on other potential environmental impacts, can inform the comparison of alternatives.

3.1.2.1 Construction

Construction activities performed under any of the considered alternatives would result in short-term, less than significant adverse impacts on air quality. Construction activities would temporarily generate fugitive dust from grading and clearing, and criteria pollutant emissions from the use of diesel- and gasoline-powered equipment (see Table 3.1-3). Commuting construction workers would also contribute to a short-term increase in emissions. Criteria pollutant emissions from construction activities would be temporary in nature (limited to the duration of construction activities), and the resulting impacts to air quality would be short-term.

Construction activities at each alternative site would result in short-term GHG emissions from the use of diesel and gasoline powered equipment (see Table 3.1-3). Emissions associated with construction would be temporary, but the resulting impacts would be more long term as most GHGs have atmospheric residence times ranging from decades to centuries. Although construction GHG emissions are similar between alternatives, each would occur in counties with different levels of existing (baseline) GHG emissions. At whichever location construction occurs, activities would comply with all associated permit requirements (i.e., prior to initiating construction activities in Colorado, an air quality permit would be obtained from the Colorado Department of Public Health and Environment [CDPHE]).

The DAF would consider options to have construction contractors implement standard construction BMPs to minimize emissions, such as:

- Reducing diesel emissions through use of cleaner fuels and not idling engines,
- Reducing fugitive dust emissions by using appropriate dust suppression methods (e.g., application of water) and
- Reducing fugitive dust emissions by promptly removing spilled or tracked dirt.

Table 3.1-3 summarizes the potential emissions generated during proposed construction activities under the alternatives considered and states whether those emissions would exceed applicable thresholds. No exceedances of applicable thresholds would be anticipated during construction of the Proposed Action at any of the considered alternative locations; as such, the General Conformity Rule does not apply to this Proposed Action[11].

Construction of the Proposed Action at PeSFB would result in the lowest construction emissions; the associated emissions are presented in Table 3.1-3. If USSPACECOM relocates from Colorado Springs, no new facility would need to be constructed; therefore, there would be no construction emissions.

SSFB had the highest CO2 emissions of all the construction activities.

3.1.2.2 Operations

Operations of the proposed facilities (e.g., heating, emergency generators, and employee commuting) would result in "steady state" criteria pollutant and GHG emissions. Emissions from these activities are expected to be similar across sites and represent a less than significant increase from the baseline emissions. All sites except PeSFB would see an increase of 350 personnel. This is primarily because 215 HQ STARCOM positions are already authorized and stationed at PeSFB. Therefore, the increase to 350 positions would only require 135 additional personnel to be moved to the site.

New stationary sources (e.g., emergency generators) would be permitted, and either existing air emissions permits would be updated accordingly, or the DAF would obtain a new permit. Refer to Table 3.1-4 for potential steady state emissions of criterial pollutants during operation of each alternative[2].

Stationary sources and GHG-emitting equipment would be operated in accordance with all applicable requirements. These may vary by state. For example, in Colorado, the recent Regulation 22 change established mandatory GHG monitoring, recordkeeping, and reporting requirements for owners and operators of certain GHG-emitting facilities to reduce hydrofluorocarbon emissions in the state. In addition, all new boilers would be classified as Ultra Low NOx.

[1] BSFB is located in a nonattainment area for O3; therefore, this EA considers whether the General Conformity Rule may apply. As anticipated emissions of criteria pollutants during construction of this alternative are below the applicable threshold values shown in Table 3.1-3, the General Conformity Rule does not apply.

[2] As the anticipated emissions of criteria pollutants during operations of the BSFB alternative are below the applicable threshold values shown in Table 3.1-4, the General Conformity Rule does not apply.

Due to BSFB's location in a nonattainment area, if this installation is selected for beddown of HQ STARCOM, all federal employees would be required to self-certify vehicle emissions through the Employee-vehicle Certification and Reporting System (ECARS).

Table 3.1-3 Estimated Criteria Pollutant Emissions During Construction of Each Alternative

Pollutant	Construction Emissions[3] (tons/yr)									
	BSFB		PaSFB		PeSFB		SSFB		VSFB	
	2025	Threshold (tons/yr)	2025	Threshold (tons/yr)	2025	Threshold (tons/yr)	2025	Threshold (tons/yr)	2025	Threshold (tons/yr)
VOC	1.048	25	1.601	250	0.718	250	1.049	250	1.088	250
NO_x	4.539	25	5.733	250	4.307	250	4.558	250	4.454	250
CO	12.417	100	16.885	250	8.079	100	12.433	100	8.704	250
SOx	0.013	250	0.023	250	0.010	250	0.013	250	0.015	250
PM_{10}	4.759	100	4.794	250	4.752	250	4.761	250	4.786	250
$PM_{2.5}$	0.172	250	0.221	250	0.165	250	0.173	250	0.174	250
Pb	0.000	25	0.000	25	0.000	25	0.000	25	0.000	25
NH_3	0.057	250	0.057	250	0.025	250	0.057	250	0.080	250
CO_2e	1.451	68.039	2541.2	--	1.045	68.039	1.471	68.039	1.376	68.039
Exceedance (Yes/No)	No		No		No		No		No	

Source: Solutio Environmental, 2023

BSFB – Buckley Space Force Base; CO – carbon monoxide; CO2e – carbon dioxide equivalent; NH3 – ammonia; NOx – nitrogen oxides; O3 – ozone; PaSFB – Patrick Space Force Base; Pb – lead; PeSFB – Peterson Space Force Base; PM2.5 – particulate matter of diameter 2.5 microns or less; PM10 – particulate matter of diameter 10 microns or less; SOx – sulfur oxides; SSFB – Schriever Space Force Base; ton/yr – tons per year; VOC – volatile organic compound; VSFB – Vandenberg Space Force Base

[3]Selected the most conservative (i.e., lowest) conformity threshold based on the regulatory areas applicable to each criteria pollutant.

Table 3.1-4. Estimated Steady State Emissions During Operation of Each Alternative

VOC	0.557	0.613	0.229	0.557	0.627	250	No
NO_x	0.633	0.638	0.408	0.633	0.581	250	No
CO	8.358	9.152	3.357	8.358	4.006	100	No
SO_x	0.016	0.016	0.013	0.016	0.018	250	No
PM_{10}	0.037	0.038	0.031	0.037	0.062	250	No
$PM_{2.5}$	0.035	0.037	0.030	0.035	0.040	250	No
Pb	0.000	0.000	0.000	0.000	0.000	25	No
NH_3	0.052	0.052	0.020	0.052	0.054	250	No
CO_2e	1008.2	1068.8	555.5	1008.2	927.4	--	--

Source: Solutio Environmental, 2020
BSFB – Buckley Space Force Base; CO – carbon monoxide; CO2e – carbon dioxide equivalent; NH3 – ammonia; NOx – nitrogen oxides; O3 – ozone; PaSFB – Patrick Space Force Base; Pb – lead; PeSFB – Peterson Space Force Base; PM2.5 – particulate matter of diameter 2.5 microns or less; PM10 – particulate matter of diameter 10 microns or less; SOx – sulfur oxides; SSFB – Schriever Space Force Base; ton/yr – tons per year; VOC – volatile organic compound; VSFB – Vandenberg Space Force Base

3.1.2.3 No-Action Alternative

Under the No-Action Alternative, HQ STARCOM would continue to operate from the current, temporary beddown location at PeSFB. and no related facilities would be built or renovated at PeSFB. None of the proposed construction activities would occur. Therefore, there would be no changes to criteria pollutant or GHG emissions from baseline conditions.

3.1.3 Climate Change Hazard Assessment

The potential future impacts of climate change to proposed facilities are included in region-specific potential impact assessments as part of long-range planning, project design, and permitting activities. Relevant long-term climate weather events of concern for the proposed sites are discussed in Section 3.1.1.3. These areas of concern would have little impact on the new facilities and related operations included in each site.

The DAF uses resiliency measures, updated standards, and best practices captured in routine UFC updates, which serve as design/building codes for DoD facilities. The DAF would participate in or lead, as appropriate, master planning and project development activities at the selected location to ensure that climate impacts to the installations are minimized to the extent practicable and consistent with installation, local, or regional climate plans. Depending on the alternative selected, examples of resiliency measures could include, but would not be limited to, redundant and hardened electrical and water systems to withstand storm damage and higher demand on hot days, storm shelters and appropriate structural construction measures to withstand tornadoes/hurricanes, elevated construction and on-site water management to withstand flooding and sea level rise (including potential increases in the groundwater table), and adequate setbacks from potential fuel sources to mitigate the risk from wildfires.

3.2 Water Resources

3.2.1 Affected Environment

3.2.1.1 Alternative 1 - Buckley SFB

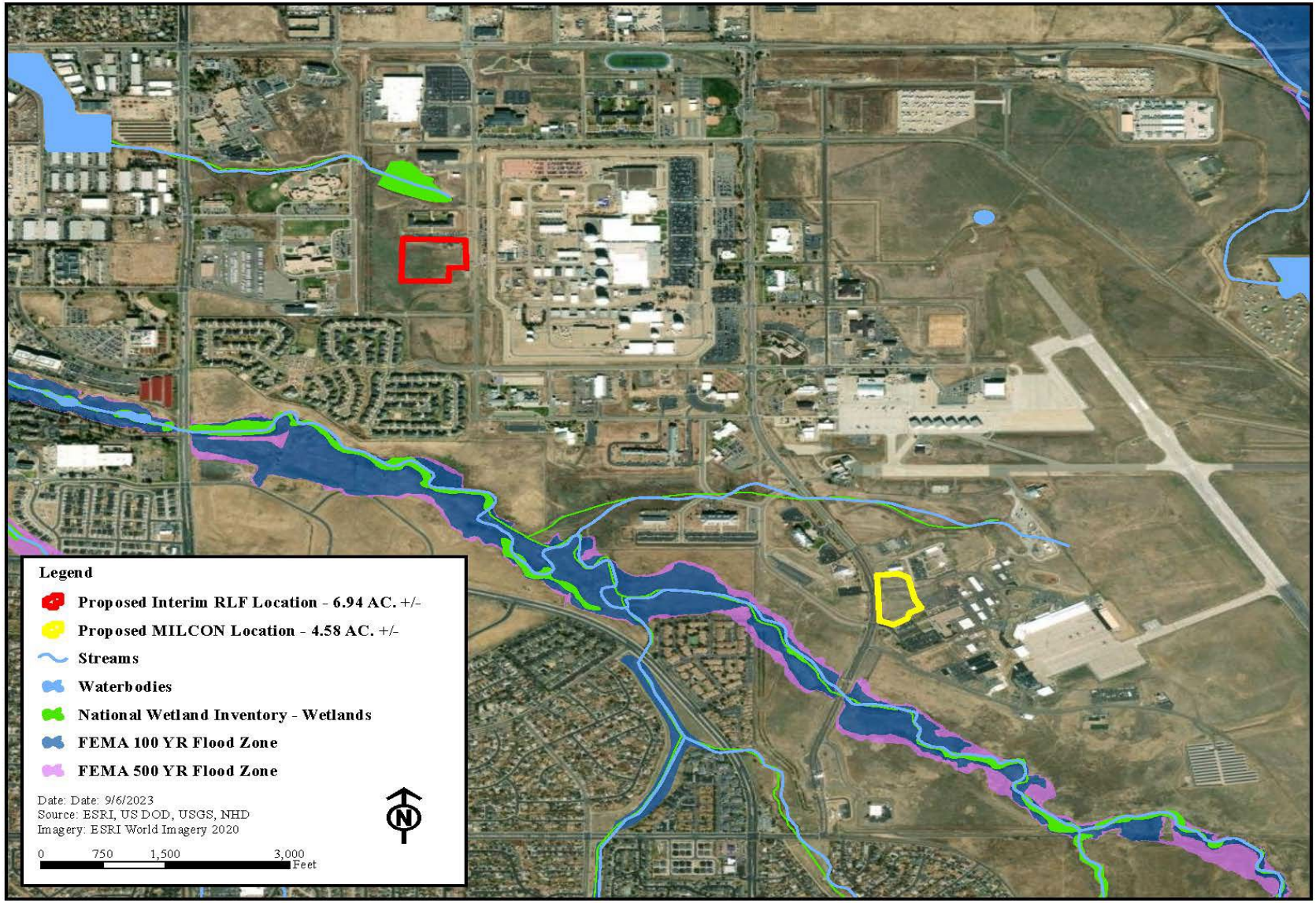
Surface Water

BSFB is located within the South Platte Basin (USGS hydrologic unit code [HUC] #101900) and the Sand Creek Watershed (HUC #1019000302). The predominant surface water drainage system in the vicinity is the South Platte River, situated approximately 15 miles northwest of BSFB. On the eastern side of the base, the drainage is directed towards Sand and Murphy creeks, which eventually flow into the South Platte River. These creeks are located to the east of the installation. The western portion of the installation drains into East Toll Gate Creek. This creek generally follows along the southwest boundary of the installation until it reaches Toll Gate Creek (DAF, 2019).

In addition to East Toll Gate Creek, the only other permanent surface water feature on the installation was Williams Lake, which, as explained below, was mostly emptied in 2011 to mitigate in-flight avian hazards. As a result, all surface water drainage within the installation is ephemeral and occurs as a result of stormwater runoff. To manage this runoff, a constructed stormwater drainage system has been put in place, consisting of ditches, curbs, gutters, culverts, pipelines, and detention ponds. This system directs the runoff to designated discharge points located at specific locations along the installation's perimeter (USAF, 2021).

Stormwater at BSFB is managed by an individual Municipal Separate Storm Sewer System (MS4) NPDES permit. The MS4 NPDES permit mandates the development of a Stormwater Management Program (SWMP), which manages the quality of stormwater discharges through implementation of BMPs (Buckley SFB, 2022). Stormwater discharges from air transportation industrial activities are managed by a NPDES Multi-Sector General Permit (MSGP), which identifies and limits stormwater discharges from sources associated with airfield operations. The MSGP requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) specifically for air transportation activities (USAF, 2021). No surface waters occur directly within or adjacent to the proposed alternative site (See Figure 3.2-1).

Table 3.2-1 Buckley SFB Water Resources



Groundwater

BSFB is situated within the Denver Basin aquifer system, which consists of four primary aquifer systems. These aquifer systems, listed in order from the most recent (closest to the surface) to the oldest (deepest), are as follows: Dawson, Denver, Arapahoe, and the Laramie-Fox Hills aquifer. The Denver Basin aquifer system is composed of Late Cretaceous to Tertiary-age sandstone bedrock aquifers and intervening claystone confining units that occur in the uppermost layers of the structural Denver Basin above the Cretaceous Pierre Shale confining layer (USGS, 2021).

The surficial aquifers found at BSFB are connected to both current and ancient stream and river valleys. These aquifer systems, ranging from 20 to 100 feet in thickness, formed as a result of the accumulation of sediment from the erosion of bedrock areas in higher elevations. The alluvial aquifer present at BSFB is specifically linked to Toll Gate and Sand Creek and primarily comprises coarse-grained materials (USAF, 2021).

Floodplain and Wetland

Alternative 1 would not impact any wetlands and is not located within the 100-year floodplain or the 500-year floodplain.

The southeastern and northwestern portions of BSFB contain the 100-year floodplain associated with the East Toll Gate and Sand creeks, respectively (DAF, 2019). EO 13690 includes the 500-year floodplain in the Federal Flood Risk Standard. A 500-year flood has a 0.2 percent chance of occurring in a given year. The 500-year floodplain within Buckley SFB is mainly associated with Toll Gate Creek and does not occur within or adjacent to the MILCON or interim RLF sites (FEMA, 2021a).

According to a 2014 Wetlands Study conducted throughout BSFB, all identified wetland areas are associated with an unnamed tributary to Sand Creek, Williams Lake and East Gate Creek. Results of the study indicated that potential wetland areas along the unnamed tributary to Sand Creek downstream of Williams Lake Dam include potential wet meadow, marsh, scrub-shrub, and forested wetland areas confined near the toe of Williams Lake Dam (NRC, 2014).

Potential wetland areas along the unnamed tributary to Sand Creek upstream of Williams Lake Dam are all characterized by herbaceous vegetation (NRC, 2014).

The potential wetland areas along the upstream reaches of East Gate Creek within BSFB are dominated by scrub-shrub wetland. In contrast, the downstream wetlands are dominated by marsh, open water, and aquatic vegetation (NRC, 2014).

Further, according to the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) database and a 2014 installation wide wetland assessment conducted by Natural Resources Consulting (NRC, 2014), no wetlands or surface waters exist within the action alternative footprint.

3.2.1.2 Alternative 2 - Patrick SFB

Surface Water

PaSFB is situated within the Northern Indian River Lagoon watershed, specifically in the Saint Johns River Water Management District (SJRWMD) Drainage 38 Basin 21. It is also located in

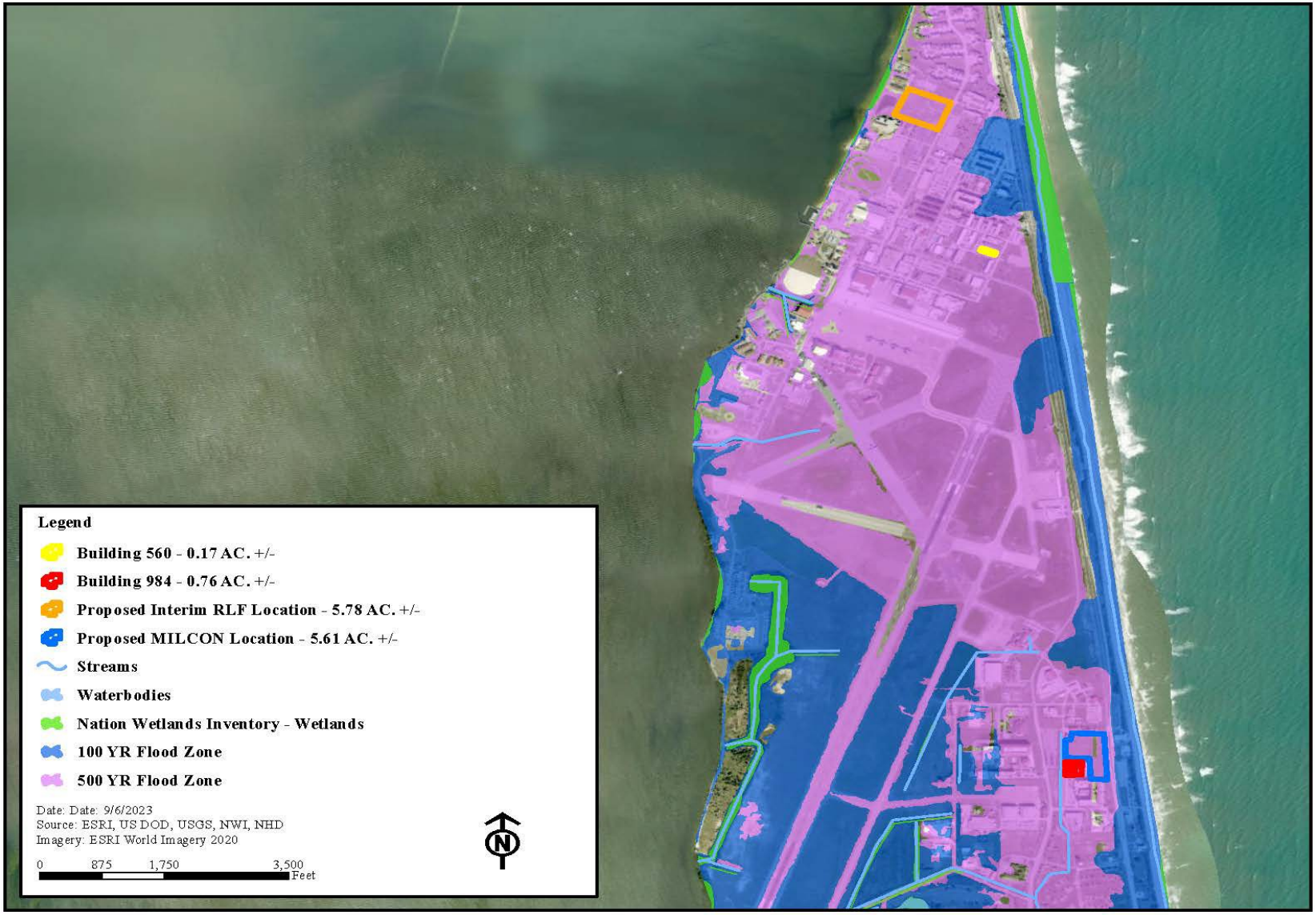
the South Banana River sub watershed (USAF, 2020). The primary surface water bodies that influence PaSFB are the Banana River to the west and the Atlantic Ocean to the east. The Banana River is a component of the larger Indian River Lagoon complex, which has been designated as an Estuary of National Significance and has been part of the National Estuary Program since 1990 (USAF 2020a).

The FDEP includes the Banana River on their Statewide Comprehensive Study List, which is provided to the USEPA as an update to the state's CWA Section 303(d) list of impaired waterbodies. Most of PaSFB is located within water boundary described as the portion of the Banana River sub-basin that is south of the State Route (SR) 520 Causeway (and extends south to the SR 518 Causeway). This sub-basin is on the Study List due to high pH values that were caused by exceedingly high chlorophyll levels in 2016 from an algal bloom. The algal bloom resulted from high nutrient levels. An increase in nutrient levels can occur due to a variety of reasons, including but not limited to, runoff that contains fertilizers, septic systems that are releasing nutrients adjacent to waterbodies, and wastewater treatment operations that are releasing nutrients. Areas draining directly to the Atlantic Ocean east of SR A1A are not considered impaired.

Under an established Total Maximum Daily Load (TMDL), PaSFB discharges stormwater runoff to the Banana River Lagoon (BRL) under National Pollutant Discharge Elimination Systems (NPDES) Permits. Enforcement of pollutant reduction goals would be through the NPDES Municipal (separate) Stormwater Sewer System (MS4) permits. Installation properties are set to reduce discharges over a 15-year period which includes compliance pollutant load screening, street sweeping (removal of sediments), and structural best management practices (USAF, 2020).

No surface waters occur directly within or adjacent to the proposed alternative site (see Figure 3.2-2).

Table 3.2-2 Patrick SFB Water Resources



Groundwater

Two continuous aquifer systems, the surficial aquifer and the Floridan aquifer, are present in Brevard County. The surficial aquifer system is contained in undifferentiated Late Miocene, Pliocene, and Recent Pleistocene deposits. It primarily consists of unconsolidated sediments such as sand, shell fragments, and gravel. The surficial aquifer is geologically isolated from the underlying Floridan aquifer by sediments originating from the Miocene Age known as the Hawthorn Group. These sediments, composed of low permeability clays, silts, and marls, act as an aquitard, restricting the flow of water between the non-artesian surficial aquifer and the artesian Floridan aquifer system. Groundwater deeper than the surficial aquifer is affected more by regional boundaries such as the Atlantic Ocean and the Banana River. Rates of groundwater movement are generally substantially less than one foot per day (USAF, 2020).

The surficial aquifer is typically classified by the Florida Department of Environmental Protection (FDEP) as a Class G-II aquifer (less than 10,000 milligrams per liter [mg/L] total dissolved solids [TDS]). Class G-II is defined as able to supply water treatable for human consumption (USAF, 2020).

Floodplain and Wetland

Alternative 2 would not impact any wetlands and is not located within the 100-year floodplain. The 500-year floodplain is located within all Alternative 2 locations.

A desktop review for the presence of wetlands and other surface waters was conducted, according to the USFWS IPaC database, no wetlands or surface waters exist within the action alternative footprint. The interim RLF site occurs within FEMA Flood Insurance Rate Map (FIRM) panel 12009C0463H and the MILCON site occurs within panel 12009C0526H (FEMA, 2021). The 100-year floodplain does not exist within either site. However, the 500-year floodplain occurs within all locations associated with Alternative 2 (FEMA, 2021). Being that the Proposed Action alternative is located within a coastal area, long-term, climate change induced sea level rise has the potential to affect flooding patterns in this area. Coastal flooding projections have been previously modeled using the DoD Regional Sea Level (DRSL) Database. Model outputs for the “medium” sea level rise scenario for the year 2065 predict a 1.6-foot rise and the “low” sea level rise scenario for the year 2100 predict a 1.9-foot sea level rise on the installation (DoD, 2023). In both scenarios, the Proposed Action alternative sites remain outside predicted inundation areas (Office for Coastal Management, 2023).

Coastal Zone Management Act Consistency

The Florida Coastal Management Program (FCMP) was approved by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA) in 1981 and is codified as Florida Statutes, Chapter 380, Part II. As stated above, the Alternative 2 site is designated as a coastal zone and is subject to the FCMP and a consistency determination summary can be found in Appendix B.

3.2.1.3 Alternative 3 - Peterson SFB

Surface Water

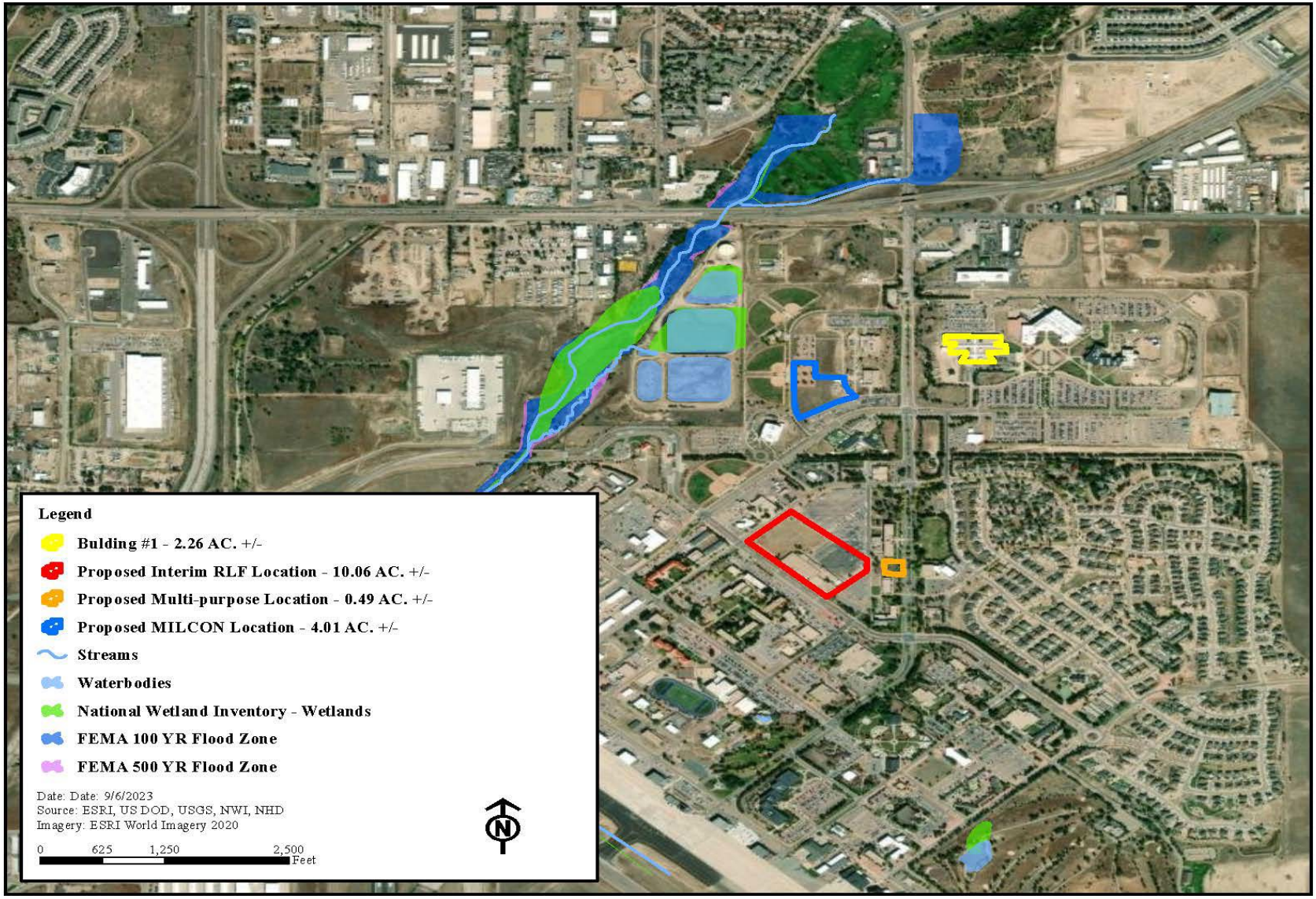
The installation is positioned within three large watersheds: East Sand Creek to the north, Peterson in the center, and Jimmy Camp Creek to the southeast (DAF, 2020b). The proposed action alternative area is situated within both East Sand Creek and Peterson watersheds. The

Peterson watershed does not have a direct confluence with any single watercourse. It is made up of six sub watersheds with a total drainage area of approximately 1.1 square miles and is dominated by developed conditions on relatively flat slopes (DAF, 2020b).

At PeSFB, there is a drainage divide that separates the stormwater runoff generated in the northwestern part of the base. This runoff is directed towards the East Fork of Sand Creek. The primary outfall, which discharges into the East Fork of Sand Creek, collects stormwater runoff from office operations, industrial operations, the northern section of the airfield, and bulk petroleum storage areas associated with airfield operations (EPA, 2015).

No surface waters occur directly within or adjacent to the proposed alternative site (see Figure 3.2-3.

Table 3.2-3 Peterson SFB Water Resources



Groundwater

The groundwater found with the installation exists in two primary aquifers. One aquifer is located within the Quaternary alluvium, which refers to the sediment deposits from the most recent geologic period. The other aquifer is situated in the lower layers of the Laramie Formation and the upper portion of the Fox Hills Sandstone. The aquifer in the Laramie Formation and upper Fox Hills Sandstone is 200 to 300 feet thick and may be separated locally into upper and lower units. The flow of groundwater in this unit is north-northeast toward the center of the Denver Basin (DAF, 2020b).

Floodplain and Wetland

Alternative 3 would not impact any wetlands and is not located within the 100-year floodplain or the 500-year floodplain.

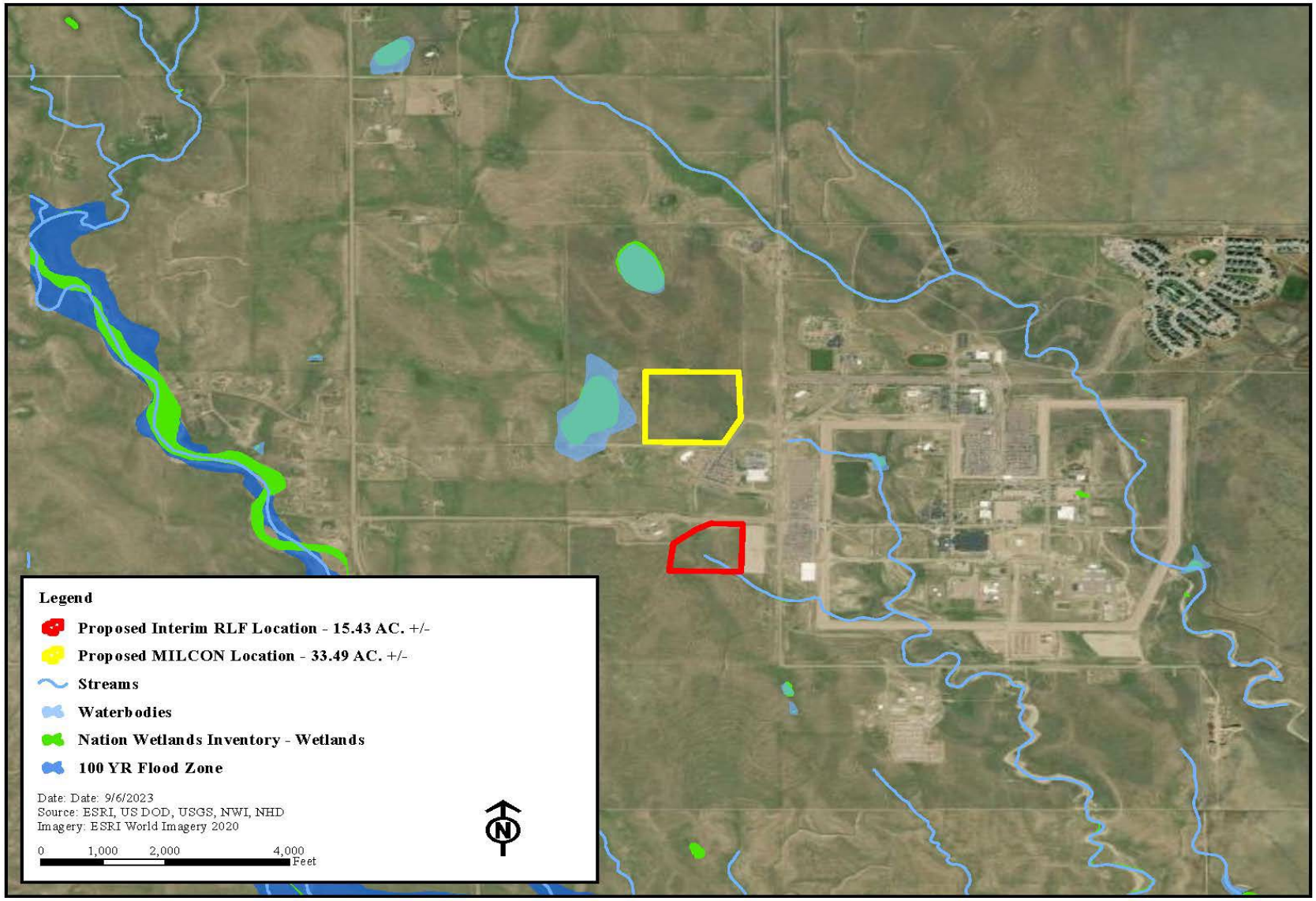
Based on surveys conducted by the USACE in 2001, there are no jurisdictional wetlands on the installation (Department of the Army, Corps of Engineers 2001, as cited in DAF, 2020b). NWI data derived in 2023 which is included in Figure 3.2-3 supports these findings. No 100 year or 500 year floodplains occur on base (FEMA, 2021).

3.2.1.4 Alternative 4 - Schriever SFB

Surface Water

SSFB is located in the Fountain HUC 8-digit watershed (11020003) (USGS, 2020b). SSFB itself contains no perennial streams or water bodies; all drainages flow only ephemerally (DAF, 2020c). Three ephemeral drainages are located within or adjacent to the Proposed Action boundary, one approximately 0.2 mile east of the proposed MILCON site and the proposed Modular Facilities Campus Area, a second approximately 330 feet east of the proposed interim RLF site and a third that intersects the southwest corner of the proposed interim RLF Site (see Figure 3.2-4). The flow patterns in the dry stream beds on the base are unpredictable during or after precipitation or snowmelt. These stream beds typically have sandy bottoms, limited vegetation, and are highly vulnerable to water erosion. To manage the flow of water, culverts have been installed within drainages across improved and semi-improved areas of the land. These culverts assist in controlling and directing the water flow within the drainages (DAF, 2020c).

Table 3.2-4 Schriever SFB Water Resources



Groundwater

SSFB is located above the southern edge of the Denver Aquifer system, which includes four aquifers: Dawson, Denver, Arapahoe, and Laramie-Fox Hills. The aquifers in the SSFB region are roughly 125 feet below the surface and consist of unconsolidated sediments with good water quality. Groundwater, in general, flows toward the south and east, beyond the base, and discharges into streams (see figure Hydrologic Features). The base's water supply is provided by the Cherokee Metropolitan Water District (DAF, 2020c).

Floodplain and Wetland

Alternative 4 would not impact any wetlands and is not located within the 100-year floodplain or the 500-year floodplain.

In 2013 the USACE conducted a wetland delineation effort at SSFB and delivered a determination that no jurisdictional wetlands and No Waters of the United States are located on SSFB (DAF, 2019). One 100-year floodplain, encompassing approximately 8.5 acres, is located in the northeastern corner of the installation (DAF, 2019). This area remains undeveloped and SSFB continues to manage it in a natural state. No 500-year floodplain occurs on the installation (FEMA, 2021).

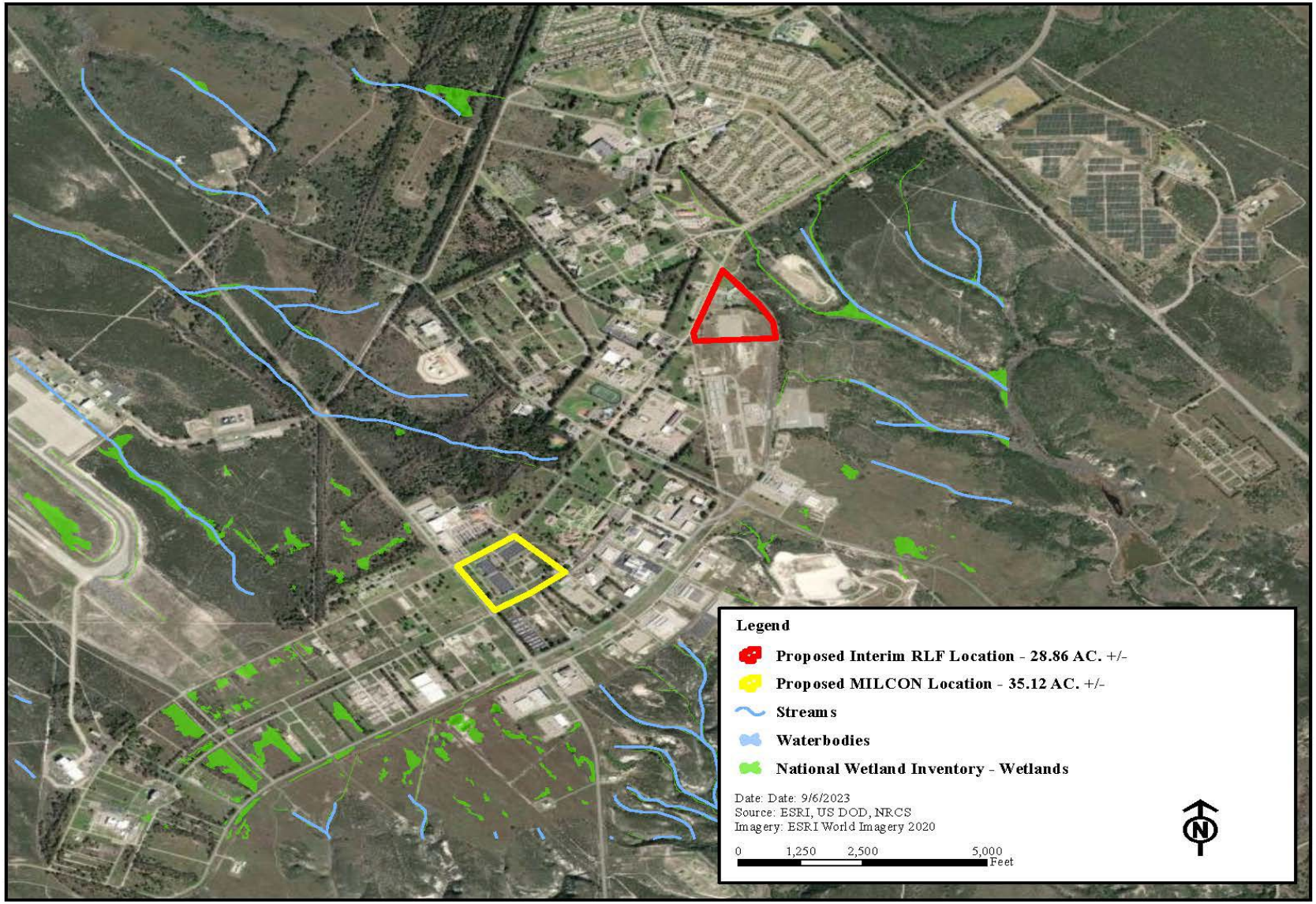
3.2.1.5 Alternative 5 - Vandenberg SFB

Surface Water

VSFB encompasses two major drainage basins, the Santa Ynez River and San Antonio Creek. VSFB also contains a number of on-base watersheds and impoundments, including the Santa Ynez River, Shuman Creek, San Antonio Lagoon, Barka Slough, and Punchbowl Lake (DAF, 2021b)).

No surface waters occur directly within or adjacent to the proposed alternative site (see Figure 3.2-5).

Table 3.2-5 Vandenberg SFB Water Resources



Groundwater

At VSFB, the alluvium is the major aquifer in the groundwater system underlying the base. The unconsolidated deposits mainly consist of sand and gravel (Berenbrock, 1988, as cited in USAF 2019). The typical depth to groundwater is approximately 50 to 140 feet below the surface (USAF, 2011a, as cited in DAF, 2019). The lower layer of the alluvium is the main water-bearing zone. Groundwater movement generally follows the surface-drainage patterns (Berenbrock, 1988, as cited in DAF, 2019).

Groundwater supplies about 77 percent of domestic, commercial, industrial, and agricultural water. It is also the last line of defense against periodic droughts that occur in the county. Analysis of historical records and tree rings reveals that the local region has experienced recurrent droughts lasting several years or more, occurring approximately two to four times per century over the past 460 years. (Turner 1992, as cited in DAF, 2021b).

Floodplain and Wetland

According to an installation wide planning level mapping study conducted by the USACE in 2018, wetland community types existing on VSFB consist of the following groups: forested wetland, emergent wetlands, saltwater marsh, vernal pool, and mixed wetland. None of these mapped wetlands fall within the site boundaries. Nevertheless, a special-status Crustacean survey conducted in 2006 identified four distinct vernal pools that lie within the proposed MILCON site (Pool # 25-038, 20-042, 25-043, and 25-044) (SRS, 2006). The Proposed Action alternative sites are not located within a FEMA designated 100-year or 500-year floodplain.

Coastal Zone Management Act Consistency

The implementation of the Proposed Action would not have any negative impact or violate the CZMA and California Coastal Commission Program policies. The Proposed Action would adhere to Air Force regulations and planning principles, as well as comply with county/state requirements. The Proposed Action and the other cumulative projects are not expected to lead to significant adverse effects on coastal zone resources.

3.2.2 Environmental Consequences

The impact on water resources would be considered significant if it meets any of the following criteria: 1) significantly reducing water availability or disrupting the water supply for current users, 2) contributing to the depletion of groundwater basins or surpassing the permitted annual water yield from water sources, 3) causing substantial harm to the quality of surface or groundwater, 4) degrading distinctive hydrological features, or 5) violating established laws or regulations regarding water resources.

3.2.2.1 Alternative 1 – Buckley SFB

Anticipated adverse effects on surface water resources are expected to be less than significant. The construction activities involved in building the proposed interim RLF and MILCON facilities would result in ground disturbance, exposing soils and increasing the risk of erosion caused by wind and water. This soil erosion, in turn, has the potential to raise sediment and pollutant concentrations in stormwater generated and discharged from the project sites. Consequently, there could be an increase in sedimentation and pollution in the water bodies that receive this runoff.

To prevent soil erosion at the sites, construction contractors would develop and adhere to site-specific Erosion and Sediment Control (E&SC) plans, stormwater management plans, and SWPPPs. These plans would be designed in accordance with relevant federal, state, and local regulations, including the specific requirements outlined in the NPDES permits of each installation involved.

The operation of the proposed interim RLF and MILCON facilities would not entail redirecting, channeling, damming, draining, spanning, or withdrawals from surface waterbodies. Therefore, these activities would not have any significant adverse impacts on surface waterbodies as part of the action alternative.

3.2.2.2 Alternative 2 – Patrick SFB

Anticipated adverse effects on surface water resources are expected to be less than significant. The Alternative 2 site does not contain any surface water features, but construction activities proposed for the area could disturb the soil, potentially causing temporary rises in runoff. As a result, pollution, sedimentation, and turbidity levels in nearby surface waters may increase. Furthermore, the permanent expansion of impermeable surfaces at the site could contribute to higher volumes of stormwater runoff.

To address the potential impacts mentioned, various measures would be implemented, including stormwater controls and BMPs. These measures are specifically designed to handle increased stormwater velocities and volumes resulting from construction activities and the presence of more impermeable surfaces on-site. All the necessary permits would be obtained, and strict compliance with permit conditions would be enforced.

If the land disturbance exceeds one acre, a NPDES Stormwater Permit for Construction Activities would be necessary. This permit would require the development of a SWPPP. The SWPPP would identify potential sources of pollutants, outline pollution prevention activities to be implemented on-site, and establish erosion and sediment controls to manage stormwater discharges while minimizing sedimentation as much as possible.

For projects with ground disturbance remaining under one acre, the existing PaSFB SWMP would be followed.

If any modifications to the stormwater management system are deemed necessary to accommodate new permanent facilities, an Environmental Resource Permit from SJRWMD would be required. It is expected that access to existing facilities, including stormwater infrastructure, would be obtained while causing minimal disturbance.

Anticipated adverse impacts on ground water resources are expected to be less than significant.

Given the shallow water table in the area, it is possible to encounter groundwater during construction activities. In such cases, dewatering protocols would be implemented to prevent adverse effects on groundwater quality and flow.

If dewatering becomes necessary, the process would be coordinated with the FDEP to ensure compliance with current rules and regulations.

It is important to note that no dewatering operations at PaSFB are permitted to discharge directly into surface waters, as stated in the DAF 2022 regulations.

Through compliance with existing PaSFB environmental management plans and all required permit conditions, it is anticipated that the implementation of this alternative would result in less than significant adverse impacts to groundwater.

3.2.2.3 Alternative 3 – Peterson SFB

Anticipated adverse impacts on surface water resources are expected to be less than significant. Under this alternative, there is a possibility of short-term, localized adverse effects on surface waters due to temporary increases in construction-related runoff. However, these potential impacts would be avoided through the implementation of stormwater controls and BMPs. These measures are specifically designed to address the rise in stormwater velocities and volumes during construction activities. All the necessary construction permits, including a NPDES Stormwater Permit for Construction Activities (if required), would be obtained, and strict adherence to permit conditions would be enforced.

3.2.2.4 Alternative 4 – Schriever SFB

Anticipated adverse impacts on surface water resources are expected to be less than significant. Under this alternative, there is a possibility of short-term, localized adverse effects on surface waters due to temporary increases in construction-related runoff. However, these potential impacts would be avoided through the implementation of stormwater controls and BMPs. These measures are specifically designed to address the rise in stormwater velocities and volumes during construction activities. All the necessary construction permits, including a NPDES Stormwater Permit for Construction Activities (if required), would be obtained, and strict adherence to permit conditions would be enforced.

Once the permanent facilities required in this alternative are completed, there is a possibility of an increase in wastewater discharges due to operations in a previously inactive area of the installation. Presently, wastewater discharges from SSFB are directed to the Cherokee Metropolitan District Publicly Owned Treatment Works, which is authorized under a permit. A wastewater system assessment carried out in 2012 indicates that there is no substantial volume of stormwater flowing through the wastewater system (DAF, 2020c). It is assumed that the expected average rise in wastewater and stormwater discharges resulting from the Alternative 4 site would not impose a significant burden on the existing wastewater system. Consequently, it is anticipated that any wastewater discharges associated with operations would be adequately treated and unlikely to have adverse effects on surface waters near the proposed beddown locations of this alternative.

3.2.2.5 Alternative 5 – Vandenberg SFB

Anticipated adverse impacts on surface water resources are possible. On-site vernal pools may be present and occur as pool complexes where micro-features are numerous and dispersed within upland habitat. Vernal pools are temporary, seasonal wetland habitats that form during the wet season and typically dry out during the dry season. They are characterized by their unique hydrology, filling with water from snowmelt, rain, or groundwater, and retaining water for a variable period of time, usually a few months to a few years. Biodiversity within vernal pools is typically high and serving as crucial breeding and feeding grounds for numerous species, including amphibians, insects, crustaceans, and plants.

Detailed delineations for this type of wetland is difficult due to their highly seasonal nature. According to the USACE survey conducted in 2018, within the central developed part of the installation pool complexes were mapped, but only indicate the presence of vernal pool habitat

within the complex as a whole. The determination and delineation of individual vernal pools must be performed on a site-specific basis (USACE, 2018).

As detailed in the 2011 Programmatic Biological Opinion (PBO) for the VSFB Installation Natural Resource Management Plan (INRMP), areas that are significantly or permanently disturbed would receive protocol level surveys for vernal pools fairy shrimp within one year of the action (USFWS, 2011). By following protocol developed in the PBO, less than significant adverse impact is expected to any vernal pools that may exist.

A special-status crustacean survey conducted in 2006 identified four distinct vernal pools that lie within the proposed MILCON site boundaries (Pool # 25-038, 20-042, 25-043, and 25-044) (SRS, 2006). These areas would be investigated prior to any land disturbance to confirm their presence and to avoid construction in a wetland or impacts to any wetlands and wildlife species that may utilize these wetlands within the MILCON site footprint.

3.2.2.6 No Action Alternative

Under the No-Action Alternative, none of the proposed construction or renovation activities would occur; therefore, there would be no change to water resource conditions within or adjacent to the site boundaries described above.

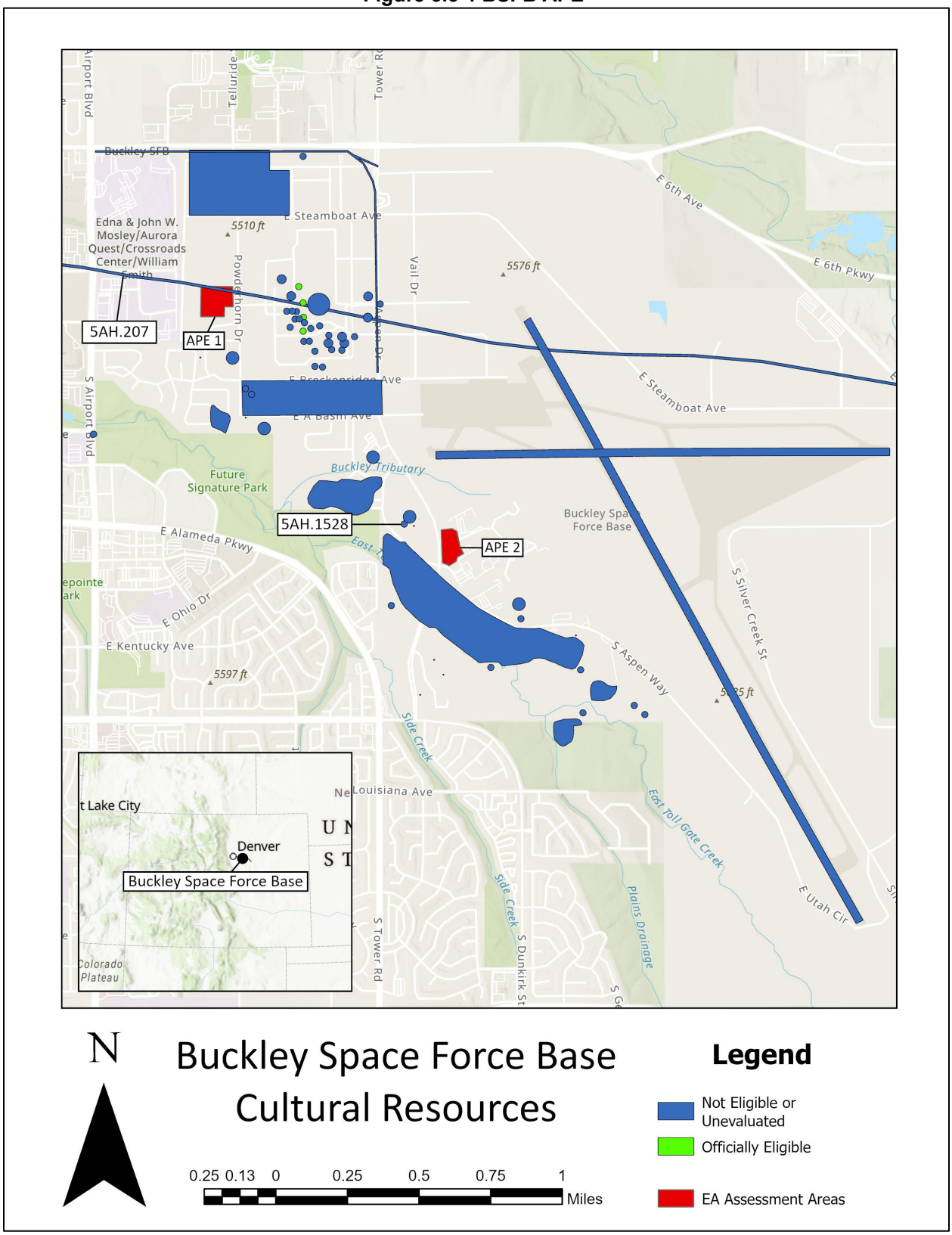
3.3 Cultural Resources

3.3.1 Affected Environment

3.3.1.1 Alternative 1 – Buckley SFB

By 2023, the entirety of the undisturbed portions of BSFB have been surveyed for archaeological resources (Argonne, 2023). In all, 69 archaeological sites and 43 isolated finds have been identified during cultural resource investigations. None of the sites have been recommended eligible for listing in the NRHP. The Colorado (CO) SHPO has officially concurred with these eligibility recommendations. There are no NRHP eligible cultural resources within either of the APEs (Figure 3.3-1). Similarly, all historic buildings, structures, and landscapes within the installation have been evaluated. Construction for the potential beddown would occur in undeveloped areas of the base so there are no built historic properties within the two APEs. A total of four NRHP eligible historic structures are located approximately 1100 feet to the east of APE 1. For APE 2, the closest NRHP eligible historic structure, Building 801 (5AH.2274), is located approximately one half mile north. NRHP eligible buildings 402 (5AH.2332), 403 (5AH.2288), 404 (5AH.2289), and 405 (5AH.2333) are located within the indirect footprint of the proposed APE 1. While the proposed action may have the potential to cause an indirect adverse visual effect to the buildings, the undertaking is in keeping with the general design and use of the area as a military installation and is unlikely to negatively affect the feelings or associations related to the integrity of the NRHP eligible properties.

Figure 3.3-1 BSFB APE



3.3.1.2 Alternative 2 – Patrick SFB

Archaeological site 8BR2477, which is the remains of the 20th-century Lighter-Than-Air Craft Factory is located approximately one mile equidistant from APE 1 and APE 2. The Florida (FL) SHPO determined the site eligible for listing on the NRHP in 2011.

Three historic structures (8BR2065, 8BR2600, and 8BR2136) are recorded by the FL SHPO within the APE (Figure 3.4-2 and 3.4-3). Building 8BR2065 (Facility 560) is a World War II-era administration building that the DAF plans to use for the temporary beddown of the HQ STARCOM personnel until its scheduled demolition. The FL SHPO currently lists the property as eligible for NRHP listing. The remaining two structures, 8BR2600 and 8BR2136, have been demolished since their documentation in 2011.

Two additional structures are also recorded adjacent to the APE. The Patrick Air Force Base Landplane Administrative District (8BR2440) lies on the southeastern boundary of APE 1, and the Cold War-era Facility 984 (8BR2146) is located on the southwestern boundary of APE 2. The district is eligible for NRHP listing. PaSFB recommended 8BR2146 as not eligible for listing based on findings of general infrastructure use and modification, no distinguishable architectural features or style, altered from original construction, and no direct cold war association.

Any direct and indirect effects can be minimized or avoided by implementing the following:

- Ensure that consultation with FL SHPO is complete for the renovation of Building 20362 (8BR2065). Additionally, all alterations to 8BR2065 to accommodate the temporary beddown of HQ STARCOM would follow the Secretary of the Interior's Standards for the Treatment of Historic Properties unless or until concurrence is reached for the demolition of the facility.
- PaSFB would conduct archaeological monitoring or an archaeological survey for the new construction of the interim and permanent beddowns. If an archaeological survey is conducted, PaSFB would submit a report describing the results of the investigation to the FL SHPO office for concurrence prior to the commencement of the construction. Otherwise, PaSFB would submit a report describing the results of the archaeological monitoring after the completion of the project.
- All facilities constructed for the temporary beddown would be removed after use to avoid permanent visual effects to 8BR2440.
- PaSFB would submit an updated state site file form for 8BR2146 to seek concurrence with their previous eligibility recommendation.
- Finally, PaSFB would halt all ground disturbing activities and contact the FL SHPO office if archaeological materials or human remains are uncovered during the project.

Figure 3.3-2 PaSFB APE 1 and APE 3

Figure 3.3-3 PaSFB APE 2

3.3.1.3 Alternative 3 – Peterson SFB

The entirety of PeSFB has been surveyed for archaeological resources, with eight archaeological surveys (DAF, 2017). A total of eleven archaeological resources have been documented on the installation (DAF, 2019). Based on data available from Colorado State Historic Preservation Office (COSHPO), the locations of six of the eleven are known at the time of this writing and are understood to not be in any of the three proposed undertakings associated with HQ STARCOM. The closest resource is a recorded segment of railroad grade (5EP.713) associated with the Colorado and Southern Pacific Railroad located approximately 300 feet (ft) to the northwest of the proposed MILCON.

Six of the eleven archaeological resources are isolated finds and are not eligible for the NRHP. The locations for two of the remaining five resources are known at the time of this writing and are located outside of the proposed undertakings. CO SHPO has determined one of these, a historic ditch (5EP.2178), to be officially not eligible. As mentioned above, the other resource, a segment of railroad grade (5EP.713), is considered not eligible. However, CO SHPO has not officially concurred with this recommendation to date. Information and the locations pertaining to the remaining three resources (a historic dump, foundation, and large homestead) are not known at the time of this writing. Based on the previous surveys conducted at PeSFB (DAF, 2017) it is unlikely that these resources are present within the project footprints.

By 2017, all potentially historic buildings on PeSFB had been inventoried and evaluated for NRHP eligibility. Of those buildings, five are listed in the NRHP (listed in 1996) and make up the Peterson AFB historic district (5EP.774). Associated with the original Colorado Springs Municipal Airport buildings, the historic properties, City Hangar, utility/maintenance building, Municipal Terminal, Broadmoor Hangar, and Spanish House/caretakers residence comprise a historic district (DAF, 2019). The historic district is not within any of the proposed APEs (Figure 3.4-3). Its proximity to the southernmost of the three areas of undertaking is more than 0.4 of a mile to the south. Furthermore, all construction for the potential beddown would occur in undeveloped areas of the base so there are no built historic properties within the APEs.

Figure 3.3-4 PeSFB APE

3.3.1.4 Alternative 4 – Schriever SFB

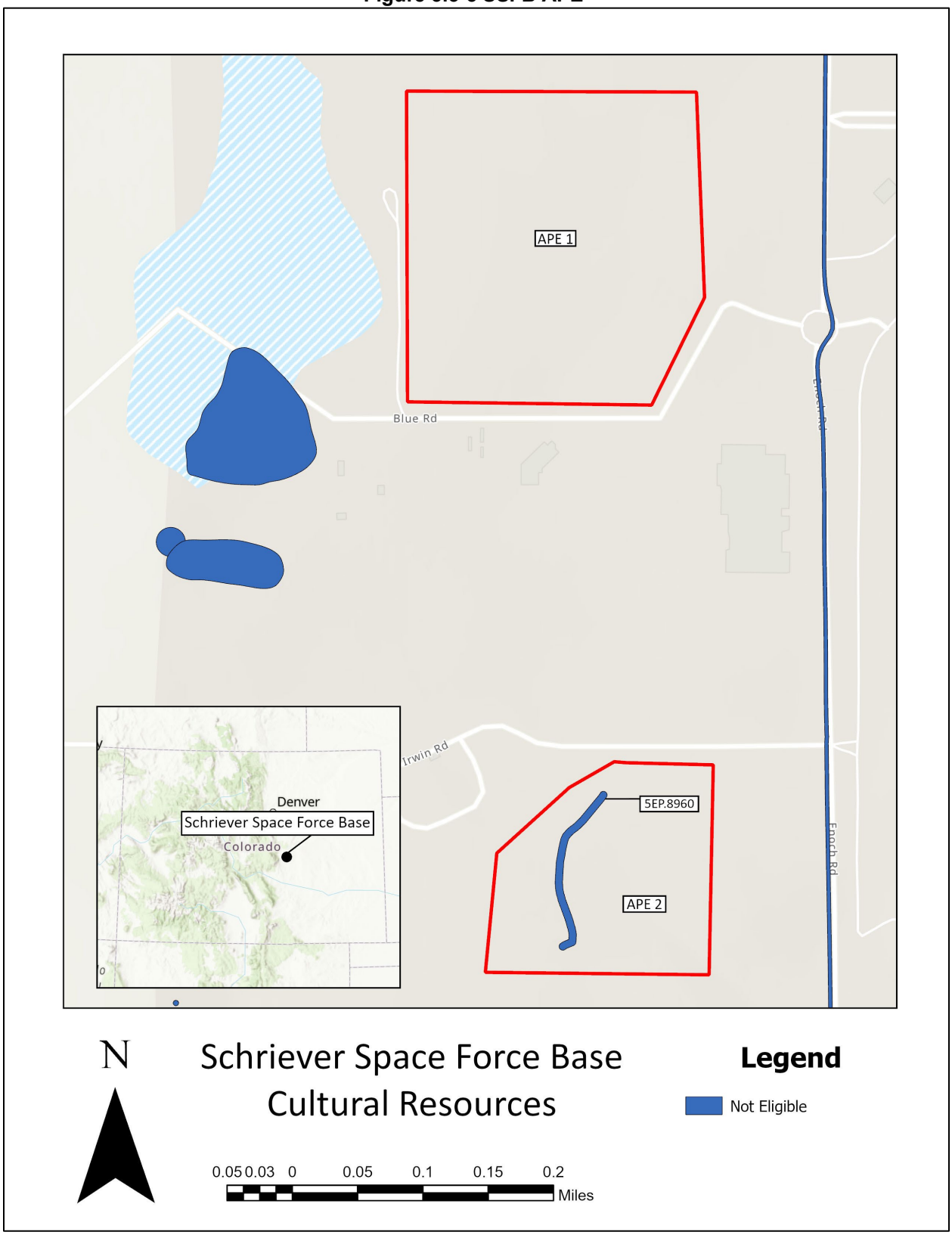
The DAF surveyed the entire APE for archaeological resources in 2020 with a Phase I pedestrian survey for cultural resources. The investigation determined there were no NRHP eligible resources and no archaeological resources in the APE for either project (Figure 3.3-5). One archaeological site and one historic era resource are of note for this undertaking and are described below. Site 5EP.1485, determined non-eligible, is located outside of but in the general vicinity of the APE. Site 5EP.8960.1, also determined non-eligible, appears to be located within APE 2. Both sites were proposed as non-eligible and non-contributory from resurvey. COSHPO provided concurrence with this finding in July 2023.

5EP.1485 is a non-eligible pre-contact-era diffuse lithic scatter originally surveyed in 1985 and resurveyed in 2020. Surveyors detected no surficial or buried cultural materials in the 2020 resurvey. Further, shovel tests did not indicate additional previously unknown cultural material. 5EP.1485 is located approximately 330 meters southwest from the southwest corner of APE 1. CO SHPO determined the site to be non-eligible for listing on NRHP in 2023.

5EP.8960, a historic-era ditch and berm associated with dryland ranching operations in the area circa 1955, is a non-eligible resource. It appears to be located within APE 2 and may possibly be affected by actions associated with the proposed interim RLF location. It is a linear surficial feature located within the western half of APE 2. CO SHPO determined the site to be non-eligible for listing on NRHP in 2023.

All the construction for the potential beddown would occur in undeveloped areas of the base so there are no built historic resources within the APEs. Based on the results of the cultural resources investigations of the APE, SSFB recommends that the undertaking would have no adverse effects to historic properties eligible for or listed on the NRHP.

Figure 3.3-5 SSFB APE



3.3.1.5 Alternative 5 – Vandenberg SFB

As summarized in the installation's ICRMP, more than 90 percent of the facility's 99,343 acres have been surveyed for cultural resources, including the area encompassing the proposed beddown. These studies have documented more than 2,500 cultural resources, including archaeological sites, Native American traditional and heritage sites, 19th and early 20th Century historical structures, Cold War structures and buildings, and a variety of historic roads, trails, and landscapes. The facility also contains one National Historic Landmark (Space Launch Complex 10 and associated buildings), and the Anza National Historic Trail.

Of the more than 2,200 known archaeological resources at VSFB, most date to the prehistoric period (before A.D. 1760) and include two named Chumash villages (Nocto and Lompoc). The collection of sites consists of the remains of a variety of seasonal and temporary encampments, rock shelters, shell middens, quarries, and rock art (Glassow, 1996). A wide variety of historic-period archaeological resources also exists within the installation that date to as early as the 1870s, and are related to agriculture, defense, and industrial uses along with sites associated with settlement and transportation (Palmer, 2000). More than 100 historic buildings and structures have been recorded on the installation and are related to these same general themes above. Of these, most are related to agricultural activities of the 19th and early 20th centuries. However, military structures and other buildings such as residences, bunkhouses, and garages also make up VSFB's historic built environment.

Located within the main cantonment area at VSFB, two discontinuous APEs define the interim RLF site (APE 1) and permanent site (APE 2) undertakings associated with HQ STARCOM (Figure 3.3-6). A total of 28 archaeological sites have been identified in or immediately adjacent to the main cantonment area. They include 17 precontact sites, 10 historic sites, and one site that is undescribed (DAF, 2019). The precontact sites consist mainly of artifact and marine shell scatters, while the historic resources include scatters of debris, the remains of a World War II prisoner-of-war camp, and several segments of concrete drainage ditches and culverts constructed by the prisoners. One of these sites, CA-SBA-3561, overlaps with APE 1, the area proposed for the interim RLF site. Site CA-SBA-3561 intersects the southern boundary of APE 1 and includes segments of rough concrete mortar ditches and ditch features built by POWs during the Camp Cooke era. The segments are evident along Nebraska, New Mexico, and Guam avenues. Components of the site include two headers and a drain. Palmer suggests this site is not eligible for the NRHP (Palmer, 2000). None of the other 27 reported sites in the cantonment area are in the two APEs.

A review of the built environment in the vicinity of APE 1 and APE 2 did not reveal historic-age buildings within a 0.25-mile radius.

Figure 3.3-6 VSFB APE

3.3.2 Environmental Consequences

3.3.2.1 All Alternatives

The Proposed Action may directly or indirectly impact extant cultural resources at the five installations. Direct impacts can occur through site preparation, construction, or site restoration. Such activity can have severe and irrevocable effects on relatively fragile and non-renewable cultural resources. Indirect impacts may be atmospheric (dust), auditory (construction noise), or visual (introduction of multistory buildings in otherwise level terrain). Such impacts can be minimized but may not be avoidable. Cumulative impacts are the combined, incremental effects that accumulate over time; they are the result of the compounding of the effects of all actions over time (EPA, 1999).

As described in the subsections below, the Proposed Action would have no significant adverse effect on cultural resources under any alternative. This conclusion considers the following measures:

- All alterations to eligible or potentially eligible structures would follow the Secretary of the Interior's Standards for the Treatment of Historic Properties (SOI Standards) unless or until concurrence is reached for the demolition of the facility. This would include consideration of SOI Standards for renovations of structures adjacent to eligible or potentially eligible structures.
- Archaeological monitoring or an archaeological survey would be conducted for the new construction of the interim and permanent beddowns, as necessary. If an archaeological survey is conducted, the respective installation would submit a report describing the results of the investigation to the SHPO office for concurrence prior to the commencement of the construction. Otherwise, the respective installation would submit a report describing the results of the archaeological monitoring after the completion of the project.
- All facilities constructed for the temporary beddown activities would be removed after use to avoid permanent visual effects.
  All ground disturbing activities would stop and the installation would contact the SHPO office if archaeological materials or human remains are uncovered during the project.

Archaeological Resources

Archaeological resources at each installation differ in number and type. In addition, many of the resources often lie outside the footprint of the interim and permanent sites, and therefore are not directly affected. Indirect impacts must be considered for these outlying resources, and their influence is directly related to the nature and significance of the resource and whether it would be adversely impacted by the Proposed Action. Atmosphere and auditory impacts are usually not an issue for archaeological resources, but visual impacts could diminish those aspects of a resource for which integrity of setting is a key attribute to its significance.

No known NRHP-eligible archaeological resources would be adversely affected by implementation of the project alternatives. Therefore, no significant impacts to archaeological resources are anticipated.

An inadvertent discovery of archaeological materials or human remains would be possible during construction of the Proposed Action. Given prior land-disturbing activities conducted on and around site alternatives, however, unanticipated discoveries are not likely. Nonetheless, in the event of inadvertent discoveries of undocumented cultural resources, ground-disturbing work would stop immediately and policies in the selected installation's ICRMPs would be implemented to preserve and document the discovery.

Historic Built Environment

The built environment encompasses buildings and structures that are 50 years or older and have been evaluated, or they are properties that have achieved significance in the last 50 years. As with archaeological resources, atmospheric and auditory influences are less likely to have adverse impacts on the built environment. However, visual impacts can diminish those aspects of a building or structure for which integrity of setting is a key attribute to its significance, perhaps more so than with archaeological resources.

Based on the analysis presented in Section 3.3.1, three NRHP-eligible buildings (located at PaSFB) would incur less than significant adverse effect by implementation of the project alternative. While consultation on specific facility design is premature, DAF expects Florida Division of Historical Resources concurrence with a no adverse effect to historic properties determination because PaSFB will ensure that SOI Standards are considered in the facility design to prevent adverse effects (i.e., no adverse effect under the NHPA). As stated in the regulations (36 CFR Part 68) promulgating the Standards, "*one set of standards …will apply to a property undergoing treatment, depending upon the property's significance, existing physical condition, the extent of documentation available, and interpretive goals, when applicable. The Standards will be applied taking into consideration the economic and technical feasibility of each project.*"

Additionally, physical alterations proposed for unevaluated buildings at BSFB would be limited to interior renovations. Therefore, no significant direct impacts to the historic built environment under any of the alternatives are anticipated.

No buildings at BSFB, SSFB, PeSFB, and VSFB that were considered for potential visual or other indirect effects appear to be eligible for the NRHP, anticipated indirect adverse impacts are less than significant. [Note to Reviewer: Consultation with FLSHPO, COSHPO, and CASHPO is ongoing. All remaining communications regarding results of the completed consultations including any concurrences will be included in the appendices of the final EA.]

Tribal Concerns

As documented in the ICRMPs for each installation being considered, no Traditional Cultural Places, sacred sites, or items of cultural patrimony have been identified at any of the proposed interim and permanent sites (USAF, 2015c, 2017b, 2019c). However, consultation under Section 106 is ongoing with Native American tribes that may attach religious or cultural significance to historic properties potentially affected by the Proposed Action. Early notification letters for the Proposed Action at BSFB, PaSFB, PeSFB, and SSFB were submitted in June 2023. VSFB elected not to send early notification letters to the CA SHPO or the federally recognized SYBCI because basing alternatives do not meet the definition of a federal undertaking in 36CFR800.3. No impacts to historic properties, Traditional Cultural Properties, sacred sites, or items of cultural patrimony have been identified at any of the VSFB RLF or MILCON alternatives. [Note to Reviewer: Additional government to government coordination is ongoing. All remaining communications regarding NHPA consultations will be included in the appendices of the final EA.]

Site-specific Impacts

Impacts for the alternative locations and their associated interim RLF and permanent MILCON sites are provided in Table 3.4-1 using impact indicators. In four of the five candidate installations, the Proposed Action would have no or negligible site-specific impacts on archaeological or built-environment resources. Direct Affects would occur to historic properties at PaSFB. Potential

adverse effect to these historic properties would be less than significant by following the impact minimization measures described below.

Impact Minimization Measures

Based on the results of the cultural resources investigations of the APE, potential adverse effects may impact properties at PaSFB. These impacts can be minimized or avoided by the following mitigation measures:

- All alterations to 8BR2065 to accommodate the temporary beddown of HQ STARCOM would follow the Secretary of the Interior's Standards for the Treatment of Historic Properties unless or until concurrence is reached for the demolition of the facility.
- PaSFB would conduct archaeological monitoring or an archaeological survey for the new construction of the interim RLF and permanent MILCON sites. If an archaeological survey is conducted, PaSFB would submit a report describing the results of the investigation to the SHPO office for concurrence prior to the commencement of the construction. Otherwise, PaSFB would submit a report describing the results of the archaeological monitoring after the completion of the project.
- All facilities constructed for the temporary RLF site would be removed after use to avoid permanent visual effects to 8BR2440.
- PaSFB would submit an updated state form to the SHPO for 8BR2146 to seek concurrence with their previous eligibility recommendation.

If potentially significant cultural resources are inadvertently discovered during implementation of the Proposed Action, all ground-disturbing work would immediately stop, and the specific procedures developed by each installation for addressing inadvertent discoveries would be implemented.

Table 3.3-1 Resource Impacts for each Action Alternative

Alternative/Sites	Impact Indicators			
	Number of Cultural Resources Directly Affected	Number of Cultural Resources Indirectly Affected	Number of Historic Properties Affected	Potential for Previously Undocumented Cultural Resources
BSFB				
Interim RLF Location	0	0	0	Low
Permanent Site location (MILCON)	0	0	0	Low
PeSFB				
Permanent Site Location (MILCON)	0	0	0	Low
Interim RLF Location	0	0	0	Low
Multi-purpose Location	0	0	0	Low
Building 1	0	0	0	Low
SSFB				
Permanent Site Location (MILCON) (Northwest of Building 24)	0	0	0	Low
Interim RLF Location	1 (historic-era ditch and berm)	0	0	Low
PaSFB				
Permanent Site Location (MILCON)	0	0	1 (Landplane Administrative District)	Moderate

Interim RLF Location	0	0	1 (Facility 984)	Moderate
Interim Facility (Building 560)	0	0	1	Moderate
VSFB				
Interim RLF Location	1 (historic culvert)	0	0	Low
Permanent Site Location (MILCON)	0	0	0	Low

3.3.2.2 No Action Alternative

Under the No Action Alternative, none of the proposed construction or operation activities would occur at any of the alternative sites. This would have no impact on cultural resources. The affected environment described in Section 3.3.1 would continue to be influenced by ambient environmental conditions and other ongoing development projects on the installations.

3.4 Biological Resources

3.4.1 Affected Environment

3.4.1.1 Alternative 1 – Buckley SFB

The regional setting of BSFB is influenced by the broader geographical context of the Colorado High plains region. Natural community types the region is known for include:

- Shortgrass Prairies: A variety of grasses and shrubs that inhabit arid soils make up this Ecosystem (DAF, 2021a).
- Bottomland Meadows: Wider flatter areas that demonstrate wetland characteristics such as saturated soils and hydric vegetation. A dominant species of plant in these areas is fringed brome (DAF, 2021a). These areas provide flood control for surrounding land.
- Riparian Corridors: steeper smaller areas dominated with trees such as cotton woods and willows. These areas have very moist soil and can possibly be considered wetlands (DAF, 2021a). However, both the interim RLF and permanent MILCON site alternatives lack any presence of wetlands.

Special Status Plant Species

No federally or state-listed plant species have been documented at BSFB (Sovell and Doyle, 2018a; USAF, 2016a, as cited in DAF, 2021a).

Wildlife

The installation's wildlife habitat encompasses various environments such as urban landscapes, grasslands, short-grass prairies, riparian areas (including open meadows and streamside trees), ornamental tree stands, and weedy disturbed areas. Table 3.4-1 provides a comprehensive list of wildlife species that are commonly found or have the potential to exist on or near BSFB, as well as the interim and permanent site alternatives within the installation.

Table 3.4-1 Wildlife Species Potentially Occurring on BSFB

Common Name	Scientific Name
Birds	
Short-eared owl	*Asio flammeus*
Golden eagle	*Aquila chrysaetos*

Common Name	Scientific Name
Ferruginous hawk	*Buteo regalis*
Bald eagle	*Haliaeetus leucocephalus*
Prairie falcon	*Falco mexicanus*
Loggerhead shrike	*Lanius ludovicianus*
Western burrowing owl	*Athene cunicularia*
Swainson's hawk	*Buteo swainsoni*
American bittern	*Botaurus lentiginosus*
Lark bunting	*Calamospiza melanocorys*
Western snowy plover	*Charadrius alexandrines*
Mountain plover	*C. montanus*
Red-headed woodpecker	*Melanerpes erythrocephalus*
Lewis's woodpecker	*M. lewis*
Long-billed curlew	*Numenius americanus*
Williamson's sapsucker	*Sphyrapicus thyroideus*
Dickcissel	*Spiza americana*
Brewer's sparrow	*Spizella breweri*
Mammals	
Pronghorn	*Antilocapra americana*
Mule deer	*Odocoileus hemionus*
Coyote	*Canis latrans*
Red fox	*Vulpes vulpes*
Black-tailed prairie dog	*Cynomys ludovicianus*
Eastern cottontail	*Sylvilagus floridanus*
Plains pocket gopher	*Geomys bursarius*
Ord's kangaroo rat	*Dipodomys ordi*
Prairie vole	*Microtus ochrogaster*
Meadow vole	*M. pennsylvanicus*
Deer mice	*Peromyscus spp*
Reptiles	
Western rattlesnake	*Crotalus viridis*
Lesser earless lizard	*Holbrookia maculata*
Western terrestrial garter snake	*Thamnophis elegans*
Bull snake	*Pituophis melanoleucus*

Source: USAF, 2016

Special Status Wildlife Species

BSFB has not recorded any federally listed threatened or endangered wildlife species, according to Sovell and Doyle (2018a, as cited in DAF, 2019). However, there is one species listed at the state level and two state species of concern that could potentially be found at BSFB (refer to Table 3.4-2). Table 3.4-2 includes the species list generated through a query of USFWS Information for Planning and Consultation (IPaC) system.

Table 3.4-2 Federal Special Status Wildlife Species Potentially Occurring at BSFB

Species	Federal Status	Habitat	Potential to Occur within Action Alternative Area
Mammals			
Gray wolf (*Canis lupus*)	Endangered	No particular habitat preference. Young are born in underground burrows. A minimum of 10,000-13,000 square kilometers with low road density might be needed to support a viable population.	No potential. Human activity would deter this species from the area surrounding installation.
Black-footed Ferret (*Mustela nigripes*)	Endangered	Require expansive prairie habitats with a mix of grasses, forbs, and low shrubs.	No potential. USFWS has designated the Buckley SFB as being within a "block clearance zone" that does not support and is not likely to have black-footed ferret (USAF, 2016)
Birds			
Whooping crane (*Grus americana)*	Endangered	Found among dense vegetation near water. Suitable habitats may be saline, brackish, or freshwater.	No potential, Per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.
Piping plover (*Charadrius melodus*)	Threatened	Usually occur on ocean beaches or on sand or algal flats in protected bays. Winters in the southern U.S. and migrates north to breed.	No potential, Per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.
Insects			
Monarch butterfly (*Danaus plexippus*)	Candidate	Require milkweed plants (*Asclepias spp.*) as their exclusive host plants for egg-laying and larval development. Suitable habitat should include diverse milkweed species, such as common milkweed, swamp milkweed, and butterfly weed	Potential to Occur.
Fish			
Pallid sturgeon (*Scaphirhynchus albus*)	Endangered	Occupies large, turbid, free-flowing riverine habitats and is often found in strong current over firm gravel or sandy substrate.	No potential, Per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.
Plants			
Ute Ladies'-tresses (*Spiranthes diluvialis*)	Threatened	Occurs in moist or wet habitats with low levels of competition for resources due to periodic or recent disturbance. More than half of documented populations occur in sites where natural hydrology has been affected by dams, reservoirs, or irrigation.	No potential, Per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist. Ute ladies'-tresses were not encountered in the Sensitive Species Survey on Buckley SFB (CNHP-CSU, 2018, as cited in USAF, 2016).

Source: USAF, 2016; USFWS, 2021

Table 3.4-3 summarizes the additional state-listed threatened and endangered species potentially occurring on BSFB.

Table 3.4-3 State Special Status Species with Potential to Occur on BSFB

Species	State Status	Habitat	Potential to Occur with Action Alternative Area
Mammals			
Black-footed Ferret (*Mustela nigripes*)	Endangered	Require expansive prairie habitats with a mix of grasses, forbs, and low shrubs.	No potential. USFWS has designated the Buckley SFB as being within a "block clearance zone" that does not support and is not likely to have black-footed ferret (USAF, 2016)
Birds			
Burrowing owl (*Athene cunicularia*)	Threatened	Commonly found in open grasslands, prairies, and desert habitats. Rely on burrows for nesting and shelter, however, they do not dig their own burrows; instead, they often utilize abandoned burrows dug by other animals such as prairie dogs or ground squirrels.	Potentially occurring, This species utilizes disturbed habitats, such as those found across the installation.
Whooping crane (*Grus americana)*	Endangered	Found among dense vegetation near water. Suitable habitats may be saline, brackish, or freshwater.	No potential, Per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.
Piping plover (*Charadrius melodus*)	Threatened	Usually occurs on ocean beaches or on sand or algal flats in protected bays. Winters in the southern U.S. and migrates north to breed.	No potential, Per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.

Source: USAF, 2016

Migratory Birds

According to the results obtained from the USFWS IPaC, there are four migratory bird species that are of conservation concern and could potentially be present within action alternative area.

While the bald eagle and golden eagle can also be found in the BSFB, they do not fall under the category of birds of conservation concern in this particular area. Instead, these species require special attention under the Bald and Golden Eagle Protection Act.

Table 3.4-4 provides information about the migratory birds of conservation concern identified by IPaC for the BSFB.

During migration, some birds may occasionally stop to rest or search for food near the project area. However, due to the minimal vegetation, predominance of mowed or maintained grassland, and high levels of human disturbance in the area, it is unlikely to be a significant migratory stopover compared to other areas within the flyway.

Table 3.4-4 Migratory Bird Species with Potential to Occur on BSFB

Species	Breeding Season in Area	Breeding Habitat	Potential to Occur with Action Alternative Area
Bald eagle (*Haliaeetus leucocephalus*)	December 1 – August 31	Breeding habitat includes areas close to coastal areas, bays river, lakes, reservoirs, or other bodies of water. Nests in tall trees, on pinnacles, or on cliffs near water.	No potential, per Section 3.2.1.1, no surface water features occur within the installation, some ephemeral features exist.

Species	Breeding Season in Area	Breeding Habitat	Potential to Occur with Action Alternative Area
Ferruginous hawk (*Buteo regalis*)	March 15 – August 15	Nesting sites depend on available substrates and surrounding land use. If nesting on the ground, locations are generally located far from human activities and on elevated landforms in large grasslands. If nesting in trees, lone or peripheral trees are preferred over densely wooded areas.	No potential, no trees exist within the project area. Furthermore, adjacent roadways and the nearby presence of humans would deter breeding within the project area.
Golden eagle (*Aquila chrysaetos*)	December 1 – August 31	Habitat includes open and semi- open country, especially in hilly or mountainous terrain. Nests are often located on rock ledges of cliffs, but sometimes in large trees, on steep hillsides, or on the ground.	No potential, suitable nesting habitat is not expected to be found within the project area due to lack of trees or rocky cliffs or ledges.
Long-billed curlew (*Numenius americanus*)	April 1 – July 31	Breeding habitat includes prairies and grassy meadows, generally wear water. Nests are located on the ground, usually in a flat area with short grass and often near rock.	No potential, per Section 3.2.1.1, no surface water features occur within the installation, some ephemeral features exist.
Mountain plover (*Charadrius montanus*)	April 15 – August 15	Nesting habitat includes high plains, shortgrass prairies, and desert tablelands. Nesting areas are characterized by very short vegetation, significant areas of bare ground, and flat or gentle slopes.	Potentially occurring. Suitable nesting habitat may occur within or adjacent to the area.
Red-headed woodpecker (*Melanerpes erythrocephalus*)	May 10 – September 10	Habitat includes open woodlands (especially with beech or oak), open situations with scattered trees, parks, cultivated areas, and gardens. Nests in a hole excavated in a live tree, dead stub, utility pole, or fencepost.	No potential. Due to lack of trees and vegetation, no suitable habitat for this species is expected within and adjacent to the area.

Source: USFWS, 2021

Interim and Permanent Site Alternative Conditions

Both the permanent MILCON and interim RLF site locations encompass semi-improved areas which are kept maintained and mowed to four to 10 inches (DAF, 2021a) Both sites are located within BSFB wildlife management area (WMA) 4 which consists of developed areas containing the majority of buildings, roads, and other infrastructure present on the installation. These areas primarily feature introduced landscape plants, such as lawn grasses, ornamental trees, and shrubs, which constitute the prevailing vegetation and habitat. Active removal of prairie dog occurs in this WMA to prevent damage to equipment. Further, Western burrowing owl presence has declined in recent years in all WMA's and nesting Western burrowing owls have not been documented since 2017 (Casady and Colburn 2020, as cited in DAF, 2021a).

Western burrowing owl surveys were discontinued after the 2020 survey because of their lack of presence in recent years. Site surveys are still performed as needed in areas that have plans for development or military activities. No Western burrowing owls were observed during site surveys in 2021.It is highly unlikely that Western burrowing owls are present within the sites due to the lack of habitat and results of previous installation surveys.

The Monarch butterfly, which is being considered for federal listing, has been observed on the installation. The proposed action alternative is not anticipated to have a negative impact on the existing Monarch butterfly populations at BSFB. To support the restoration of desired pollinator and Monarch habitat, the installation has strategically planted common milkweed in undeveloped areas. BSFB will continue to sow common milkweed in riparian undeveloped areas not designated for construction (DAF, 2021a).

3.4.1.2 Alternative 2 – Patrick SFB

The regional setting of PaSFB is influenced by the broader geographical context of the subtropical central Florida region. Natural community types the region is known for include:

- Beach dune: An upland habitat type that is sparsely vegetated as it is unhabitable for most plants (DAF, 2020a). Beach dune habitat protects most of the coastline from wave erosion due to storms. Only unique vegetation can be found in this habitat due to its dry sandy soil (DAF, 2020a).
- Estuarine wetlands: A tidal primarily herbaceous low energy environment (USAF2020a). Helps protect the coast from flooding and erosion.
- Hardwood forested uplands: Areas that are either moist or dry and dominated by hardwoods. Typically have a dense canopy with scattered shrubs along the forest floor.

Wildlife

PaSFB features a variety of wildlife habitats, including degraded urban landscapes and diverse estuarine coastal lowlands. Table 3.4-5 provides a list of representative wildlife species that are commonly found or have the potential to exist on or near PaSFB, as well as the interim and permanent site alternatives within the installation.

Table 3.4-5 Wildlife Species Potentially Occurring on PaSFB

Common Name	Scientific Name
Birds	
Brown pelican	*Pelecanus occidentalis*
Northern harrier	*Circus hudsonius*
Mammals	
Coyote	*Canis latrans*
Racoon	*Procyon lotor*
Armadillo	*Dasypus novemcinctus*
Opossum	*Didelphis virginiana*
Eastern cottontail rabbit	*Sylvilagus floridanus*
Eastern gray squirrel	*Sciurus carolinensis*
Amphibians and Reptiles	
American alligator	*Alligator mississippiensis*
Eastern glass lizard	*Ophisaurus ventralis*
Tropical house gecko	*Hemidactylus mabouia*
Eastern corn snake	*Pantherophis guttatus*
Ribbon snake	*Thamnophis sauritus*
Common snapping turtle	*Chelydra serpentina serpentina*

Special-Status Wildlife Species

The IPaC system of the USFWS was used to search for federally listed, threatened, and endangered species, as well as critical habitats that could potentially be found within PaSFB. The results were then cross referenced with the PaSFB INRMP for species historically occurring or know to occur on the installation. Table 3.4-6 includes a brief assessment of the potential impacts to species' with from the proposed action and species' range and habitat.

Table 3.4-6 Federal Special Status Species with Potential to Occur within PaSFB

Species	Federal Status	Habitat	Potential Impacts Due to the Proposed Action
Mammals			
West Indian manatee (*Trichechus manatus*)	Threatened	In Florida, occur in freshwater, brackish, and marine environments, including coastal tidal rivers, mangrove swamps, and salt marshes. Feeding often occurs in shallow grass beds with access to deep channels.	No potential. The action alternative does not impact aquatic habitat.
Birds			
Audubon's crested caracara (*Polyborus plancus audubonii)*	Threatened	Associated with open country, dry prairie with scattered cabbage palm, and wetter prairies. In Florida, often nest in cabbage palms.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Eastern black rail (*Laterallus jamaicensis* ssp. *jamaicensis*)	Threatened	Found among dense vegetation near water. Suitable habitats may be saline, brackish, or freshwater.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Piping Plover (*Charadrius melodus*)	Threatened	Usually occurs on ocean beaches or on sand or algal flats in protected bays. Winters in the southern U.S. and migrates north to breed.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Red knot (*Calidris canutus rufa*)	Threatened	Migratory species that occurs in Florida as a transient. Primary habitats are tidal flats and beaches.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Wood stork (*Mycteria americana*)	Threatened	Wood storks nest in mixed hardwood swamps, sloughs, mangroves, and cypress domes/strands in Florida.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Reptiles			
American crocodile (*Crocodylus acutus*)	Threatened	In Florida, primary habitat is inland mangrove swamps. Typically occur in freshwater areas during the nonbreeding season and move to saline waters when breeding.	No potential. The action alternative does not impact aquatic habitat.

Species	Federal Status	Habitat	Potential Impacts Due to the Proposed Action
Eastern indigo snake (Drymarchon couperi)	Threatened	Suitable habitats include sandhill regions dominated by longleaf pines, turkey oaks, and wiregrass; coastal scrub; dry glades, prairie, brushy riparian corridors, and wet fields.	Potential, but highly unlikely. Per the Patrick SFB INRMP, this species has not been observed within the installation for more than 5 years.
Green sea turtle (*Chelonia mydas*)	Threatened	Feed in shallow, low-energy waters with abundant submerged vegetation. Nest on beaches, usually those with high energy and deep sand.	Potential. Lighting has the potential to indirectly affect this species.
Hawksbill sea turtle (*Eretmochelys imbricata*)	Endangered	Inhabits shallow coastal waters with rocky bottoms, beds of sea grass or algae, mangrove-bordered bays and estuaries, and submerged mud flats. Nests on undisturbed, deep-sand beaches.	Potential. Lighting has the potential to indirectly affect this species.
Kemps ridley sea turtle (Lepidochelys kempii)	Endangered	Extremely rare species. Occurs mainly in nearshore coastal habitats of the Gulf of Mexico of the U.S. but nesting has been observed on Atlantic Ocean beaches.	Potential. Lighting has the potential to indirectly affect this species.
Leatherback sea turtle (*Dermochelys coriacea*)	Endangered	Found in open ocean near the continental shelf. Usually only approach land to nest. Nesting occurs on sloping, sandy beaches with vegetation, often near deep water.	Potential. Lighting has the potential to indirectly affect this species.
Loggerhead sea turtle (*Caretta caretta*)	Threatened	Occurs in open sea over the continental shelf, bays, estuaries, lagoons, and mouths of rivers. Nesting occurs on open, sandy beaches.	Potential. Lighting has the potential to indirectly affect this species.
Plants			
Carter's mustard (*Warea carteri*)	Endangered	Endemic to Florida and known from occurrences along Lake Wales Ridge. Dependent on frequent fire to maintain open, sandy habitats.	No potential. Patrick SFB is not located within the Lake Wales Region. Per the species' 5-year review, this species has been extirpated from Brevard County.
Lewton's polygala (*Polygala lewtonii*)	Endangered	Found in sandhills characterized by longleaf pine and low scrub oaks.	No potential. Patrick SFB is highly developed and no suitable habitat for this species exists.

Source: DAF, 2020a; DAF, 2020a

Table 3.4-7 summarizes the additional state-listed threatened and endangered species potentially occurring on PaSFB.

Table 3.4-7 State Special Status Species with Potential to Occur on PaSFB

Species	State Status	Habitat	Potential to Occur within Action Alternative Area
Birds			
Black skimmer (Rynchops niger)	May 20 – September 15	Habitat includes coastal waters and quiet waters of rivers and lakes. Nests near coasts on sandy beaches, shell banks, coastal and estuary islands, and on dredged material sites. Nests usually in association with terns.	Potential. Small number of black skimmers have been observed nesting on flat gravel roofs
Florida sandhill crane (Antigone canadensis pratensis)	Threatened	Freshwater marshes, prairie, and pastures.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Florida burrowing owl (*Athene cunicularia floridana*)	Threatened	High, sparsely vegetated, sandy ground. Natural habitats include dry prairie and sandhills; however, this species also makes extensive use of areas such as pastures, airports, parks, school grounds, and road rights-of-way.	Potential. This species utilizes disturbed habitats, such as those found across the installation.
Least tern (*Sternula antillarum*)	Mid-April – May 1	Habitat includes coastal waters and quiet waters of rivers and lakes. Nests near coasts on sandy beaches, shell banks, coastal and estuary islands, and on dredged material sites.	Potential. Least terns have been observed nesting on flat gravel roofs for over 30 years however numbers of declined significantly over the last 5 years.
Reptiles			
Gopher tortoise (*Gopherus polyphemus*)	Threatened	Typically found in dry, upland habitats, but will also utilize disturbed habitats such as pastures and road shoulders.	Potential. This species utilizes disturbed habitats, such as those found across the installation.
Plants			
Many-flowered grass- pink (*Calopogon multiflorus*)	Threatened	Dry to moist flatwoods with longleaf pine, wiregrass, and saw palmetto.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Sand butterfly pea (*Centrosema arenicola*)	Endangered	Sandhill, scrubby flatwoods, and dry upland woods.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Sand-dune spurge (*Chamaesyce cumulicola*)	Endangered	Coastal scrub and stabilized dunes.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Short-leaved rosemary (*Conradina brevifolia*)	Endangered	White sands and sand pine-oak scrub of the Lake Wales Region. Scattered overstory of sand pine and scrub oak.	No potential. Species is restricted to the Lake Wales Region, which is found in Polk, Highlands, and Osceola counties in Florida. This region does not extend

Species	State Status	Habitat	Potential to Occur within Action Alternative Area
			into Brevard County, in which PaSFB is located.
Large-flowered rosemary (*Conradina grandiflora*)	Threatened	Scrub, scrubby flatwoods, and adjacent disturbed areas.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Coastal vervain (*Glandularia maritima*)	Endangered	Sandy clearings in coastal dune swales, scrub, pinelands, and live oak-cabbage palm woods. Also found in disturbed clearings.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Nodding pinweed (*Lechea cernua*)	Threatened	Open, unshaded white sands of scrub and scrubby flatwoods. Often associated with Florida rosemary.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Celestial lily (*Nemastylis floridana*)	Endangered	Wet flatwoods, prairies, marshes, and edges of cabbage palm hammocks.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Florida beargrass (*Nolina atopcarpa*)	Threatened	In grassy areas of mesic and wet flatwoods.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Giant orchid (*Pteroglossaspis ecristata*)	Threatened	Sandhill, scrub, pine flatwoods, pine rocklands, and occasionally old fields.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Coastal hoary-pea (*Tephrosia angustissima* var. *curtissii*)	Endangered	Scrub and sandy areas.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Carter's warea (*Warea carteri*)	Endangered	Sandhill, scrubby flatwoods, inland and coastal scrub.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.

Source: FWC, 2023; FNAI, 2023

Migratory Birds

According to the results obtained from the USFWS IPaC, there are twelve migratory bird species that are of conservation concern and could potentially occur within the action alternative area.

Table 3.4-8 provides information about the migratory birds of conservation concern identified by IPaC for the PaSFB.

During migration, some birds may occasionally stop near the project area to rest or search for food. However, due to the minimal vegetation, predominance of mowed or maintained grassland, and high levels of human disturbance in both the interim RLF and MILCON sites, it is unlikely to be a significant migratory stopover for most birds compared to other areas within the flyway.

Table 3.4-8 Migratory Bird Species with Potential to Occur within PaSFB

Species	Breeding Season in Area	Breeding Habitat	Potential to Occur within Action Alternative Area
American kestrel (*Falco sparverius paulus*)	April 1 – August 31	Breeding habitat includes open or partly open habitat such as prairies, deserts, wooded streams, cultivated land with scattered trees, open woodland, or along roads. Nests in holes in trees, buildings, or cliffs.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
American oystercatcher (*Haematopus palliatus*)	April 15 – August 31	Habitat includes rocky and sandy seacoasts and islands, river mouths and estuaries, and mudflats. Nests on the ground in open sites, often on high parts of sandy beaches. May also nest among rocks.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Bald eagle (*Haliaeetus leucocephalus*)	September 1 – July 31	Breeding habitat includes areas close to coastal areas, bays river, lakes, reservoirs, or other bodies of water. Nests in tall trees, on pinnacles, or on cliffs near water.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area. Eagles have been observed utilizing PaSFB canals on occasion.
Chimney swift (*Chaetura pelagica*)	March 15 – August 25	Habitat includes rural and urban environments. Nests primarily in chimneys, but also interior walls of anthropogenic structures. Natural nest sites include interior of hollow tree trunks, pileated woodpecker cavities, and rock shelters.	Potentially Occurring. This species utilizes anthropogenic habitats and could be found in the structures of the developed portions of PaSFB.
Great blue heron (*Ardea herodias occidentalis*)	January 1 – December 31	Freshwater and brackish marshes, along lakes, rivers, bays, lagoons, ocean beaches, mangroves, fields, and meadows. Nests commonly high in trees in swamps and forested areas.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area. Great blue heron have been observed utilizing PaSFB canals.
Gull-billed tern (*Gelochelidon nilotica*)	May 1 – July 31	Habitat includes coastlines, salt marshes, and estuaries. May occur less frequently along lakes	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Lesser yellowlegs (*Tringa flavipes*)	-	-	No potential. Breeds in Canada and spends winters in South America. This species may be encountered within the site on stopovers during migration. However, the low-quality habitat existing within the project area is unlikely to support suitable foraging or resting habitat during migration stopovers.

Species	Breeding Season in Area	Breeding Habitat	Potential to Occur within Action Alternative Area
Magnificent frigatebird (*Fregata magnificens*)	October 1 – April 30	Habitat is mainly located in coastal waters. Nests on islands in mangroves, low trees, and shrubs. This species is sensitive to disturbance, and nests are usually located on steep slopes of offshore islands.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Painted bunting (*Passerina ciris*)	April 25 – August 15	Nests in brush or vine tangle, usually 1-2 meters off the ground. The southeastern coastal population uses a variety of habitats for breeding; however, salt marsh and forest edges were found to be preferred over interior forests.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Prairie warbler (*Setophaga discolor*)	May 1 – July 31	Habitat includes dry scrub, low pine-juniper, mangrove, pine barrens, and burned over areas. Nests are usually located in a shrub, sampling, thicket, or fern clump.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Reddish egret (*Egretta rufescens*)	March 1 – September 15	Typically nests on natural islands or man-made dredge spoil islands, but may occasionally construct nests on the coastal mainland. Nests are generally constructed in mangroves, but also may be found in terrestrial vegetation.	No potential. The installation is highly developed and no suitable habitat for this species exists within the action alternative area.
Ruddy turnstone (*Arenaria interpres morinella*)	-	-	No potential. This species may be encountered within Patrick SFB on stopovers during migration. However, the low-quality habitat existing within the project area is unlikely to support suitable foraging or resting habitat during migration stopovers.
Short-billed dowitcher (*Limnodromus griseus*)	-	-	Unlikely. This species may be encountered within PaSFB on stopovers during migration. However, the low quality habitat existing within the project area is unlikely to support suitable foraging or resting habitat during migration stopovers.
Swallow-tailed kite (*Elanoides forficatus*)	March 10 – June 30	Preferred nesting sites are in pines, although nests may also be found in cypress trees and mangroves.	No. PaSFB is highly developed, and the project area is located within an area designated as serving an institutional land use. No suitable breeding habitat for this species exists within or adjacent to the proposed Delta 10 beddown site.

Species	Breeding Season in Area	Breeding Habitat	Potential to Occur within Action Alternative Area
Willet (*Tringa semipamata*)	April 20 – August 5	Breeding habitat requires large expanses of short, sparse grasslands and wetland complexes. Preferred habitats include native grasses and wetlands with shallow water and short, sparse shoreline vegetation.	No. PaSFB is highly developed, and the project area is located within an area designated as serving an institutional land use. No suitable breeding habitat for this species exists within or adjacent to the proposed Delta 10 beddown site.
Wilson's plover (*Charadrius wilsonia*)	April 1 – August 20	Habitat includes coastal sandy and shell beaches, barrier and spoil islands, tidal mudflats, bays, and estuaries. Nests are located in the open or near sparse vegetation.	No. PaSFB is highly developed, and the project area is located within an area designated as serving an institutional land use. No suitable breeding habitat for this species exists within or adjacent to the proposed Delta 10 beddown site.

Source: USFWS, 2021

3.4.1.3 Alternative 3 – Peterson SFB

Similar to BSFB - the regional setting of PeSFB is influenced by the broader geographical context of the Colorado high plains region. Natural community types the region is known for include:

- Foothill grasslands: A variety of tall grass species with shrubs and trees dispersed throughout. Occur on dry arid soil and often is an indicator of a transitional zone between habitat types. These natural communities can cover large amounts of land and have distinct borders.
- Riparian corridors: Riparian Corridors: steeper smaller areas dominated with trees such as cotton woods and willows. These areas have very moist soil and can possibly be considered wetlands. These habitats make great homes for most of the Mammals in the surrounding areas.

No wetlands exist at PeSFB (USAF, 2018, as cited in DAF, 2021a).

Special Status Plant Species

No federally or state-listed plant species have been documented at PeSFB (Sovell and Doyle, 2018b; USAF, 2014c, as cited in DAF, 2021a).

Wildlife

PeSFB features a variety of wildlife habitats, including urban landscapes and mid- to tallgrass prairies, similar to BSFB. Table 3.4-9 provides a comprehensive list of wildlife species that are commonly found or have the potential to exist on or near Peterson SFB, as well as the interim and permanent site alternatives within the installation.

Table 3.4-9 Wildlife Species Potentially Occurring on Peterson SFB

Common Name	Scientific Name
Birds	
Golden eagle	*Aquila chrysaetos*
Ferruginous hawk	*Haliaeetus leucocephalus*
Cassin's Finch	*Carpodacus cassinii*
Prairie falcon	*Falco mexicanus*
Loggerhead shrike	*Lanius ludovicianus*
Western grebe	*Aechmophorus occidentalis*
Western burrowing owl	*Athene cunicularia*
Swainson's hawk	*Buteo swainsoni*
American bittern	*Botaurus lentiginosus*
Lark bunting	*Calamospiza melanocorys*
Western snowy plover	*Charadrius alexandrines*
Mountain plover	*C. montanus*
Red-headed woodpecker	*Melanerpes erythrocephalus*
Lewis's woodpecker	*M. lewis*
Long-billed curlew	*Numenius americanus*
Williamson's sapsucker	*Sphyrapicus thyroideus*
Dickcissel	*Spiza americana*
Brewer's sparrow	*Spizella breweri*
Virginia's warbler	*Vermivora virginiae*
Mammals	
Pronghorn	*Antilocapra americana*
Mule deer	*Odocoileus hemionus*
Coyote	*Canis latrans*
Red fox	*Vulpes*
Black-tailed prairie dog	*Cynomys ludovicianus*
Eastern cottontail	*Sylvilagus floridanus*
Plains pocket gopher	*Geomys bursarius*
Ord's kangaroo rat	*Dipodomys ordi*
Prairie vole	*Microtus ochrogaster*
Meadow vole	*M. pennsylvanicus*
Deer mice	*Peromyscus spp.*
Amphibians and Reptiles	
Woodhouse's toad	*Bufo woodhousii*
Prairie lizard	*Sceloporus undulatus*
Western terrestrial garter snake	*Thamnophis elegans*

Source: DAF, 2019

Special Status Wildlife Species

Federally listed species, State-listed species and state species of concern potentially occurring at Peterson AFB are the same as those listed for BSFB (Section 3.4.1.1).

Migratory Birds

Migratory bird species are the same as those listed for BSFB (Section 3.4.1.1).

Interim and Permanent Site Alternative Conditions

The interim site consists of semi-improved grounds which are installation grounds tended to on an as-needed basis. Primary care for these areas includes weed control, native grass planting,

and mowing around facilities, roadways, flight line and force protection and secure areas. Mowing is maintained at approximately one-time a month during the growing season, and most of the areas are not irrigated (USAF, 202b). The permanent site consists of unimproved grounds which are not landscaped or irrigated. Installation areas classified as unimproved are typically mowed once a year to reduce weeds and minimize fire hazards (DAF, 2020b).

3.4.1.4 Alternative 4 – Schriever SFB

The regional setting of SSFB is influenced by the broader geographical context of the Colorado high plains region. Natural community types for which the region is known include:

- Foothill grasslands: A variety of tall grass species with shrubs and trees dispersed throughout. These natural communities can cover large amounts of land and have distinct borders. They occur on dry arid soil and often is an indicator of a transitional zone between habitat types.
- Palustrine wetland: Freshwater wetlands that are not tidal influenced and are high in biodiversity.
- Riparian corridors: Steeper smaller areas dominated with trees such as cotton woods and willows. These areas have very moist soil and can possibly be considered wetlands. These habitats make great homes for most of the Mammals in the surrounding areas. (DAF, 2020c).

Wetlands exist on SSFB in the form of isolated playas which can be inundated during high precipitation events and are considered ephemeral (DAF, 2020c). These wetlands are determined to be non-jurisdictional in a 2013 assessment by USACE (USACE, 2013).

Special Status Plant Species

No federally or state-listed plant species have been documented to exist on SSFB (DAF, 2020c).

Wildlife

SSFB features a variety of wildlife habitats, including urban landscapes and grasslands, similar to BSFB and PeSFB. Table 3.4-10 provides a representative list of wildlife species that are commonly found or have the potential to exist on or near SSFB, as well as the interim RLF and permanent MILCON site alternatives within the installation.

Table 3.4-10 Wildlife Species Potentially Occurring on SSFB

Common Name	Scientific Name
Birds	
Short-eared owl	*Asio flammeus*
Golden eagle	*Aquila chrysaetos*
Ferruginous hawk	*Buteo regalis*
Bald eagle	*Haliaeetus leucocephalus*
Prairie falcon	*Falco mexicanus*
Loggerhead shrike	*Lanius ludovicianus*
Western burrowing owl	*Athene cunicularia*
Swainson's hawk	*Buteo swainsoni*
American bittern	*Botaurus lentiginosus*
Lark bunting	*Calamospiza melanocorys*
Western snowy plover	*Charadrius alexandrines*
Mountain plover	*C. montanus*
Red-headed woodpecker	*Melanerpes erythrocephalus*

Common Name	Scientific Name
Lewis's woodpecker	*M. lewis*
Long-billed curlew	*Numenius americanus*
Williamson's sapsucker	*Sphyrapicus thyroideus*
Dickcissel	*Spiza americana*
Brewer's sparrow	*Spizella breweri*
Mammals	
Pronghorn	*Antilocapra americana*
Mule deer	*Odocoileus hemionus*
Coyote	*Canis latrans*
Red fox	*Vulpes vulpes*
Black-tailed prairie dog	*Cynomys ludovicianus*
Eastern cottontail	*Sylvilagus floridanus*
Plains pocket gopher	*Geomys bursarius*
Ord's kangaroo rat	*Dipodomys ordi*
Prairie vole	*Microtus ochrogaster*
Meadow vole	*M. pennsylvanicus*
Deer mice	*Peromyscus spp*
Reptiles	
Western rattlesnake	*Crotalus viridis*
Lesser earless lizard	*Holbrookia maculata*
Western terrestrial garter snake	*Thamnophis elegans*
Bull snake	*Pituophis melanoleucus*

Source: DAF, 2019

Special-Status Wildlife Species

The IPaC system of the USFWS was used to search for federally listed, threatened, and endangered species that could potentially be found within SSFB. The results were then cross referenced with the SSFB INRMP for species historically occurring or know to occur on the installation. The results resemble species lists for BSFB and PeSFB. Table 3.4-11 list these species and the probability of occurrence within the action alternative sites.

In November 2001, the burrowing owl (*Athene cunicularia*), a wildlife species listed at the state level, was initially sighted at SSFB. This observation occurred within habitat areas associated with the expansion of black-tailed prairie dog colonies. The presence of these prairie dog colonies resulted in the creation of suitable habitat for the burrowing owl, which was first documented at Schriever SFB in November 2001 (DAF, 2019).

Table 3.4-3.4-2 Federal Special Status Species with Potential to Occur within SSFB

Species	Federal Status	Habitat	Potential to Occur within Action Alternative Area
Mammals			
Gray wolf (*Canis lupus*)	Endangered	No particular habitat preference. Young are born in underground burrows. A minimum of 10,000-13,000 square kilometers with low road density might be needed to support a viable population.	No potential. Human activity would deter this species from the area surrounding installation.
Birds			
Eastern black rail (*Laterallus jamaicensis* ssp. *jamaicensis*)	Threatened	Found among dense vegetation near water. Suitable habitats may be saline, brackish, or freshwater.	No potential, Per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.
Piping plover (*Charadrius melodus*)	Threatened	Usually occur on ocean beaches or on sand or algal flats in protected bays. Winters in the southern U.S. and migrates north to breed.	No potential, Per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.
Fish			
Greenback cutthroat trout (*Oncorhynchus clarkia stomias*)	Threatened	Clear, swift-flowing mountain streams with cover. Spawns in riffles.	No potential, Per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.
Pallid sturgeon (*Scaphirhynchus albus*)	Endangered	Occupies large, turbid, free-flowing riverine habitats and is often found in strong current over firm gravel or sandy substrate.	No potential, Per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.
Plants			
Ute Ladies'-tresses (*Spiranthes diluvialis*)	Threatened	Occurs in moist or wet habitats with low levels of competition for resources due to periodic or recent disturbance. More than half of documented populations occur in sites where natural hydrology has been affected by dams, reservoirs, or irrigation.	No potential, Per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.

Source: USFW, 2021

Table 3.4-12 summarizes the additional state-listed species occurring in El Paso County, in which SSFB is located.

Table 3.4-3.4-3 State Special Status Species with Potential to Occur within SSFB

Species	State Status	Habitat	Potential to Occur with Action Alternative Area
River otter (*Lontra canadensis*)	Threatened	Primarily inhabit freshwater environments such as rivers, creeks, and lakes. They prefer areas with clean, clear water that provides suitable prey species.	No potential, per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.
Birds			

Species	State Status	Habitat	Potential to Occur with Action Alternative Area
Burrowing owl (*Athene cunicularia*)	Threatened	Commonly found in open grasslands, prairies, and desert habitats. Rely on burrows for nesting and shelter, however, they do not dig their own burrows; instead, they often utilize abandoned burrows dug by other animals such as prairie dogs or ground squirrels..	Potentially occurring, This species utilizes disturbed habitats, such as those found across the installation.
Least tern (*Sterna antillarum*)	Endangered	Associated with water. Nests on riverine sandbars or salt flats.	No potential, Per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.
Fish			
Arkansas darter (*Etheostoma cragini*)	Threatened	Prefers spring-fed headwaters and creeks with cool, clear, shallow water, slow current, and herbaceous aquatic vegetation. Often found in pools with a substrate of sand, fine gravel, or detritus.	No potential, Per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.
Southern redbelly dace (*Chrosomus erythrogaster*)	Endangered	Headwaters and upland creeks with clear water. Spawning occurs in shallow water near riffles among gravel.	No potential, Per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.

Source: CPW, 2023

Migratory Birds

According to the results obtained from the USFWS IPaC, there are four migratory bird species that are of conservation concern and could potentially be present within action alternative area.

While the bald eagle and golden eagle can also be found in the SSFB, they do not fall under the category of birds of conservation concern in this particular area. Instead, these species require special attention under the Bald and Golden Eagle Protection Act.

Table 3.4-13 provides information about the migratory birds of conservation concern identified by IPaC for the SSFB.

During migration, some birds may occasionally stop to rest or search for food near the project area. However, due to the minimal vegetation, predominance of mowed or maintained grassland, and high levels of human disturbance in the area, it is unlikely to be a significant migratory stopover compared to other areas within the flyway.

Table 3.4-3.4-4 Migratory Bird Species with Potential to Occur within SSFB

Species	Breeding Season in Area	Breeding Habitat	Potential to Occur with Action Alternative Area
Bald eagle (*Haliaeetus leucocephalus*)	December 1 – August 31	Breeding habitat includes areas close to coastal areas, bays river, lakes, reservoirs, or other bodies of water. Nests in tall trees, on pinnacles, or on cliffs near water.	No potential, per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.

Species	Breeding Season in Area	Breeding Habitat	Potential to Occur with Action Alternative Area
Ferruginous hawk (*Buteo regalis*)	March 15 – August 15	Nesting sites depend on available substrates and surrounding land use. If nesting on the ground, locations are generally located far from human activities and on elevated landforms in large grasslands. If nesting in trees, lone or peripheral trees are preferred over densely wooded areas.	No potential, no trees exist within the project area. Furthermore, adjacent roadways and the nearby presence of humans would deter breeding within the project area.
Golden eagle (*Aquila chrysaetos*)	December 1 – August 31	Habitat includes open and semi-open country, especially in hilly or mountainous terrain. Nests are often located on rock ledges of cliffs, but sometimes in large trees, on steep hillsides, or on the ground.	No potential, suitable nesting habitat is not expected to be found within the project area due to lack of trees or rocky cliffs or ledges.
Long-billed curlew (*Numenius americanus*)	April 1 – July 31	Breeding habitat includes prairies and grassy meadows, generally wear water. Nests are located on the ground, usually in a flat area with short grass and often near rock.	No potential, per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.
Mountain plover (*Charadrius montanus*)	April 15 – August 15	Nesting habitat includes high plains, shortgrass prairies, and desert tablelands. Nesting areas are characterized by very short vegetation, significant areas of bare ground, and flat or gentle slopes.	Potentially occurring. Suitable nesting habitat may occur within or adjacent to the area.
Red-headed woodpecker (*Melanerpes erythrocephalus*)	May 10 – September 10	Habitat includes open woodlands (especially with beech or oak), open situations with scattered trees, parks, cultivated areas, and gardens. Nests in a hole excavated in a live tree, dead stub, utility pole, or fencepost.	No potential. Due to lack of trees and vegetation, no suitable habitat for this species is expected within and adjacent to the area.

Source: USFWS, 2021

Interim and Permanent Site Alternative Conditions

The interim RLF and permanent sites are located within unimproved grounds consisting of grasslands. These grounds are minimally maintained and mowed once a year (DAF, 2020c). Both the interim and permanent site areas are within Prairie Dog Management Zone 2. This management zone represents areas in close proximity to installation housing and recreation areas. While the presence of prairie dogs is tolerable in this zone, they present risks to personnel that require regular monitoring and management. Periods of high prairie dog population density and encroachment towards housing or childcare facilities may trigger a decision to pursue lethal control of the colony to limit risks of disease transmission and other human-wildlife conflicts.

3.4.1.5 Alternative 5 – Vandenberg SFB

The regional setting of VSFB is influenced by the broader geographical context of the transitional region between Southern and Central coastal California. Natural community types the region is known for include:

- Bishop pine forest: Consisting of scattered small clusters of pine, within chaparral, in areas with moist soil. Critical habitat for the grey squirrel and home to Lompoc Yerba Santa a federally listed plant species.
- Tanoak forest: Commonly in the lower canopy, however on VSFB it can be found as a primary canopy. These forests are found in moist vast soils in areas with high gradient.
- Oak woodland: Can be found along the coast of California, in VSFB it ranges from open stands with scattered individuals to dense forested canopies. The sub canopy is made up primarily of annual grasses and nonnatives.
- Riparian woodland: Can be found areas where the soil is highly saturated with a very shallow water table. Areas such as riverbeds and banks support riparian habitat.
- Central coast maritime chaparral: Thick, shrubby, evergreen chaparral, which is typically found on steep slopes and ridges.
- Coastal scrub: This makes up most of the vegetation cover In VSFB and provides crucial habitat for many animals on base. Short shrubby vegetation can be found along peaks, ridges, and slopes.
- Dune Grassland: Sparse low growing vegetation and barren dune make up this natural community. This natural community provides a space for many listed species that make their home along the California coast.
- Wetlands: Various wetland community types including Arroyo willow woodland, emergent, juncus stand, poison hemlock stand, saltwater marsh, vernal pool, and mixed wetland (USACE, 2018).

Special Status Plant Species

At VSFB, a total of nine plant species that are federally and state-listed as threatened or endangered have been officially documented.

Table 3.4-3.4-5 Special Status Plant Species Potentially Occurring on VSFB

Common Name	*Scientific Name*	Designation
Surf Thistle	*Cirsium rhothophilum*	ST
La Graciosa Thistle	*Cirsium scariosum var. loncholepis*	FE/ST
Beach Layia	*Layia carnosa*	SE
Beach Spectaclepod	*Dithyrea maritima*	SE
Seaside Birds-beak	*Cordylanthus rigidus ssp. littoralis*	SE
Lompoc Yerba Santa	*Eriodictyon capitatum*	FE/SE
Gambel's Watercress	*Rorippa gambellii*	FE
Marsh Sandwort	*Arenaria paludicola*	FE
Salt Marsh Bird's-beak	*Cordylanthus maritimus ssp. maritimus*	FE

Notes: ST – state threatened, SE-State Endangered, FE – Federally endangered
Source: DAF, 2021b

Wildlife

The wildlife habitats found at VSFB are diverse. However, in the vicinity of the proposed interim RLF and MILCON site, the habitats are restricted due to previous development activities. The habitats in and around the sites consist of urban landscapes and a mix of nonnative and native vegetated habitats. These habitats include grasslands, limited coastal scrubland, and scattered stands of both native and nonnative woodlands.

Various wildlife species can be found in these habitats, including both resident and migratory native and nonnative bird species, as well as common amphibians, reptiles, and mammals (refer to Table 3.4-15). VSFB has a rich population of native resident and migratory bird species, although the diversity of species in nonnative grasslands and developed areas is relatively lower. Wildlife species at VSFB are managed following the installation's natural resource management plan (DAF, 2021b).

Table 3.4-3.4-6 Wildlife Species Potentially Occurring on VSFB

Common Name	Scientific Name
Birds	
California scrub jay	*Aphelocoma californica*
House finch	*Haemorhous mexicanus*
California quail	*Callipepla californica*
Spotted towhee	*Pipilo maculatus*
California towhee	*Melozone crissalis*
Western meadowlark	*Sturnella neglecta*
Song sparrow	*Melospiza melodia*
American crow	*Corvus brachyrynchos*
Red-tailed hawk	*Buteo jamaicensis*
Great horned owl	*Bubo virginianus*
American kestrel	*Falco sparverius*
Turkey vulture	*Cathartes aura*
Northern harrier	*Circus hudsonius*
Mammals	
Botta's pocket gopher	*Thomomys bottae*
California ground squirrel	*Otospermophilus beecheyi*
California pocket mouse	*Chaetodipus californicus*
Deer mouse	*Peromyscus spp.*
Desert brush rabbit	*Sylvilagus audubonii*
Black-tailed jack-rabbit	*Lepus californicus*
Mule deer	*Odocoileus hemionus*
Coyote	*Canis latrans*
Bobcat	*Lynx rufus*
American badger	*Taxidea taxus*
Gray fox	*Urocyon cinereoargenteus*
Raccoon	*Procyon lotor*
Virginia opossum	*Didelphis virginiana*
Striped skunk	*Mephitis*
Amphibians and Reptiles	
Western fence lizard	*Sceloporus occidentalis*
Western skink	*Plestiodon skitonianus*
Southern alligator lizard	*Elgaria multicarinata*
Gopher snake	*Pituophis catenifer*
California kingsnake	*Lampropeltis getula californiae*
Pacific rattlesnake	*Crotalus oreganus*

Common Name	Scientific Name
Western toad	*Anaxyrus boreas*
Baja California tree frog	*Psuedacris hypochondriaca hypochondriaca*

USFWS, 2021b

Special Status Wildlife Species

VSFB has documented sixteen wildlife species that are federally listed as threatened or endangered. Among these species, the vernal pool fairy shrimp (*Branchinecta lynchi*), a federally listed species, has the potential to exist in the vicinity of the Alternative 5 MILCON site.

The vernal pool fairy shrimp is a small crustacean that inhabits seasonally flooded vernal pools in California, ranging from Tulare County in the south to Shasta County in the north. This species measures approximately 0.5 to 1 inch in length. Vernal pool fairy shrimp can be found in a variety of vernal pool habitats, ranging from clear pools with sandstone bottoms to turbid pools in alkaline grasslands.

The most suitable pools for the vernal pool fairy shrimp are typically seasonal swales that are less than 0.5 acre in size. These pools have grassy or muddy substrates or can be found in clay hardpan depressions within certain areas of their range. During dry periods, the species' eggs are protected within cysts in the dried mud, and they remain dormant until the pools are inundated by winter rains. After the pools are flooded, the fairy shrimp eggs hatch, and the individuals mature and breed within approximately 41 days, with the rate of development influenced by temperature conditions.

Four vernal pool features were previously identified within the Alternative 5 MILCON site – Pool # 25-038, 25-042, 25-043, and 25-044. According to a 2006 report (SRS, 2006), these identified vernal pool were determined to be unsuitable for vernal pool fairy shrimp due to insufficient depths and hydroperiods.

Table 3.4-3.4-7 Federal Special Status Species with Potential to Occur within VSFB

Species	Federal Status	Habitat	Potential to Occur within Action Alternative Area
Birds			
California condor (*Gymnogyps californianus*)	Endangered	Found among dense vegetation near water. Suitable habitats may be saline, brackish, or freshwater.	No potential, Per Section 3.3.2, no surface water features occur within the action alternative area, some ephemeral features exist.
California Least Tern (*Sterna antillarum browni*)	Endangered	Usually occur on ocean beaches or on sand or algal flats in protected bays. Winters in the southern U.S. and migrates north to breed.	No potential, Per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.
Least Bell's Vireo (*Vireo bellii pusillus*)	Endangered	primarily associated with riparian woodlands or riparian habitats along rivers, streams, and wetlands.	No potential, Per Section 3.3.2, no surface water features occur within the action alternative area, some ephemeral features exist.
Marbled Murrelet (*Brachyramphus marmoratus*)	Threatened	primarily inhabit nearshore marine environments, including coastal waters, bays, and fjords. They are often found in areas with a combination of rocky shorelines, cliffs, and kelp forests.	No potential, Per Section 3.3.2, no surface water features occur within the action alternative area, some ephemeral features exist.

Species	Federal Status	Habitat	Potential to Occur within Action Alternative Area
Southwestern Willow Flycatcher (*Empidonax traillii extimus*)	Endangered	closely associated with riparian habitats, which are areas near rivers, streams, wetlands, and other water sources.	No potential. The installation area is developed and no suitable habitat for this species exists within the action alternative area.
Western Snowy Plover (*Charadrius nivosus nivosus)*	Threatened	inhabits coastal areas, including sandy beaches, sandbars, and dunes.	No potential. The installation area is developed and no suitable habitat for this species exists within the action alternative area.
Yellow-billed Cuckoo (*Coccyzus americanus*)	Threatened	closely associated with riparian habitats, which are areas along rivers, streams, and wetlands.	No potential, Per Section 3.3.2, no surface water features occur within the action alternative area, some ephemeral features exist.
Fish			
Tidewater Goby (*Eucyclogobius newberryi*)	Endangered	primarily found in coastal lagoons, estuaries, and brackish marshes.	No potential, Per Section 3.3.2, no surface water features occur within the action alternative area, some ephemeral features exist.
Amphibians			
California Red-legged Frog (*Rana draytonii*)	Threatened	primarily inhabits wetlands, including ponds, marshes, and slow-moving streams.	No potential, Per Section 3.3.2, no surface water features occur within the action alternative area, some ephemeral features exist.
Insects			
Monarch butterfly (*Danaus plexippus*)	Candidate	Require milkweed plants (*Asclepias spp.*) as their exclusive host plants for egg-laying and larval development. Suitable habitat should include diverse milkweed species, such as common milkweed, swamp milkweed, and butterfly weed.	Potential to Occur
Crustaceans			
Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)	Threatened	Inhabit temporary seasonal wetlands known as vernal pools.	Potential to occur, as ephemeral features (vernal pools) may exist within the action alternative area.
Plants			
Gambel's Watercress (*Rorippa gambelii*)	Threatened	Occurs in moist or wet habitats with low levels of competition for resources due to periodic or recent disturbance. More than half of documented populations occur in sites where natural hydrology has been affected by dams, reservoirs, or irrigation.	No potential, Per Section 3.3.1, no surface water features occur within the installation, some ephemeral features exist.

Species	Federal Status	Habitat	Potential to Occur within Action Alternative Area
La Graciosa Thistle (*Cirsium loncholepis*)	Endangered	Sandy and rocky areas, often found in coastal dunes, cliffs, and rocky slopes.	No potential. The installation area is developed and no suitable habitat for this species exists within the action alternative area.
Lompoc Yerba Santa (*Eriodictyan capitatum*)	Endangered	Primarily found in coastal sage scrub habitats, which are characterized by shrubby vegetation adapted to coastal regions.	No potential. The installation area is developed and no suitable habitat for this species exists within the action alternative area.
Marsh Sandwort (*Arenaria paludicola*)	Endangered	Primarily found in wetland habitats, particularly in marshes, wet meadows, and seepage areas.	Potential to occur, as ephemeral features (vernal pools) may exist within the action alternative area.
Salt Marsh Bird's-beak (*Cordylanthus maritimus spp. Maritimus*)	Endangered	Primarily found in coastal salt marshes, which are intertidal habitats located along the coastlines/	No potential. The installation area is developed and no suitable habitat for this species exists within the action alternative area

Migratory Birds

According to the results obtained from the USFWS IPaC, there are four migratory bird species that are of conservation concern and could potentially be present within action alternative area.

While the bald eagle and golden eagle can also be found in the VSFB, they do not fall under the category of birds of conservation concern in this particular area. Instead, these species require special attention under the Bald and Golden Eagle Protection Act.

Table 3.4-17 provides information about the migratory birds of conservation concern identified by IPaC for the VSFB.

Table 3.4-3.4-8 Migratory Bird Species with Potential to Occur within VSFB

Species	Breeding Season in Area	Breeding Habitat	Potential to Occur with Action Alternative Area
Bald eagle (*Haliaeetus leucocephalus*)	December 1 – August 31	Breeding habitat includes areas close to coastal areas, bays river, lakes, reservoirs, or other bodies of water. Nests in tall trees, on pinnacles, or on cliffs near water.	No potential, Per Section 3.3.2, no surface water features occur within the action alternative area, some ephemeral features exist. Non-forested area, no roosting/nesting habitat present.

Species	Breeding Season in Area	Breeding Habitat	Potential to Occur with Action Alternative Area
American Peregrine Falcon (*Falcon peregrinus anatum*)	March 15 – August 15	Nesting sites depend on available substrates and surrounding land use. Inhabit rocky cliffs	No potential. Due to lack of trees and vegetation, no suitable habitat for this species is expected within and adjacent to the area.
Belding's savannah sparrow (*Passerculus sandwichensis beldingi*)	-	primarily found in coastal marsh habitats, including salt marshes, brackish marshes, and tidal mudflats.	No potential. Due to lack of trees and vegetation, no suitable habitat for this species is expected within and adjacent to the area.
California brown pelican (*Pelecanus occidentalis californicus*)	-	Breeding habitat includes rocky offshore islands or isolated coastal areas, such as coastal cliffs, islets, or sandy beaches.	No potential, no suitable habitat within action alternative area.

Source: DAF, 2021b

Interim and Permanent Site Alternative Conditions

The interim RLF and permanent MILCON sites are located within semi-developed grounds consisting of grasslands dominated by invasive grasses and forbs, with ornamental trees and small patches of native shrubs (DAF, 2019) and installation buildings. Environmental Consequences

For biological resources, NEPA evaluates the potential consequences to plant and animal communities, habitat quality and availability, rare or threatened species, biodiversity, and ecosystem functioning. The assessment may consider factors such as habitat loss, degradation, or fragmentation, changes in species populations or distributions, disturbance to nesting or breeding grounds, or alteration of ecological processes.

Significant impacts to biological resources would occur if the Proposed Action resulted in the long-term degradation, loss, or reduction of diversity in distinctive or high-quality plant communities. It would also include the unauthorized harm to federally listed species, the local disappearance of rare or sensitive species not currently protected under the ESA, the unacceptable destruction of critical habitat according to the USFWS, or a violation of the MBTA or BGEPA.

3.4.2 Environmental Consequences

3.4.2.1 Alternative 1 – Buckley SFB

Vegetation

It is expected that all vegetation on the BSFB sites would be removed during the construction of the Proposed Action. However, the removal and/or replacement of vegetation would be carried out in accordance with the INRMP or local regulations applicable to the site. Additionally, time-of-year restrictions would be followed to minimize or prevent any adverse impacts on wildlife and their habitats.

During the construction process, there is a possibility of native vegetation communities and wildlife habitats being affected by the introduction or encroachment of noxious weeds or invasive species. Nevertheless, the contractors would take measures to minimize the introduction or spread of invasive species by following the guidelines outlined in the INRMP and/or local regulations. Once the construction is finished, the site would be revegetated with native species as per the landscape plan to restore the natural ecosystem.

The presence of marginal quality vegetative communities on the sites is a result of existing disturbance and active grounds maintenance, Therefore, the removal of vegetation in these areas would have less than significant adverse impacts and would be managed effectively by adhering to relevant plans and policies.

Wildlife

The implementation of the Proposed Action would lead to the permanent removal of all existing habitat (mainly vegetation) from the chosen site. However, this impact is considered minor since the on-site habitat at the Alternative 1 sites are generally small and of low quality. Moreover, similar habitats are abundant near the proposed sites. The construction process would physically displace common wildlife species present on the selected site, and the noise and increased human activity during construction may disturb wildlife as well.

Wildlife species that are precocial, such as birds and mammals, are likely to relocate to areas with similar habitats near the site. However, less-mobile species, like certain reptiles and amphibians, could be inadvertently harmed during construction. Although there would be less than significant adverse effects, they would affect individual animals rather than entire populations or species. Hence, the continued propagation of common wildlife populations and species near each site would not be significantly hindered.

Regarding the operation phase, increased human presence and noise associated with the Proposed Action would cause minor disturbances to wildlife around the site. Over time, many wildlife species would adapt to these new conditions or relocate to other areas, resulting in a long-term, less than significant adverse effects on wildlife.

In summary, the construction of the Proposed Action at the Alternative 1 sites would lead to short-term and long-term, less than significant adverse impacts to wildlife due to habitat removal and individual displacements. Similarly, the operation of the Proposed Action would have long-term less than significant adverse impact on wildlife due to increased human presence and noise.

Western Burrowing owl

The Proposed Action is not expected to adversely affect this species. While this species has been documented on BSFB and may occur in the vicinity of the Alternative 1 site, proposed construction activities would occur within a developed military installation. As such, construction would not reduce the overall amount of available habitat. Potential impacts would be further reduced through implementation of appropriate protection measures that are currently in place at the installation.

Colorado Parks and Wildlife, Department of Natural Resources has released “Recommended Survey Protocol and Actions to Protect Nesting Burrowing Owls” (CPW, 2021). As burrowing owls are associated with prairie dog burrows in Colorado, this protocol outlines methods to survey prairie dog burrows for the potential presence of nesting burrowing owls. These measures include, among others:

- Conducting surveys when burrowing owls may be present on prairie dog towns (i.e., between March 15 and October 31);
- Conducting surveys in early morning or late evening; and
- Conducting at least three surveys, occurring approximately 1 week apart) at each survey point.

If burrowing owls are confirmed to be nesting within the Alternative 1 sites, the installation would proceed with construction in accordance with the recommended timing and monitoring measures by the state (CPW, 2021).

With implementation of avoidance measures, implementation of Alternative 1 is not expected to adversely affect western burrowing owls.

3.4.2.2 Alternative 2 – Patrick SFB

Vegetation

Implementation of the MILCON site would have direct less than significant adverse effect on vegetation. Approximately 5.7 acres of the 13.7-acre site are currently developed and support Buildings 989 and 984. These buildings would not be affected by the Proposed Action, but the area could support parking requirements for the MILCON. The remaining 8 acres contains open space that was previously developed. This disturbed area supports limited, low-quality vegetation that does not represent historic, native vegetation communities. While construction would disturb or remove existing vegetation from these 8 acres, no meaningful loss of habitat or impact to overall native vegetation would be expected. Grass and other landscaping would be replaced following construction using native species and seed mixes.

No further impacts to vegetation would be expected during operations of the Proposed Action.

Wildlife

Implementation of the MILCON site would have direct, less than significant adverse effect on local wildlife. Construction would remove existing vegetation and disturb wildlife inhabiting the 8 acres of the proposed site that are currently undeveloped. However, this area was previously developed and is located within a highly developed military installation. The limited vegetation currently present within the proposed MILCON site generally consists of maintained grass and landscaping and does not represent high-quality habitat for wildlife. Construction would occur in a previously disturbed area with frequent human activity; therefore, impacts to wildlife, including migratory birds, would be minor, as most species that inhabit areas near the site either are tolerant of humans and vehicle traffic or are able to relocate to nearby areas of suitable habitat. Species may temporarily relocate during construction, but the species that currently utilize the area are likely to return following the construction period and would not be permanently displaced by increased human activity.

Sea Turtles

Lighting impacts may have the potential to impact sea turtles with sky glow and extensive illumination. The lighting designs would follow the SLD 45 USFWS Biological Opinion 41910-2009-F-0087 for light management, would be evaluated by SLD 45 for compliance with fixture selection, and would include separate consultations with USFWS should light management plans be required. Construction and lighting designs may affect but are not likely to adversely affect sea turtles as long as light management requirements such as use of shielded, downward directed

true color amber LED fixtures set at minimal heights, and application of facility glass tinting with 30-15% visible light transmittance occurs.

Eastern Indigo Snake

Construction personnel at PaSFB would be provided an Eastern indigo snake poster to maintain at the construction site for awareness and would be made familiar of the snake protection requirements. Any indigo snakes observed within the project area would be allowed to move off site on their own; all sightings must be reported to Space Force Environmental Conservation (45 CES/CEIE). If an indigo snake refuses to leave a construction site, all activities would cease and site personnel would contact 45 CES/CEIE immediately for coordination with the U.S. Fish and Wildlife Service and relocation out of the construction zone.

Florida burrowing owl

The Proposed Action is not expected to adversely affect this species. While this species has been documented on PaSFB and may occur in the vicinity of the proposed Alternative 1 site, proposed construction activities would occur within a developed military installation. As such, construction would not reduce the overall amount of available habitat. Potential impacts would be further reduced through implementation of appropriate protection measures. No direct impacts are anticipated. Negligible indirect impacts are expected from noise, ground disturbance, or temporary displacement of prey species during construction.

The Florida Fish and Wildlife Conservation Commission (FWC) has developed conservation measures and permitting guidelines for the Florida burrowing owl. The FWC requires an incidental take permit if an activity were to include any of the following (FWC 2018):

- Causing injury or death of burrowing owl adults, eggs, or young.
- Collapsing a potentially occupied burrow or blocking the entrance of a potentially occupied burrow in a manner that prevents an owl from entering or existing the burrow.
- Disturbances within 10 feet of a potentially occupied burrow entrance at any time of the year.
- Disturbances within 33 feet of a potentially occupied burrow entrance during the breeding season (February 15 – July 10).
- Intentionally and repeatedly forcing burrowing owls to fly or to exhibit signs of stress.
- Capturing, handling, and collecting burrowing owls or eggs.
- Use of a burrow scope within a potentially occupied burrow.
- Significant habitat modification, meaning an activity that results in the loss of greater than 50 percent of the total foraging habitat within a 1,970-foot radius circle around a potentially occupied burrow.

In addition to avoidance measures to avoid potential take of Florida burrowing owls, the FWC guidelines also outline recommended conservation practices that could benefit the species (FWC, 2018). These recommended measures would also be implemented during construction and operation of the Proposed Action to the extent practicable.

Gopher tortoise

The Proposed Action is not expected to adversely affect this species. While this species may occur in the vicinity both the Alternative 2 interim RLF site and MILCON site, proposed construction activities would occur within a developed military installation. As such, construction

would not reduce the overall amount of available habitat. Potential impacts would be further reduced through implementation of appropriate protection measures. No direct impacts are anticipated. Negligible indirect impacts are expected from noise, ground disturbance, or temporary displacement of prey species during construction.

The PaSFB INRMP outlines recommended management guidelines that the installation implements to reduce impacts to protected species. For the gopher tortoise, these guidelines include (USAF 2022a):

- Avoid relocating gopher tortoises when possible;
- Implementing a gopher tortoise relocation plan when relocating gopher tortoises is necessary;
- Maintain a 25-foot boundary (at a minimum) around all gopher tortoise burrows within the vicinity of operations that have the potential to collapse burrows;
- Identify burrows with high-visibility signs indicating the 25-foot boundary where gopher tortoises would not be relocated during construction or operations;
- Control invasive and exotic species and noxious weeds through early detection, isolation of infested areas, and control individual plants with physical, chemical, or mechanical means, depending on the species.

Due to the location of the Alternative 2 PaSFB site and with implementation of avoidance measures, there would be no anticipated adverse impacts to special status species.

3.4.2.3 Alternative 3 – Peterson SFB

Vegetation

It is expected that all vegetation on the Alternative 3 sites would be removed during the construction of the Proposed Action. However, the removal and/or replacement of vegetation would be carried out in accordance with the INRMP or local regulations applicable to the site. Additionally, time-of-year restrictions would be followed to minimize or prevent any adverse impacts on wildlife and their habitats.

During the construction process, there is a possibility of native vegetation communities and wildlife habitats being affected by the introduction or encroachment of noxious weeds or invasive species. Nevertheless, the contractors would take measures to minimize the introduction or spread of invasive species by following the guidelines outlined in the INRMP and/or local regulations. Once the construction is finished, the site would be revegetated with native species as per the landscape plan to restore the natural ecosystem.

The presence of marginal quality vegetative communities on the sites is a result of existing disturbance and active grounds maintenance, Therefore, the removal of vegetation in these areas would have less than significant adverse effects on the resource and would be managed effectively by adhering to relevant plans and policies.

Wildlife

The implementation of the Proposed Action would lead to the permanent removal of all existing habitat (mainly vegetation) from the chosen site. However, this impact is considered minor since the on-site habitat at the Alternative 3 sites are generally small and of low quality. Moreover, similar habitats are abundant near the proposed sites. The construction process would physically

displace common wildlife species present on the selected site, and the noise and increased human activity during construction may disturb wildlife as well.

Wildlife species that are precocial, such as birds and mammals, are likely to relocate to areas with similar habitats near the site. However, less-mobile species, like certain reptiles and amphibians, could be inadvertently harmed during construction. Although there would be adverse impacts, they would affect individual animals rather than entire populations or species. Hence, the continued propagation of common wildlife populations and species near each site would not be significantly hindered.

Regarding the operation phase, increased human presence and noise associated with the Proposed Action would cause minor disturbances to wildlife around the site. Over time, many wildlife species would adapt to these new conditions or relocate to other areas, resulting in a long-term, less than significant adverse effects on wildlife.

In summary, the construction of the Proposed Action at the Alternative 3 sites would lead to short-term and long-term, less than significant adverse impacts to wildlife due to habitat removal and individual species displacement. Similarly, the operation of the Proposed Action would have a long-term less than significant adverse impact on wildlife due to increased human presence and noise.

Western Burrowing owl

The Proposed Action is not expected to adversely affect this species. While this species has been documented on PeSFB and may occur in the vicinity of the Alternative 3 site, proposed construction activities would occur within a developed military installation. As such, construction would not reduce the overall amount of available habitat. Potential impacts would be further reduced through implementation of appropriate protection measures. Colorado Parks and Wildlife, Department of Natural Resources has released “Recommended Survey Protocol and Actions to Protect Nesting Burrowing Owls”. This guidance document would be enacted as described in section 3.5.2.1.

If burrowing owls are confirmed to be nesting within the Alternative 3 sites, the installation would proceed with construction in accordance with the recommended timing and monitoring measures by the state (CPW, 2021).

With implementation of avoidance measures, implementation of Alternative 3 is not expected to adversely affect western burrowing owls.

3.4.2.4 Alternative 4 – Schriever SFB

Vegetation

Construction of Alternative 4 at SSFB would have direct and less than significant adverse effects on vegetation. Proposed construction activities would occur on approximately 6 acres of vacant land. The site supports limited, low-quality vegetation. While construction would disturb or remove existing vegetation from these 6 acres, no meaningful loss of habitat or impact to overall native vegetation communities would be expected. Removed vegetation would be replaced following construction using native species and seed mixes. Additional minor and temporary disturbance to soils would occur at the proposed interim RLF site where temporary modular structures would be placed for STARCOM personnel as permanent facilities are being constructed. Vegetation

within this area would be removed for the placement of the modular structures and the site would be restored with native vegetation at the completion of facility construction within the 6-acre site. No further impacts to vegetation would be expected during operations of the Proposed Action.

Wildlife

Construction of Alternative 4 at SSFB would have direct and less than significant adverse effects on local wildlife. Construction would remove existing vegetation and disturb wildlife inhabiting the 6-acre MILCON site and within the proposed interim RLF site. However, this area is located within an active military installation, currently experiences human activity, and is bordered by an existing roadway. The limited vegetation currently present within the proposed Alternative 4 site generally represents low-quality habitat for wildlife. Construction would occur in an area with ongoing human activity; therefore, impacts to wildlife, including migratory birds, would be minor, as most species that inhabit areas near the site are either tolerant of humans and vehicle traffic or are able to relocate to nearby areas of suitable habitat. Species may temporarily relocate during construction, but those species that currently utilize the area are likely to return following the construction period and would not be permanently displaced by the increased human activity. No further impacts to wildlife would be expected during operations of the Proposed Action. The change in noise associated with operation would be negligible in relation to the ongoing operations of the installation.

Western Burrowing owl

The Proposed Action is not expected to adversely affect this species. While this species may occur in the vicinity of the proposed MILCON site, potential impacts would be reduced or avoided through implementation of appropriate protection measures. Colorado Parks and Wildlife, Department of Natural Resources has released “Recommended Survey Protocol and Actions to Protect Nesting Burrowing Owls” would be enacted as described in section 3.5.2.1.

If burrowing owls are confirmed to be nesting within the Alternative 4 sites, the installation would proceed with construction in accordance with the recommended timing and monitoring measures by the state (CPW, 2021).

With implementation of avoidance measures, implementation of Alternative 4 is not expected to adversely affect burrowing owls.

3.4.2.5 Alternative 5 – Vandenberg SFB

Implementation of the Proposed Action has the potential to cause less than significant adverse impacts to aquatic wildlife species, particularly vernal pools and the biota that inhabit them.

To prevent or minimize impacts on the federally threatened vernal pool fairy shrimp, which may potentially inhabit areas near the Alternative 5 – MILCON site, surveys would be conducted during the appropriate season to confirm the presence or absence of the fairy shrimp near both the Alternative 5 interim RLF and MILCON sites.

If occupied or potentially suitable vernal pools are identified, they would be clearly marked and avoided before and during construction activities. The contractor responsible for the project would adhere to the measures outlined in the VSFB Programmatic Biological Opinion (USFWS, 2015). Additionally, any other applicable avoidance or mitigation measures that are developed through further consultation between USAF/VSFB, USFWS, and other relevant federal and state regulatory agencies would be followed.

By adhering to these measures, adverse effects on special-status species would be minimized or avoided to the greatest extent possible.

3.4.2.6 No Action Alternative

Under the No-Action Alternative, there would be no implementation of the proposed construction or renovation activities. As a result, there would be no alterations to the biological resource conditions within or adjacent to the specified site boundaries. Ongoing operations would not involve any additional ground disturbance and would not be anticipated to have any effects on local biological resources.

3.5 Noise

3.5.1 Affected Environment

3.5.1.1 Alternative 1 – Buckley SFB

In addition to BSFB's airfield, three other airfields operate within 15 miles of the base. Several major roadways surround the installation, including Interstate 70 (I-70), Interstate 225 (I-225), State Highway 30 (SH-30), and State Highway E470 (SH-E470). As such, aircraft operations and vehicular traffic are the dominant noise sources that contribute to the overall ambient noise environment in the region.

BSFB's airfield generally occupies the southern half of the base and supports numerous aircraft, including fighter jets, cargo and personnel aircraft, and helicopters. Therefore, aircraft operations have the highest potential for noise impacts within the installation. Noise contours from the airfield extend along the alignment of the runway in a northwest-to-southeast manner. Based on past AICUZ studies conducted for BSFB, the 65+ dBA DNL contour extends approximately 1 mile southeast and 1 mile northwest beyond the BSFB boundary, into the City of Aurora (DAF 2011a; City of Aurora 2020). Almost the entirety of the base is located within the 65+ dBA DNL contour or the 60 dBA to 65 dBA DNL contour.

The majority of noise-sensitive receptors within the installation are concentrated in the northwest corner of the installation as these areas are comprised of facilities that provide living and recreational activities and services for military personnel and their families. Off-base, the closest noise-sensitive receptors include residential areas and schools that border the western boundary of the base. Table 3.5-1 presents noise-sensitive receptors within 1,500 feet of the project sites at BSFB.

Table 3.5-1 Closest Noise-Sensitive Receptors to the Project Site at BSFB

Receptor	Direction from Project Site	Distance from Project Site
Proposed MILCON Location (Aspen Corridor)		
Residential (off-base)	southwest	1,200 feet
Proposed Interim RLF Location (Patriot Hall)		
School (K-8) (off-base)	west	600 feet
Residential (on-base)	southwest	650 feet
School (K-8) (off-base)	northwest	950 feet
Child Care Center (on-base)	south	1,500 feet

3.5.1.2 Alternative 2 – Patrick SFB

The primary sources of noise at PaSFB and the surrounding area are vehicular traffic on nearby highways, State Highway A1A (SH-A1A) and State Route 404 (SR-404), training exercises, and aircraft activities at the on-base airfield. The airfield occupies a large portion of the installation and supports flight operations and training exercises. Aircraft flyovers from the airfield can result in intermittent, acute increases in noise levels over short periods of time.

An AICUZ noise study was updated for PaSFB in 2018. The noise modeling results indicated that noise contours around the airfield range from 65 dB to 80+ dB DNL and that noise levels exceeding 65 dBA DNL occur almost entirely within the PaSFB property boundary, on the open water, or public road corridor right-of-way (45th Space Wing, 2018). The study also noted that no residences (on- or off-base) were included in any noise contours above 65 dB DNL. Several buildings along the PaSFB flight line, which are not generally considered to be noise-sensitive are exposed to noise levels greater than 65 dBA DNL. The northern portion of Tortoise Island, which is located 0.5 mile from the southern tip of the installation's airfield, is within the 59-65 dBA DNL contour.

Numerous noise-sensitive receptors are located within PaSFB, in the north and south of the airfield. Receptors include residential areas, childcare facilities, a school, and outdoor recreational facilities. Off-base residential areas are located along SH-A1A, adjacent to the installation's southern boundary. Other off-base receptors include beach users along the Atlantic coastline. Table 3.5-2 presents noise-sensitive receptors within 1,500 feet of the project sites at PaSFB.

Table 3.5-2 Closest Noise-Sensitive Receptors to the Project Sites at PaSFB

Receptor	Direction from Project Site	Distance from Project Site
Proposed MILCON Location (North of Buildings 984 and 989)		
Beach (off-base)	east	300 feet
Proposed Interim RLF Location (Communications/Utility Infrastructure Area)		
Lodging (on-base)	west	300 feet
Residential (on-base)	north	300 feet
Outdoor recreation (on-base)	southwest	950 feet
Beach (off-base)	east	1,000 feet
Chapel (on-base)	southeast	1,200 feet
Theater (on-base)	southeast	1,300 feet

3.5.1.3 Alternative 3 – Peterson SFB

The Colorado Springs Municipal Airport abuts the southern property boundary of PeSFB and the installation shares the airport's runways. As such, the primary source of noise at PeSFB and the surrounding areas are from military and civilian aircraft operations. Other sources of noise in the vicinity of PeSFB include vehicular traffic, construction activities, and equipment operation.

Although PeSFB does not have an AICUZ program, noise zones have been delineated for the airport. Within the property boundary of the installation, noise levels generated at the airport range from 60 dBA to 75 dBA DNL (DAF, 2011b). The majority of high transient noise levels is near the southern boundary of PeSFB where the base shares its boundary with the city's airport; within this area, portions of PeSFB are located within the 65+ dBA DNL noise contour. Noise-sensitive receptors are located within this 65+ dBA DNL contour including on-base outdoor recreational

facilities in the southwest corner and trails in the southeast corner of the installation. There are some on-base family housing and community buildings (i.e., a childcare facility and a chapel) that are located at or slightly outside the 65 dBA DNL noise contour. Table 3.5-3 presents noise-sensitive receptors within 1,500 feet of the project sites at PeSFB.

Table 3.5-3 Closest Noise-Sensitive Receptors to the Project Sites at PeSFB

Receptor[1]	Direction from Project Site	Distance from Project Site
PeSFB Alternative 1 Proposed MILCON Location (Command West Area, West of Building 1840)		
Child development center (on base)	south	300 feet
Proposed Interim RLF Location (Base Exchange/Old Commissary Area)		
Dorms (on base)	southwest	250 feet
Library (on base)	south	500 feet
Youth center (on base)	east	600 feet
Park (on base)	east	650 feet
Apartments (on base)	west	700 feet
Child development center (on base)	north	900 feet
Residential (on base)	east	900 feet
Lodging (on base)	southeast	1,200 feet

3.5.1.4 Alternative 4 – Schriever SFB

SSFB is located in a remote region where predominant noise sources are from vehicles and aircraft. Although there is no airfield on SSFB, the project vicinity experiences some increased noise levels from aircraft as it is located near other major installations that conduct flight activities (e.g., PeSFB) and, additionally, to the Colorado Springs Airport. Based on a noise survey of the developed portion of the base, typical noise levels generally range from 30 dBA to 60 dBA (DAF, 2022a). The primary source of consistent elevated noise at SSFB and vicinity is from vehicle traffic on base and on SH-94 (located approximately 2 miles north of the project site).

Noise-sensitive receptors at SSFB are located in the northern portion of the installation and include a childcare facility, a medical center, outdoor recreational facilities, and residential areas. Table 3.5-4 presents noise-sensitive receptors within 1,500 feet of the project sites at SSFB.

Table 3.5-4 Closest Noise Receptors to the Project Sites at SSFB

Receptor	Direction from Project Site	Distance from Project Site
Proposed MILCON Location (Western SSFB)		
Childcare facility (on-base)	northeast	1,300 feet

3.5.1.5 Alternative 5 – Vandenberg SFB

VSFB is surrounded by and includes large areas of undeveloped, vegetated land with relatively minimal noise sources. Existing noise levels at the installation are relatively low and primarily driven by wind as the coastline is less than 5 miles from the center of the base. Other primary noise sources include on-base industrial facilities, vehicle traffic, and railcar traffic. The Vandenberg airfield is located adjacent to the installation's western boundary, and aircraft activities and rocket launches, though less frequent, also contribute to increases in noise levels in the region. A review of a noise exposure map of the Vandenberg airfield indicates that noise levels can range from 60 dBA to 80 dBA DNL within the southern portions of the base (west of

13th Street) (Santa Barbara County 2012); however, no noise-sensitive receptors are located in this location.

The communities of Lompoc and Vandenberg Village are located approximately 6 miles and 4 miles southeast from the developed portion of the base, respectively. The majority of on-base noise-sensitive receptors are located in the northern area of the developed base and include family housing, schools, and outdoor recreational facilities. . Table 3.5-5 presents noise-sensitive receptors within 1,500 feet of the project sites at VSFB.

Table 3.5-5 Closest Noise-Sensitive Receptors to the Project Sites at VSFB

Receptor	Direction from Project Site	Distance from Project Site
Proposed MILCON Location (California South)		
Military school (on-base)	east	500 feet
Camping facility (on-base)	west	1,000 feet
Proposed Interim RLF Location (Building 11777/Parade Ground area)		
Lodge (on-base)	north	800 feet
Residential (on-base)	north	1,400 feet

3.5.2 Environmental Consequences

3.5.2.1 General

Construction

Table 3.5-6 presents typical construction equipment and corresponding noise levels at different distances. To estimate potential noise levels at nearby receptors, a conservative estimate of 90 dBA (at 50 feet) was used for the analysis by reviewing the ACAM analysis for typical construction equipment that could be used (see Section 3.1.3), combining noise levels of several pieces of typical construction equipment and assuming simultaneous use (FTA, 2018; FHWA, 2006). At 500 feet, this combined construction noise level attenuates to approximately 57 dBA indoors (with windows open); at 1,500 feet, it attenuates to approximately 62 dBA outdoors. As such, for purposes of this EA, noise-sensitive receptors located at or within 500 feet (for indoor receptors) and 1,500 feet (for outdoor receptors) from a proposed project site were identified since any receptor within these areas could experience noise levels resulting in disturbance or annoyance.

Table 3.5-6 Estimated Noise Levels from Construction Activities

Equipment	Typical Noise Level at 50 feet (dBA)	Typical Noise Level at 500 feet (dBA)	Typical Noise Level at 1,000 feet (dBA)	Typical Noise Level at 1,500 feet (dBA)
Front Loader	80	60	54	50
Backhoe, excavator	80	60	54	50
Roller	85	65	59	55
Grader	85	65	59	55
Scraper	85	65	59	55
Truck	84	64	58	54
Concrete mixer	85	65	59	55

Source: FTA 2018
dBA = A-weighted decibel

Construction of the Proposed Action would result in temporary increases in ambient noise levels in the vicinity of the project sites on an intermittent basis for all alternatives. Adverse noise impacts would occur over a period of three to six months for the proposed interim RLFs and 12 to 18 months for the permanent MILCON facilities.

Noise-generating activities would include the use of construction equipment onsite and vehicles accessing and exiting the project site. The specific types of construction equipment and methods are anticipated to be similar to those occurring under standard building construction activities. Activities associated with outdoor construction include ground clearing, excavation/grading, and finishing. These noise-generating activities would involve the use of heavy construction equipment similar to those occurring under standard building construction activities as listed in Table 3.5 -6. As the construction of the interim facilities would not require as intensive construction as the permanent facilities, noise levels would not be as high and would occur over a shorter period; thus, overall noise impacts from the interim RLF facilities would be considerably less than those for the proposed MILCON facilities.

Adverse noise impacts would be minimized to the extent possible by standard noise control measures, such as project scheduling (e.g., limiting loud construction activities to standard working hours and within a typical 8-hour workday). OSHA regulations (e.g., wearing hearing protection and limiting exposure) would be followed to reduce the impact of noise on construction workers. The increases in noise levels would be intermittent and short-term, occurring only during the length of the construction phase and during typical working hours.

Vehicles from commuting construction workers and truck shipments of materials, equipment, and wastes would intermittently increase ambient noise levels along major transportation routes. This increase would be temporary and restricted to daytime hours, to the extent practicable. As such, projects under the Proposed Action would result in temporary intermittent increases in noise levels along the major transportation routes. Adverse noise impacts from the additional vehicles would be short-term and less than significant.

Because noise levels rapidly attenuate with distance, any potential receptors beyond 500 feet (for indoor receptors) and 1,500 feet (for outdoor receptors) would experience less than significant adverse noise impacts from construction activities. For most of the on-base receptors and residential areas located adjacent to an installation, any increased noise levels during construction would be less than or would not be substantially different from noise levels resulting from current aircraft operations.

For noise-sensitive receptors located within 500 feet (for indoor receptors) and 1,500 feet (for outdoor receptors), overall noise impacts resulting from construction of the Proposed Action would be short-term and less than significant. Noise impacts are discussed in greater detail for each of the potential alternatives in the following subsections.

Operations

Operations of the Proposed Action is generally not expected to result in any substantial elevated increases in noise levels. The greatest noise-generating activity would be on major transportation corridors due to increased traffic volumes from new personnel commuting to/from the installation. As discussed in the following subsections below for each alternative, the intensity and magnitude of noise impacts from traffic would depend on the alternative chosen.

3.5.2.2 Alternative 1 – Buckley SFB

Construction

Under Alternative 1, the Proposed Action would consist of the construction of interim RLF facilities and permanent MILCON facilities.

There are no indoor or outdoor noise-sensitive receptors within 500 feet and 1,500 feet, respectively, of the proposed project sites. Therefore, adverse noise impacts to the closest noise-sensitive receptors presented in Table 3.5-1 would be short-term and less than significant during construction.

Intermittent increases in noise levels from trucks and commuting vehicles would occur on roadways leading up to and within the installation. Overall adverse noise impacts on the roadways are expected to be short-term and less than significant as the additional volume of vehicles would be relatively low.

Operations

During operations, the only substantial noise source would be from vehicles of commuting personnel. Under the Proposed Action, ambient noise levels along major transportation corridors on- and off-base would increase from 350 new personnel; though, the increased noise levels would generally be limited to the a.m. and p.m. peak commuting periods. Traffic noise would result in long-term and less than significant adverse noise impacts under this alternative.

3.5.2.3 Alternative 2 – Patrick SFB

Construction

Under Alternative 2, the Proposed Action would consist of the construction of interim RLF facilities and permanent MILCON facilities north and east of PaSFB's airfield, respectively.

The closest indoor noise-sensitive receptors to the proposed interim RLF facilities include a lodging facility and a residential area at a 300-foot distance. At this distance, the indoor and outdoor noise levels would be 61 dBA (with windows open) and 746 dBA, respectively. Construction of the interim facilities would be detected at these receptors but within levels that are considered compatible. Additionally, elevated noise levels would be substantially less and occur over a shorter timeframe at this location as the construction would require less intensive construction activities compared to the permanent facilities. The beach and outdoor recreational areas may detect construction noise from the interim facilities at approximately 664 dBA, which would be similar to noise levels resulting from aircraft activities at the installation's airfield.

The closest noise-sensitive receptor to the proposed MILCON facilities would be off-base beach users located at a distance of 300 feet with an estimated noise level of 764 dBA. Although a 746-dBA noise level could cause annoyance for the beach users, the actual noise level would likely be substantially less as there is a security wall, existing buildings, and a row of vegetation between the beach and the project site that would act as sound buffers and considerably reduce construction noise. Overall, implementation of the Proposed Action at PaSFB would result in short-term and less than significant adverse noise impacts.

Intermittent increases in noise levels from trucks and commuting vehicles would occur on roadways leading up to and within the installation. Overall adverse noise impacts on the roadways

are expected to be short-term and less than significant as the additional volume of vehicles would be relatively low.

Operations

During operations, the only substantial noise source would be from vehicles of commuting personnel. Under the Proposed Action, ambient noise levels along major transportation corridors on- and off-base would increase from 350 new personnel; however, the increased noise levels would be generally limited to the a.m. and p.m. peak commuting periods. Traffic noise would result in long-term and less than significant adverse noise impacts under this alternative.

3.5.2.4 Alternative 3 – Peterson SFB

Construction

Under this alternative, the Proposed Action would require the construction of interim RLF facilities on the 9-acre site of the former commissary and base exchange. New construction for permanent beddown of HQ STARCOM would be in the Command West area located west of Building 1840. This 4-acre site would be prepared for military construction of a two- to four-story building, which could support the proposed HQ STARCOM.

The closest noise-sensitive receptors to the proposed interim RLF facilities include a dormitory and a library, which would experience indoor noise levels at 63 dBA and 57 dBA (with windows open), respectively; a nearby park and the youth center would experience an outdoor noise level at 70 dBA. At these noise levels, users of these facilities may detect intermittent increases in noise levels; however, the increases would be low and would occur over a relatively short timeframe due to less intensive construction from the interim facilities.

The closest noise-sensitive receptor to the proposed MILCON facilities is a childcare facility that would experience indoor and outdoor noise levels at 61 dBA (with windows open) and 746 dBA, respectively. At 746 dBA, noise levels would be detected during outdoor use but would remain within the threshold of noise compatibility. To minimize noise disturbances at the childcare facility, DAF could consider notifying the childcare facility of the project schedule and conducting major construction activities during times when outdoor use would not occur. Additional measures could include requiring contractors to utilize equipment installed with sound-reducing features, such as shrouds, covers, and mufflers, and installing temporary barriers to aid in attenuating construction noise. With BMPs in place and considering the temporary nature of the construction, adverse noise impacts would be considered short-term and less than significant for this receptor.

Intermittent increases in noise levels from trucks and commuting vehicles would occur on roadways leading up to and within the installation. This could result in loud noise and traffic safety concerns at the childcare facility. Overall adverse noise impacts on the roadways are expected to be short-term and less than significant as the additional volume of vehicles would be relatively low.

Operations

During operations, the only substantial noise source would be from vehicles of commuting personnel. No increases in personnel would occur under this alternative as HQ STARCOM already is located at the PeSFB. Therefore, the Proposed Action would not increase ambient noise levels and no adverse noise impacts would occur under this alternative.

3.5.2.5 Alternative 4 – Schriever SFB

Construction

Under Alternative 4, the Proposed Action would consist of the construction of interim RLF facilities and permanent MILCON facilities in the western portion of SSFB, near the west entrance of the base. As presented in Table 3.6-5 the closest noise-sensitive receptor would be a childcare facility with outdoor facilities located approximately 1,300 feet northeast of the proposed MILCON site which could experience a noise level of 49 dBA indoors (with windows open) and 64 dBA outdoors. These noise levels are considered only slightly higher than ambient noise conditions and construction noise would not be considered a nuisance. Therefore, overall, implementation of the Proposed Action at SSFB would result in short-term and less than significant adverse noise impacts.

Intermittent increases in noise levels from trucks and commuting vehicles would occur on roadways leading up to and within the installation. Overall adverse noise impacts on the roadways are expected to be short-term and less than significant as the additional volume of vehicles would be relatively low.

Operations

During operations, the only substantial noise source would be from vehicles of commuting personnel. Under the Proposed Action, ambient noise levels along major transportation corridors on- and off-base would increase from 350 new personnel; however, the increased noise levels would generally be limited to the early morning and late afternoon peak commuting periods. Traffic noise would result in long-term and less than significant adverse noise impacts under this alternative.

3.5.2.6 Alternative 5 – Vandenberg SFB

Construction

Under this alternative, the Proposed Action would consist of the construction of interim RLF facilities and permanent MILCON facilities.

There is a military school located 500 east of the proposed MILCON site that could experience a 57-dBA noise level indoors (with windows open) and is not expected to cause a noise nuisance. Construction activities could result in an outdoor noise level of 664 dBA at the camping facility, which could be detected by users at this facility. To minimize noise disturbances, DAF would consider notifying potential campground users of the project schedule and conducting major construction activities during times of reduced campground usage (e.g., limiting peak construction activities to daylight hours). Additional measures could include requiring contractors to utilize equipment installed with sound-reducing features, such as shrouds, covers, and mufflers, and installing temporary barriers to aid in attenuating construction noise. With BMPs in place and considering the temporary nature of the construction, adverse noise impacts would be considered short-term and less than significant for this receptor.

There are no additional indoor or outdoor noise-sensitive receptors within 500 feet and 1,500 feet, respectively, of the proposed project sites. Therefore, adverse noise impacts to the remaining noise-sensitive receptors presented in Table 3.5-5 would be short-term and negligible during construction.

Intermittent increases in noise levels from trucks and commuting vehicles would occur on roadways leading up to and within the installation. Overall adverse noise impacts on the roadways are expected to be short-term and less than significant as the additional volume of vehicles would be relatively low.

Operations

During operations, the only substantial noise source would be from vehicles of commuting personnel. Under the Proposed Action, ambient noise levels along major transportation corridors on- and off-base would increase from 350 new personnel; though, the increased noise levels would generally be limited to the a.m. and p.m. peak commuting periods. Traffic noise would result in long-term and less than significant adverse noise impacts under this alternative.

3.5.2.7 No Action Alternative

Under the No Action Alternative, permanent beddown of HQ STARCOM would not occur, and no related facilities would be built or renovated at BSFB, PaSFB, PeSFB, SSFB, or VSFB. Therefore, there would be no additional impacts to the ambient noise environment at these sites.

3.6 Transportation

3.6.1 Affected Environment

3.6.1.1 Alternative 1 – Buckley SFB

BSFB is located in the City of Aurora, Colorado, which is a suburb adjacent to the eastern side of Denver, Colorado, itself a major metropolitan area. As such, the western area surrounding BSFB is relatively developed and consists of many busy transportation corridors that serve the base. Major east-west transportation corridors surrounding the base include I-70; SH-30/6th Avenue; Stephen D. Hogan Parkway; Mississippi Avenue; and Jewell Avenue/Iliff Avenue. Major north-south transportation corridors include I-225; Buckley Road/Airport Boulevard; SH-E470; and SH-30/Gun Club Road/Aurora Parkway. 6th Avenue and Mississippi Avenue serve as the direct routes into BSFB as the installation's entry control points are located on these roadways. Additionally, SH-E470 provides an alternative beltway route around the eastern portion of Denver's metropolitan area on the east side of the installation. Figure 3.6-1 presents BSFB's main transportation network.

Figure 3.6-1 BSFB Transportation Network

Table 3.6-1 presents the AADT on the key road segments serving BSFB. Traffic volumes on the public roadways surrounding BSFB have generally been declining since 2019. Arapahoe County has identified a couple of traffic intersections near BSFB that exhibit high levels of congestion, delay and/or crash history: 1) Mississippi Avenue with Buckley Road and 2) Tower Road with Powerline Trail/Evans Avenue (Arapahoe County 2021). Additionally, the county has identified the following corridors near the installation as being highly congested: 6th Avenue/Stephen D. Hogan Parkway; Buckley Road; Gun Club Road/Aurora Parkway; and I-225.

Table 3.6-1 Annual Average Daily Traffic on Key Segments at BSFB

Street (Location)	Number of Lanes	2019 AADT (vehicles per day)	2021 AADT (vehicles per day)
SH-30/6th Avenue (west of Buckley Road/Airport Boulevard)	4	21,000	17,000
SH-30/6th Avenue (near/west of BSFB's Telluride Gate)	3	16,000	15,000
SH-30/6th Avenue (just north of intersection with SH-E470)	2	11,000	9,300
I-225 (nearest to the intersection of I-225 and Mississippi Avenue	8	152,000	160,000
SH-E470 (south of intersection with SH-30/Gun Club Road)	6	38,000	31,000

AADT – Annual Average Daily Traffic; BSFB – Buckley Space Force Base; I – Interstate; SH – State Highway
Source: CDOT 2023; CDOT 2019

BSFB has three entry control points: Mississippi Gate, 6th Avenue Gate, and the Telluride Gate. The Mississippi Gate is the main entrance and is located on the western central border of the base, near the intersection of Mississippi Avenue and Alameda Parkway. It is open 24 hours per day, 7 days per week. The 6th Avenue Gate and Telluride Gate are both located on SH-30, along the northern boundary of the base. Trucks and vans are required to use the 6th Avenue Gate as there is an inspection point at this entrance. This gate is open weekdays from 5 a.m. to 6 p.m. and weekends/holidays from 5 a.m. to 5 p.m. Currently, the Telluride Gate is closed until further notice (USSF, 2023a).

On-base, the main roadways that interconnect portions of the base include Aspen Street, Steamboat Avenue, Salida Way, and Breckenridge Avenue. Aspen Street traverses from the northern portion of the base, beginning at the 6th Avenue Gate, to the southern portion at the Mississippi Gate. Aspen Street is the installation's main travel corridor as it provides access to the housing facilities, commercial services, administrative, and operational activities and generally provides access to the other connector roads throughout the base. The proposed project sites are located on Powder Horn Street and Camp Hale Way.

3.6.1.2 Alternative 2 – Patrick SFB

PaSFB is located on the east coast of central Florida and is situated on a barrier island with the Banana River and Indian River directly to the west and the Atlantic Ocean on the east, separated by State Highway A1A (SH-A1A). Access to the base is mainly provided by SH-A1A and State Route 404 (SR-404). SH-A1A traverses in a north-south direction along the eastern border of the base and separates the main installation from the beach areas along the coastline. SR-404 is a causeway that traverses in an east-west direction along the southern border of the installation and connects the mainland to PaSFB and SH-A1A. This causeway has a partial interchange with SR-513, with an eastbound exit ramp and a westbound entrance ramp. SR-513 is a major north-south thoroughfare on the island and connects to PaSFB's southern entry point. Figure 3.6-2 presents PaSFB's main transportation network.

Figure 3.6-2 PaSFB Transportation Network

AADT data for these public roadways are presented in Table 3.6-2. Traffic volumes on these roadways substantially decreased since 2019 and have remained relatively low (FDOT, 2023), which likely resulted from Coronavirus disease restrictions implemented at the installation.

Table 3.6-2 Annual Average Daily Traffic on Key Roadway Segments at PaSFB

Street (Location)	Number of Lanes	2019 AADT (vehicles per day)	2022 AADT (vehicles per day)
SH-A1A (between SR-404 and Orlando Avenue, north of PaSFB)	4	21,500	16,800
SR-404 (east of South Gate)	4	22,000	21,000
SR-404 (west of South Gate)	4	54,000	46,000
SR-513 (south of SR-404)	4	16,300	14,000

Source: FDOT, 2023
AADT – Annual Average Daily Traffic; PaSFB – Patrick Space Force Base; SH-A1A – State Highway A1A; SR-404 – State Route 404; SR-513 – State Route 513
Source: FDOT, 2023

PaSFB has three entry control points (controlled gates) for vehicle and pedestrian access. The Main Gate/East Gate provides access from SH-A1A and is in the northern portion of the base at the intersection of SH-A1A and Jupiter Street (on-base). The South Gate provides access from SR-513 along the southern border of the base at the intersection SR-513 and South Patrick Drive (on-base). A Commercial Vehicles Gate is located on SH-A1A, approximately 1 mile north of SR-404.

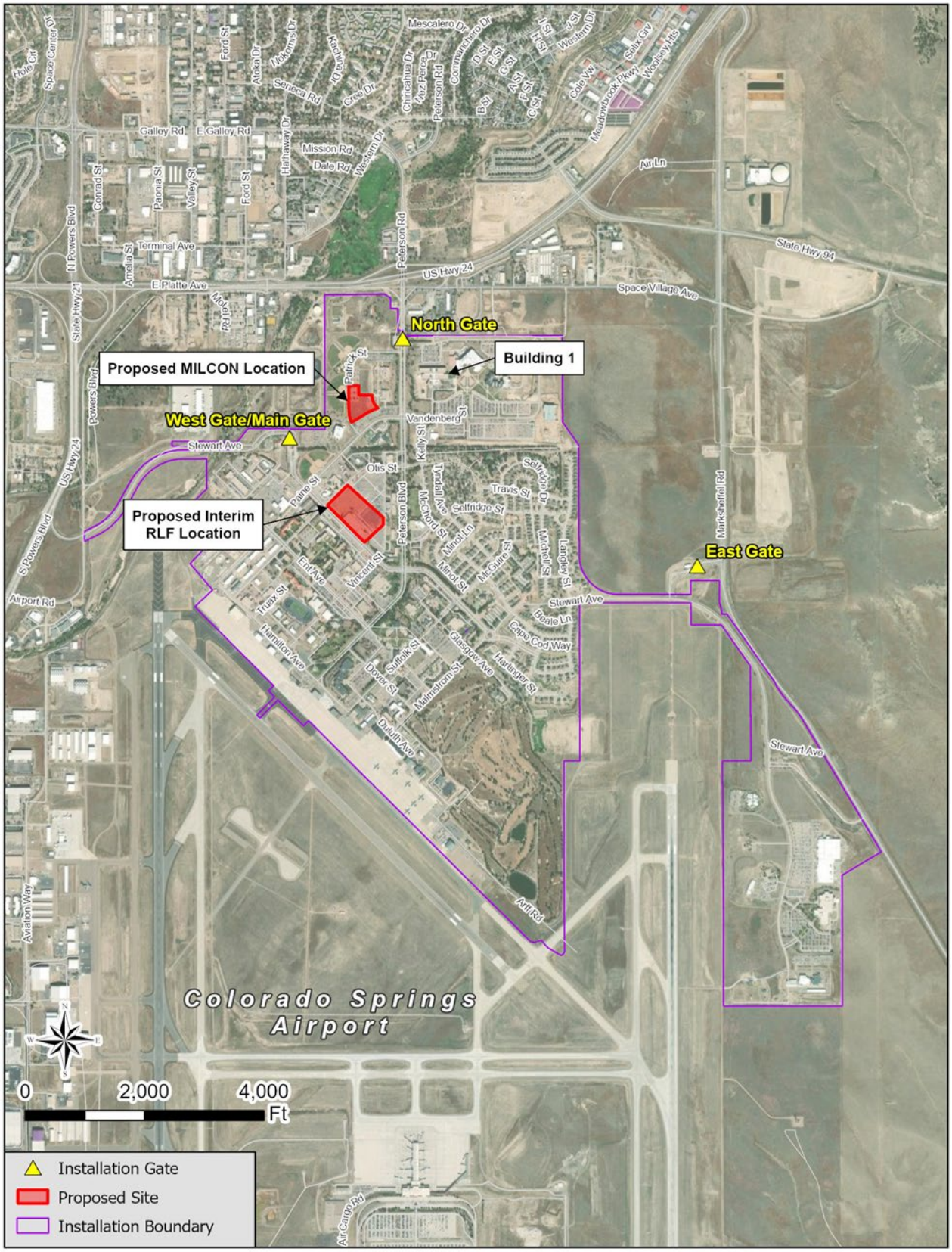
On-base, South Patrick Drive is the main arterial that carries the majority of the north-south traffic and connects most areas of the base. Several smaller connector roads off of South Patrick Boulevard provide access to various parts of the installation. The proposed project sites are located at the intersection of Matador Street and Spacelift Avenue and on Tech Road.

Access to support functions in the south is constrained by the location and configuration of South Gate. Traffic congestion during peak hours creates long queues onto access roadways and into adjacent neighborhoods. There are proposed projects to improve the transportation infrastructure that would address congestion issues at PaSFB, including the construction of a new gate on SH-A1A (near Matador Street), a new intersection to accommodate the new gate, and a multi-use pathway that would connect the new gate to South Gate (DAF, 2022a).

3.6.1.3 Alternative 3 – Peterson SFB

PeSFB is located in the eastern portion of the Colorado Springs, Colorado metropolitan area and is regionally accessible via US-24. In addition to sharing the local public roadway system, the base shares its southern boundary with Colorado Springs Airport. Regional access to PeSFB is provided by US-24 from the north and west. SR-94 intersects US-24 approximately 0.5-mile northeast of the base and connects PeSFB to SSFB, approximately 9 miles east. Figure 3.6-3 presents PeSFB's main transportation network.

Figure 3.6-3 PeSFB Transportation Network



AADT data for key public road segments are presented in Table 3.6-3. Traffic volumes on these roadways have declined since 2019.

Table 3.6-3 Annual Average Daily Traffic on Key Roadway Segments at PeSFB

Street (Location)	Number of Lanes	2019 AADT (vehicles per day)	2021 AADT (vehicles per day)
US-24 (near its intersection with Peterson Boulevard)	4	45,000	40,000
SH-94 (near its intersection with Airport Road)	6	64,000	61,000
SH-94 (east of Marksheffel Road)	2	9,800	9,400

Source: CDOT, 2023; CDOT, 2019AADT – Annual Average Daily Traffic; PeSFB – Peterson Space Force Base; SH-94 – State Highway 94; US-24 – U.S. Highway 24

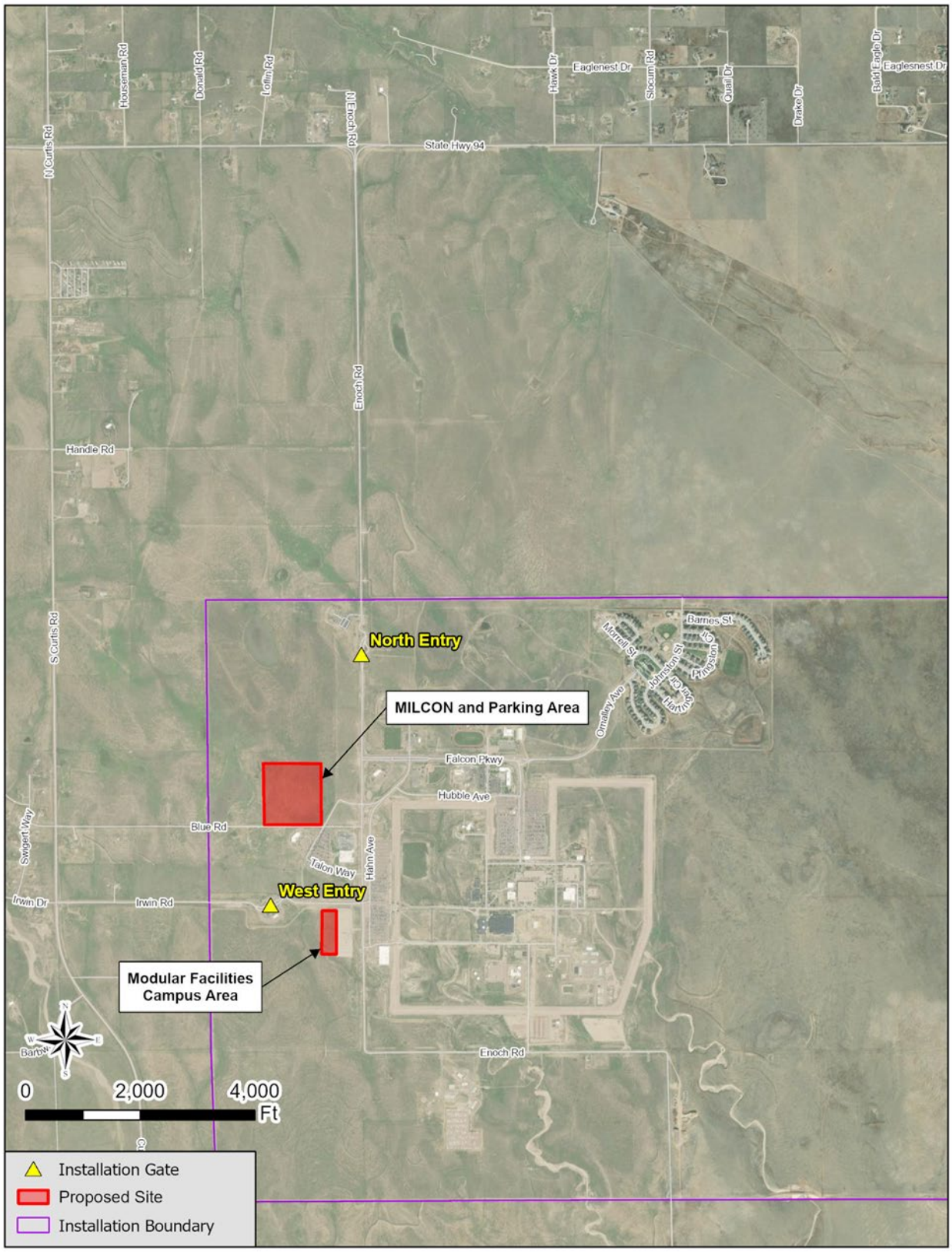
Controlled entry points to PeSFB are located on Stewart Avenue (West Gate), Peterson Boulevard (North Gate), and Marksheffel Road (East Gate), all of which are accessible from US-24. The West Gate is considered the main entrance into PeSFB and also includes inspection for commercial vehicles. There is an expansive roadway network within PeSFB that provides access throughout the installation. Stewart Avenue and Peterson Boulevard, which provide entry into the installation, also serve as the primary on-base roadways. The proposed project sites are located on Ent Avenue and Otis Street.

3.6.1.4 Alternative 4 – Schriever SFB

SSFB is located approximately 4 miles east of Colorado Springs city limits and nine miles east of PeSFB. Regional access to SSFB is provided by SH-94 to Enoch Road and South Curtis Road. SH-94, located 1.5 miles north of the base, is the primary access route that connects SSFB with Colorado Springs and other El Paso County communities where installation personnel reside.

SH-94 is a two-lane highway that is located just west of North Enoch Road. Over the past few years, the AADT volume on SH-94, near its intersection with North Enoch Road, has remained steady at 11,000 vehicles per day (CDOT, 2018; 2019; 2020; 2021). Recent improvements along the SH-94 corridor between PeSFB and Enoch Road were completed to reduce crashes and improve road safety, including construction of a westbound passing lane, intersection signalization, an improved turn movement, and installation of new security cameras at Marksheffel Road and Enoch Road (CDOT, 2022). Figure 3.6-4 presents SSFB's main transportation network.

Figure 3.6-4 SSFB Transportation Network

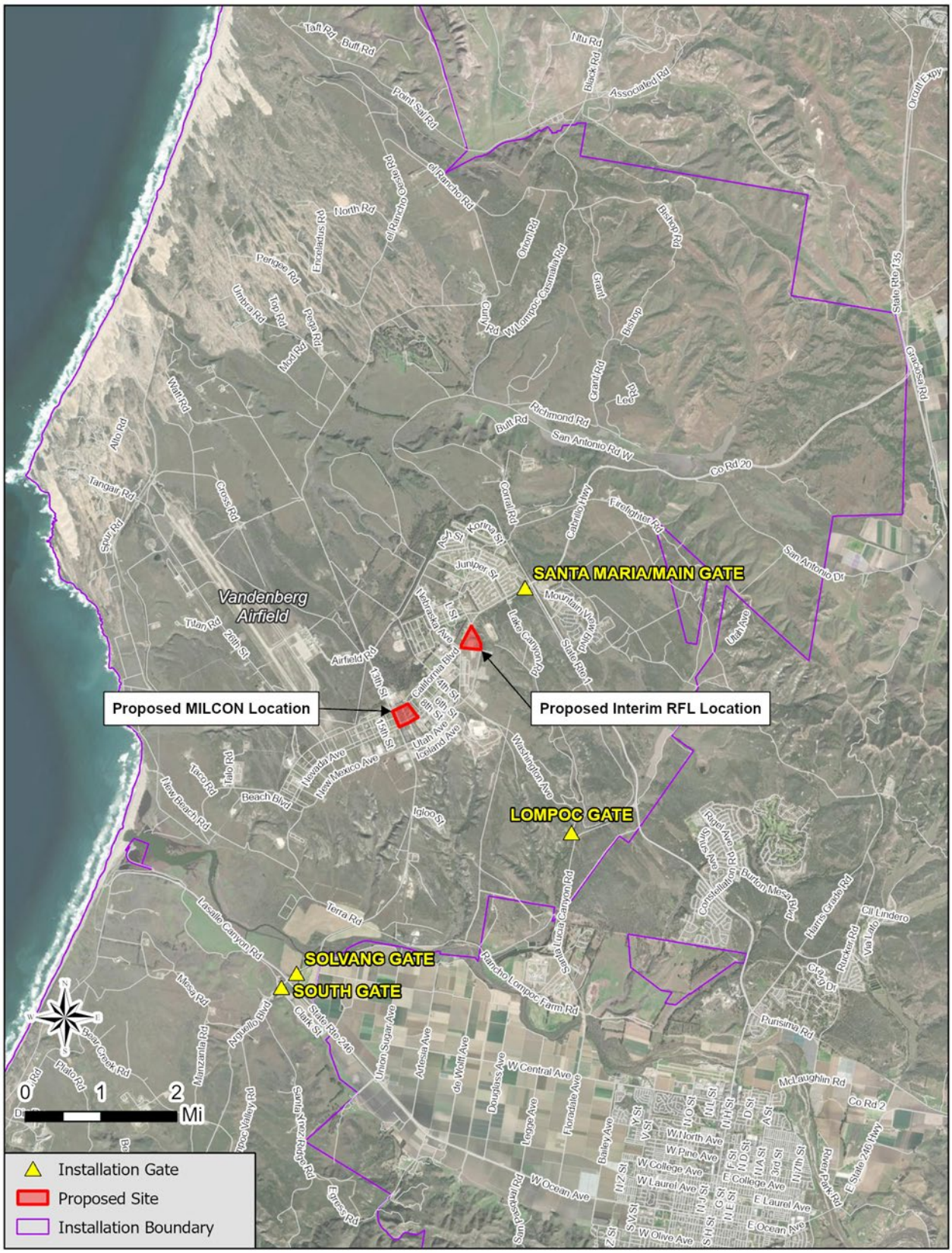


The base has two entry control points, the North Entry and the West Entry. The North Entry is located on Enoch Road. The West Entry is located on Irwin Road and 0.6 mile east of South Curtis Road. Other roadways on and adjacent to SSFB include Blue Road, South Page Road, Handle Road, and Irwin Road. The project sites are located on Irwin Road and Blue Road. Irwin Road is a four-lane, paved road and Blue Road is an unpaved road.

3.6.1.5 Alternative 5 – Vandenberg SFB

VSFB is located on the central coast of California, just west of the City of Lompoc, and bounded by State Route 1 (SR-1) to the east and the Pacific Ocean to the west. SR-1 is a north-south route that exists throughout the majority of coastal California and provides regional access from Los Angeles to San Francisco and also provides local access between VSFB and Lompoc to the south and Santa Maria to the north. Other key regional transportation corridors include SR-246 and SR-135, both of which connect to SR-1. Local public roadways on and adjacent to VSFB include California Boulevard, Lompoc-Casmalia Road, Utah Street, Washington Avenue, SR-246/West Ocean Avenue, 13th Street, and Santa Lucia Canyon Road. Figure 3.6-5 presents VSFB's main transportation network.

Figure 3.6-5 VSFB Transportation Network



AADT data for key public road segments are presented in Table 3.6-4. Traffic volumes on SR-1 near VSFB have generally been declining since 2018 (Caltrans, 2018; Caltrans, 2021).

Table 3.6-4 Annual Average Daily Traffic on Key Roadway Segments at VSFB

Street (Location)	Number of Lanes	2018 AADT (vehicles per day)	2021 AADT (vehicles per day)
SR-1 (at intersection with Santa Lucia Canyon Road)	4	16,500	15,500
SR-1 (at VSFB Main Gate)	4	16,900	16,500
SR-1 (at intersection with SR-135)	4	19,800	20,500

AADT – Annual Average Daily Traffic; SR-1 – State Route 1; VSFB – Vandenberg Space Force Base
Source: Caltrans 2021; Caltrans 2018

There are four entry control points at VSFB: Santa Maria Gate; Lompoc Gate; Solvang Gate; and South Gate. The Santa Maria Gate is the main entrance into VSFB and is located on the on-base roadway, California Boulevard. Commercial vehicles are directed to Lompoc Gate for inspection. The major on-base roads that serve the installation include California Boulevard, Washington Avenue, Utah Avenue, and New Mexico Avenue. California Boulevard serves as the installation's primary road as it interconnects with most of the smaller main collectors. The proposed project sites are located off of California Boulevard (between 12th Street and 10th Street) and at the intersection of California Boulevard and Nebraska Avenue.

3.6.2 Environmental Consequences

3.6.2.1 All Alternatives

Construction

Construction of new facilities would result in temporary increases in construction-related traffic from commuting workers and truck transport of materials, equipment, and waste at the project sites. The number and frequency of vehicles traveling to and from the project sites depends on the site selected and the facility design process. As such, this information remains unknown at this time. Based on the size of the proposed permanent facilities, it is estimated that the number of daily vehicles traveling to and from the proposed project sites during construction would likely be fewer than 100 and that construction of the interim facilities would require less workers and trucks. As a result of increased traffic volumes during construction, there could be slight increases in congestion, delays, and road safety hazards, though this impact would generally be limited to peak commuting hours.

Oversized load trucks may be required to haul prefabricated modular building components to the proposed interim RLF site. In such cases, oversized load truck trips would use appropriate haul routes (e.g., designated Oversize/Overweight routes); be minimized to the fewest trips practicable; be accompanied by marked escort vehicles in accordance with applicable federal, state, and local requirements; and when practicable, occur outside of peak morning and evening commuting periods to minimize disruption of local traffic.

To manage construction-related traffic, the contractor would implement and adhere to a project-specific Transportation Management Plan (TMP) that would specify appropriate routes for

construction-related vehicles to follow to and from an installation. The TMP would also identify appropriate parking and staging areas for construction vehicles and equipment on-site.

It is expected that most construction activities would occur during a standard working schedule, Monday through Friday between 7 a.m. and 5 p.m. To the extent possible, high volumes of anticipated construction traffic (e.g., during large concrete pours) would be scheduled outside of peak morning and evening commuting hours to minimize disruption to local traffic on and outside the selected installation.

It is expected that increases in traffic at an installation would be temporary, within the capacity of the existing vehicular transportation networks. Overall, construction would have short-term, less than significant adverse impacts on transportation resources under all Proposed Action alternatives.

Operations

Operation of the Proposed Action would result in increased traffic volumes at and near the installation from new personnel under all alternatives, except for Alternative 3 (PeSFB), which would experience no traffic impacts. Overall, any increases in additional traffic from commuting personnel would result in long-term and less than significant adverse impacts on transportation resources.

3.6.2.2 Alternative 1 – Buckley SFB

Construction

Under this alternative, the Proposed Action would consist of the construction of new interim RLF facilities and permanent MILCON facilities. It is estimated that construction-related vehicles traveling to/from the installation would be less than 100 vehicles per day. Contractor vehicles would be required to access the installation via the 6th Avenue Gate as truck inspection occurs at this entrance.

It is expected that onsite and local roadways would have the capacity to handle the temporary increase in construction traffic, especially considering the recent decline in traffic volumes since 2019 on most of the key roadways. Adverse traffic impacts on nearby roadways are expected to be short-term and less than significant during construction.

Operations

During normal operating conditions under this alternative, increases in traffic volumes would result from the 350 new personnel commuting to/from BSFB. The new personnel could generate 700 additional daily vehicle trips (assuming 2 vehicle trips from each of the 350 workers). Although it is currently unknown where new personnel would reside and what their traffic patterns would be, the 700 additional daily trips were applied to the road segments presented in Table 3.6-5 for conservative estimates.

Table 3.6-5 New Daily Traffic on Key Roadway Segments at BSFB

Street (Location)	Number of Lanes	2021 AADT (vehicles per day)	New Daily Traffic Volume	Percent Increase in Daily Traffic
SH-30/6th Avenue (west of Buckley Road/Airport Boulevard)	4	17,000	17,700	4%
SH-30/6th Avenue (near/west of BSFB's Telluride Gate)	3	15,000	15,700	5%
SH-30/6th Avenue (just north of intersection with SH-E470)	2	9,300	10,000	8%

Street (Location)	Number of Lanes	2021 AADT (vehicles per day)	New Daily Traffic Volume	Percent Increase in Daily Traffic
I-225 (nearest to the intersection of I-225 and Mississippi Avenue	8	160,000	160,700	0.4%
SH-E470 (south of intersection with SH-30/Gun Club Road)	6	31,000	31,700	2%

Source: CDOT 2023; CDOT 2019
AADT – Annual Average Daily Traffic; BSFB – Buckley Space Force Base

The percent increase in traffic volumes on the public roadways serving the installation would be relatively low, and the roadways would have excess capacity to handle the additional daily vehicle trips. Except for I-225, even with the additional traffic volumes, the new daily traffic volumes on these roadways would be less than historic daily vehicle volumes (see Table 3.6-1). As such, adverse impacts to transportation resources would be considered long-term and less than significant.

3.6.2.3 Alternative 2 – Patrick SFB

Construction

Under this alternative, the Proposed Action would consist of the construction of new interim RLF facilities and permanent MILCON facilities. It is estimated that construction-related vehicles traveling to/from the installation would be less than 100 vehicles per day. Truck shipments would access the installation from the Commercial Vehicle Gate located on SR-A1A, on the eastern border of the installation. To avoid exacerbating existing congestion issues at South Gate, commuting workers would likely also use the Commercial Vehicle Gate on SH-A1A per the TMP.

It is expected that SR-404, SH-A1A, and SR-513 near PaSFB would have the capacity to handle the additional construction traffic, especially considering recent decline in traffic volumes since 2019. Adverse traffic impacts on these roadways are expected to be short-term and less than significant.

Operations

During normal operating conditions under this alternative, increases in traffic volumes would result from the 350 new personnel commuting to/from PaSFB. The new personnel could generate 700 additional daily vehicle trips (assuming 2 vehicle trips from each of the 350 workers) on SR-404 and to a smaller extent, on SH-A1A and SR-513. Although it is currently unknown where new personnel would reside and what their travel patterns would be, the 700 additional daily trips were applied to all road segments presented in Table 3.6-6 for conservative estimates.

Table 3.6-6 New Daily Traffic Volumes on Key Roadway Segments at PaSFB

Street (Location)	Number of Lanes	2022 AADT (vehicles per day)	New Daily Traffic Volumes	Percent increase in daily traffic
SH-A1A (between SR-404 and Orlando Avenue, north of PaSFB)	4	16,800	17,500	4%
SR-404 (east of South Gate)	4	21,000	21,700	3%
SR-404 (west of South Gate)	4	46,000	46,700	1.5%
SR-513 (south of SR-404)	4	14,000	14,700	5%

Source: FDOT 2023

AADT – Annual Average Daily Traffic; PaSFB – Patrick Space Force Base; SH-A1A – State Highway A1A; SR-404 – State Route 404; SR-513 – State Route 513

It is assumed that most of the new vehicle trips would add to existing traffic volumes on SR-404 as it provides a direct connection between the more densely populated areas on the mainland and PaSFB. Workers would likely use South Gate to enter/exit the base and could exacerbate the existing congestion issues at this entrance during peak commuting hours. Any new personnel housed on base would reduce some of the daily vehicle trips on public roadways and the entrance gates during commuting hours.

The percent increase in traffic volumes on the public roadways serving the installation would be relatively low, and the roadways would have excess capacity to handle the additional daily vehicle trips, especially considering the decline of traffic volumes since 2019. Even with the additional traffic volumes, the new daily traffic volumes on these roadways would be less than historic daily vehicle volumes on these roadways (see Table 3.6-6). As such, adverse impacts to transportation resources would be considered long-term and less than significant.

3.6.2.4 Alternative 3 – Peterson SFB

Construction

Under this alternative, the Proposed Action would consist of the construction of new interim RLF facilities and permanent MILCON facilities. It is estimated that construction-related vehicles traveling to/from the installation would be less than 100 vehicles per day. Contractor vehicles would be required to access the installation via the West Gate as truck inspection occurs at this entrance. It is expected that onsite and local roadways would have the capacity to handle the additional construction traffic volumes, especially considering the recent decline in traffic volumes since 2019. It is expected that adverse traffic impacts would be short-term and less than significant during construction.

Operations

HQ STARCOM currently operates from a temporary location at PeSFB. As such, there would be no change in the number of personnel present within PeSFB under operation of this alternative, and there would be no adverse impacts to transportation resources.

3.6.2.5 Alternative 4 – Schriever SFB

Construction

Under this alternative, the Proposed Action would consist of the construction of new interim RLF facilities and permanent MILCON facilities. It is estimated that construction-related vehicles traveling to/from the installation would be less than 100 vehicles per day. Trucks and vehicles from the construction workers would likely access the project sites from the West Entry via SH-94 and South Curtis Road.

It is expected that SH-94 and South Curtis Road would have the capacity to handle the additional construction traffic volumes. Minimal interaction with on-base traffic is expected as the project sites are located on the western portion of the base, away from most of the installation's facilities. Some temporary, minor traffic conflicts and delays could occur on Irwin Road during the commuting hours from construction of the temporary facilities as it is near the West Entry. It is

expected that adverse impacts to transportation resources would be short-term and less than significant during construction.

Operations

During normal operating conditions under this alternative, increases in traffic volumes would result from the 350 new personnel commuting to/from SSFB. It is assumed that most of the new vehicle trips would add to existing traffic volumes on SH-94 as it provides a direct connection to the installation for the more densely populated areas of Colorado Springs. The new personnel could generate 700 additional daily vehicle trips (assuming 2 vehicle trips from each of the 350 workers). This would represent a six percent increase in daily traffic volumes on SH-94; new daily traffic volumes on SH-94 would be 11,700 vehicles per day near the installation. At this traffic volume, it is expected that SH-94 would have the capacity to handle the additional traffic. As such, adverse impacts to transportation resources would be considered long-term and less than significant.

3.6.2.6 Alternative 5 – Vandenberg SFB

Construction

Under this alternative, the Proposed Action would consist of the construction of new interim RLF facilities and permanent MILCON facilities. It is estimated that construction-related vehicles traveling to/from the installation would be less than 100 vehicles per day. Contractor vehicles would be required to access the installation via the Lompoc Gate as truck inspection occurs at this entrance.

It is expected that onsite roadways and SR-1 would have the capacity to handle the temporary increase in construction traffic. Adverse traffic impacts on SR-1 are expected to be short-term and less than significant during construction.

Operation

During normal operating conditions under this alternative, increases in traffic volumes would result from the 350 new personnel commuting to/from VSFB. The new personnel could generate 700 additional daily vehicle trips (assuming 2 vehicle trips from each of the 350 workers) on SR-1. Table 3.6-7 presents the percent increase in daily traffic on segments of SR-1 near the VSFB resulting from the Proposed Action.

Table 3.6-7 New Daily Traffic on Key Roadway Segments at VSFB

Street (Location)	Number of Lanes	2021 AADT (vehicles per day)	New Daily Traffic Volumes	Percent increase in daily traffic
SR-1 at its intersection with SR-246 (West Ocean Avenue) (ID 84)	4	10,400	11,100	7%
SR-1 at its intersection with West Lompoc-Casmalia Road (Vandenberg AFB main gate) (ID 88)	4	15,100	15,800	5%
SR-1 at its intersection with SR-135 (ID 89)	8	15,600	16,300	4%

Source: Caltrans, 2021; Caltrans, 2018
AADT – Annual Average Daily Traffic; SR-1 – State Route 1; VSFB – Vandenberg Space Force Base

The percent increase in traffic volumes on SR-1 near VSFB would be relatively low and SR-1 would have excess capacity to handle the additional daily vehicle trips. As such, adverse impacts to transportation resources would be considered long-term and less than significant.

3.6.2.7 No Action Alternative

Under the No Action Alternative, permanent beddown of HQ STARCOM would not occur, and no related facilities would be built or renovated at BSFB, PaSFB, PeSFB, SSFB, or VSFB. Therefore, there would be no additional impacts to transportation resources at these sites.

3.7 Hazardous Materials and Waste

3.7.1 Affected Environment

3.7.1.1 Alternative 1 – Buckley SFB

BSFB has been classified as a small quantity generator by the EPA due to its production of hazardous waste. The primary sources of hazardous waste at BSFB are aircraft, ground vehicles, and general maintenance activities. This waste consists of flammable solvents, fuel, lubricants, paint, filters, and batteries. To comply with EPA regulations, BSFB has implemented a Spill Prevention, Control, and Countermeasures (SPCC) Plan. This plan outlines the responsibilities, prevention measures, and contingency plans to be followed in the event of a hazardous materials release.

Temporary Facilities

The interim RLF site is currently undeveloped and consists of unmaintained vegetation. No active ERP sites or land use control restrictions are within the site boundaries. The closest land use control (LUC) site, MY570/MY568, lies approximately one quarter mile east of the interim RLF site. The only known remaining environmental concerns for MY570/MY568 site that warrant remedial action are Trichloroethene (TCE) and 1,4-dioxane groundwater plumes (Buckley AFB, 2021).

Proposed MILCON Location

The MILCON site is currently undeveloped and consists of unmaintained vegetation. No active ERP sites or LUC restrictions are within the site boundaries. The closest LUC site, Site 3, lies approximately 500 ft east of the MILCON site. The only known remaining environmental concerns for Site 3 (MY570/MY568) that warrant remedial action are Trichloroethene (TCE) and 1,4-dioxane groundwater plumes. Site 3 LUC requirements necessitate that the DAF and any subsequent federal owner notify (CDPHE) within 30 days of any proposed construction or other ground-disturbing activity at the site (Buckley AFB, 2021).

3.7.1.2 Alternative 2 – Patrick SFB

PaSFB is subject to various hazardous materials due to its operational activities and maintenance requirements. PaSFB utilizes various fuels, such as aviation fuel and diesel, for aircraft operations and ground vehicles. Additionally, lubricants are used to ensure smooth functioning of machinery and equipment. These substances can be flammable, pose fire hazards, and may require careful handling, storage, and disposal. A range of chemicals and solvents may be used for cleaning, maintenance, and repair activities at PaSFB. These can include cleaning agents, degreasers, paint thinners, and other specialized chemicals. Operations at PaSFB can generate hazardous waste, including discarded batteries, contaminated materials, used oils, and other waste products containing hazardous substances. Proper storage, handling, and disposal procedures are

necessary to prevent environmental contamination and ensure compliance with regulatory requirements.

The collection, management, transportation, and disposition of hazardous wastes are defined and strictly regulated by the RCRA, as amended, and by applicable Federal and state regulations. 45 SW Operations Plan 19-14, Petroleum Products and Hazardous Waste Management Plan, describes waste management procedures on PaSFB. This plan also contains procedures for remediation of the Solid Waste Management Units, ERP sites, and Areas of Concern at PaSFB (AFCEC, 2017).

Temporary Facilities

The proposed location for the interim RLF is presently an undeveloped area with sparse vegetation. There are no active or past ERP sites located on or in close proximity to the site. According to a Site Investigation completed in 2017, no Solid Waste Management Units are within or adjacent to the interim RLF site.

Proposed MILCON Location

The proposed location for the MILCON facilities is situated within a previously developed area. The site encompasses Facility 958 (Solid Waste Management P181). SWMU P181 is located at Building 984 and 989 in the South Administration Area. In 2011, a preliminary compliance assessment revealed that the site had previously housed several facilities, including a paint booth, a one-ton crane, transformer storage area, heavy electrical equipment repair shop, machine shop, circuit board lab, geophysical data terminal, motion picture lab, and photographic lab. In 2019-2020, further site investigations were conducted to assess potential environmental impacts resulting from past activities. These investigations identified contamination in both soil (pesticides and PAHs) and groundwater (PAHs, pesticides, metals, and SVOCs) that exceeded screening criteria. Extensive sampling and delineation of soil and groundwater were performed during these investigations.

Additional groundwater and soil investigations are planned as part of a future remedial investigation (RI), aimed at determining appropriate remedies to address the contamination. Once the remedial actions have been implemented, the site is expected to meet regulatory standards and would be approved for unrestricted reuse.

3.7.1.3 Alternative 3 – Peterson SFB

PeSFB has been designated as a small quantity generator of hazardous waste by the EPA. In accordance with DAFI 32-4002 Hazardous Material Emergency Planning and Response Compliance and EPA requirements for spill prevention, control, and countermeasures, the installation maintains a comprehensive SPCC Plan. This plan defines responsibilities, prevention guidelines, and contingency measures to be implemented in the event of a hazardous materials release.

Neither the interim RLF sites or the MILCON site would interact with any closed or active IRP site or LUC areas. The site is not expected to generate any hazardous or solid waste. It is expected that the utilization of hazardous materials and the production of hazardous waste at this facility would be minimal, comprising only small quantities of such substances typically involved in routine commercial building maintenance. The collection and disposal of non-hazardous solid waste would be contracted by the installation’s waste management company.

3.7.1.4 Alternative 4 – Schriever SFB

Schriever SFB has been classified as a very small quantity generator of hazardous materials by the EPA. The waste generated at Schriever SFB includes both hazardous and non-hazardous solid waste, with the majority being municipal solid waste.

Temporary Facilities

The proposed location for the interim RLF site is presently an undeveloped area with sparse vegetation. There are no active or past ERP sites located on or in close proximity to the site.

It is expected that the utilization of hazardous materials and the production of hazardous waste at this facility would be minimal, comprising only small quantities of such substances typically involved in routine commercial building maintenance.

Proposed MILCON Facilities

The proposed location for the MILCON facilities is presently an undeveloped area with sparse vegetation. There are no active or past ERP sites located on or in close proximity to the site. Similar to the temporary facilities, It is expected that the utilization of hazardous materials and the production of hazardous waste at this facility would be minimal.

3.7.1.5 Alternative 5 – Vandenberg SFB

Hazardous and solid waste at Vandenberg AFB primarily consists of municipal solid waste (e.g, discarded paper, cardboard, packaging), construction and demolition debris, fuel, lubricants, oil, industrial solvents, corrosives, flammable solvents, paint, filters, and batteries.

Temporary Facilities

The proposed location for the interim RLF is presently within the Cantonment Area of the Mission District, a previously developed area encompassing Building 11777 and the Parade Grounds area. The site is situated above an active contaminated groundwater plume with active injection points and monitoring wells present. Installation of the RLF would be constructed in a manner that may impede access for monitoring, maintenance, and remediation activities, potentially hindering the proper management of any environmental risks associated with continued treatment via multiple rounds of direct push injection. The interim RLF site is situated above IRP site 24, also known as SD024. SD024 was identified as an IRP site at VSFB based on historical site activities, including vehicle fueling, military tank service and maintenance, pesticide mixing and application, equipment washing in the vicinity of the former tank maintenance bay and former entomology wash rack, automobile maintenance, and dry cleaning that resulted in the release of COCs into the environment (AFCEC, 2023), with primary contaminants of concern being Tetrachloroethylene, TCE, dichloroethene (DCE), VC, and 1,4-dioxane. The current LUC prevents the development and use of property for future residential housing, elementary and secondary schools, childcare facilities, and playgrounds until long-term cleanup goals are attained and thus, site conditions allowing unrestricted uses and residential exposure are achieved (AFCEC, 2023).

Proposed MILCON Facilities

The proposed location for the MILCON is presently within the Mission district, a previously developed area which includes three separate parking areas. Demolition of the parking lots would generate some hazardous materials. The pavement material used in parking lots is typically made of asphalt, which can contain hazardous substances such as PAHs and VOCs. During the

removal process, these substances can be released into the air, posing a risk to human health and the environment. In addition, Parking lots may accumulate various chemical contaminants over time, such as motor oil, gasoline, antifreeze, and other vehicle fluids. These substances can seep into the soil and potentially contaminate groundwater if not properly managed during the removal process. The closest LUC site (SS050, Area 3) is located approximately 0.3 miles to the east. SS050, Area 3 is the former chemical storage area west of former Bionetics Building 8430, where historical cadmium and silver plating, cleaning, calibration of components, and hydrostatic and pneumatic testing in a metal plating shop were conducted between 1965 and 1979 (AFCEC, 2023a) with the current primary COC being TCE in groundwater and soils (AFCEC, 2023a). Remediation is ongoing.

3.7.2 Environmental Consequences

3.7.2.1 Short Term for All Alternatives

During the construction of the proposed interim and permanent facilities, there would be handling, usage, and storage of hazardous materials, as well as the generation of corresponding amounts of hazardous and non-hazardous solid waste. The hazardous materials expected to be used during the construction would include paints, thinners, solvents, and petroleum-based products like fuels and lubricants for construction vehicles and equipment. However, the quantities of hazardous materials used during the construction phases of the facilities would be relatively small compared to the overall quantities currently used and stored at the installations.

Authorized personnel would handle and use the construction-related hazardous materials in accordance with the instructions provided on the labels. When not in use, these materials would be securely stored in appropriate cabinets or lockers. Safety data sheets for all hazardous materials in use would be maintained on the construction sites throughout the construction phases of the alternatives.

For on-site refueling of construction vehicles and equipment, temporary or portable petroleum storage tanks would be utilized. These tanks would be equipped with necessary secondary containment measures and life safety apparatus. The operation and maintenance of these tanks would follow the policies, regulations, and procedures applicable at the selected installation.

During the construction of the proposed interim and permanent facilities, the utilization of hazardous materials would result in the generation of corresponding amounts of hazardous waste. These wastes may consist of discarded packaging, soiled rags, batteries, light bulbs, and used oil or other chemicals. To properly manage these wastes, they would be separated from the non-hazardous solid waste stream and stored on-site in secure containers, following the guidelines set forth in the installation's Hazardous Waste Management Plan (HWMP).

Once the on-site storage limits are reached, the hazardous wastes generated during construction would be transported by licensed contractors to authorized facilities located outside the installation for proper disposal. These facilities would hold the necessary permits to handle and manage hazardous wastes in accordance with applicable regulations.

The segregation, storage, and transportation processes aim to ensure the safe and compliant management of construction-related hazardous wastes, mitigating potential risks to human health and the environment.

The use and storage of construction-related hazardous materials associated with the Proposed Action is not expected to surpass the capacity of the installations to manage them effectively.

3.7.2.2 Long Term for All Alternatives

The regular operation and periodic maintenance of the proposed interim and permanent facilities would entail the utilization of hazardous materials and result in the generation of corresponding quantities of hazardous and non-hazardous solid wastes. To ensure proper management, these hazardous materials would be stored in secure lockers or cabinets when not in use. Authorized personnel would handle and utilize these materials in accordance with the instructions provided on the labels. Safety data sheets for all hazardous materials stored and used at the proposed facilities would be maintained in a centralized and easily accessible location. By adhering to these practices, the proposed facilities would maintain the safe and compliant use of hazardous materials, minimizing risks to both personnel and the environment.

In general, the quantities of hazardous materials used and the amounts of hazardous and non-hazardous solid wastes generated at the proposed facilities would be comparable and proportionate to other facilities of similar function and size within the selected installation. These quantities would also remain relatively small when compared to the overall amounts of materials and wastes used, generated, and disposed of at the selected installation.

The utilization and generation of hazardous materials and wastes at the proposed facilities would not surpass the capacity of the installations to handle, manage, store, or dispose of them. They would not cause the installation to exceed the thresholds established by its EPA generator designation or surpass the capacities of off-site landfills or recycling facilities.

3.7.2.3 Alternative 1 – Buckley SFB

The implementation and construction of the interim RLF site and MILCON site at BSFB would not result in any immediate or lasting consequences related to hazardous material or waste, apart from what has been outlined in Sections 3.7.2.1 and 3.7.2.2. Consequently, the potential adverse effects of hazardous materials, hazardous wastes, and non-hazardous solid wastes in the short and long term would be less than significant.

3.7.2.4 Alternative 2 – Patrick SFB

Due to previous findings of PAHs and pesticides in the soil and PAHs, pesticides, metals, and SVOCs in the groundwater of the site, surface and subsurface construction operations could come in contact with contaminated soil and groundwater and potentially expose personnel to contamination. As stated in Section 3.7.2.2, PaSFB intends to conduct additional investigations of groundwater and soils as a part of a future RI to identify appropriate remedies and address contamination allowing the site to be developed for unrestricted reuse. Management of contaminated soils or groundwater would be conducted under PaSFB's Hazardous and Solid Waste Amendment permit 0070733-004-HO. Issued by the FDEP, this permit requires the 45th Space Wing to investigate any release of contaminants to the environment at PaSFB, and to take appropriate corrective action for any such release. Any contaminated groundwater that is pumped during construction activities would be treated before discharge. Implementation of existing Hazardous and Solid Waste Amendment permit, SPCCPs, and/or other spill contingency plans at the alternative site would ensure that construction-related spills, releases, or discoveries of Hazardous and Toxic Materials and Waste (HTMW) are managed and addressed. With implementation of these practices, potential effects of hazardous materials, hazardous wastes, and non-hazardous solid wastes in the short and long term would be less than significant.

3.7.2.5 Alternative 3 - Peterson SFB

The implementation and construction of the interim RLF site and MILCON site at PeSFB would not result in any immediate or lasting consequences related to hazardous material or waste, apart from what has been outlined in Sections 3.7.2.1 and 3.7.2.2. Consequently, the potential effects of hazardous materials, hazardous wastes, and non-hazardous solid wastes in the short and long term would be less than significant.

3.7.2.6 Alternative 4 – Schriever SFB

The implementation and construction of the interim RLF site and MILCON site at BSFB would not result in any immediate or lasting consequences related to hazardous material or waste, apart from what has been outlined in Sections 3.7.2.1 and 3.7.2.2. No HTMW contamination has been identified on the proposed site. While petroleum residues could be present in soils due to the presence of on-site parking lots/roads, these instances would likely be minimal.

The installation would operate the facility in accordance with the existing HTMW plans for the site; if an alternative site is selected for which such plans do not exist, a new HTMW management plan would be developed. Finally, the Proposed Action would have no potential to inhibit ongoing cleanup activities occurring on sites near the interim RLF or MILCON sites. Therefore, impacts from HTMW during the operation of the Proposed Action would be less than significant.

3.7.2.7 Alternative 5 – Vandenberg SFB

Impacts from hazardous materials, hazardous wastes, and non-hazardous solid waste resulting from implementation of the proposed Alternative at VAFB, if selected, would be similar to those described in Sections 3.7.2.1 and 3.7.2.2. Prior to construction, oils containing concentrations of substances exceeding applicable regulatory thresholds would be replaced with clean soils, in accordance with federal, state, local, and Air Force requirements, prior to constructing the proposed facilities.

The interim RLF site necessitates the implementation of LUCs for SD024, which are detailed in the Final Land Use Control Implementation Plan, Revision 1 (ACEC, 2023a). Before engaging in any excavation, construction, or activities that could disturb the site soil, a USAF Form 332, Base Civil Engineer Work Request would be submitted, coordinating with the relevant VSFB utility and conservation departments and the Weapons Safety Office to obtain clearance. The VAFB construction review process would ensure the adoption of safe soil management procedures in areas with residual contamination (AFCEC, 2023). By following the processes specified in the LUCIP, the potential impacts of hazardous materials, hazardous wastes, and non-hazardous solid wastes in the short and long term would be less than significant.

3.7.2.8 No Action Alternative

Under the No Action Alternative, permanent beddown of HQ STARCOM would not occur, and no related facilities would be built or renovated at BSFB, PaSFB, PeSFB, SSFB, or VSFB. Therefore, there would be no additional impacts to Hazardous Materials and Waste at these sites.

3.8 Environmental Justice and Socioeconomics

3.8.1 Affected Environment

3.8.1.1 Alternative 1 – Buckley SFB

Table 3.8-1 summarizes the percentage of minority and low-income populations within 1 mile of the project area, Arapahoe County, Colorado, and the United States for comparison purposes.

Table 3.8-1 Minority and Low-Income Populations within BSFB ROI

Geographic Area	Total Population	Minority (%)	Low Income (%)
ROI Block Group 1, Census Tract 71.08	1,471	34.7	24
Arapahoe County, Colorado	654,900	37.7	8.7
Meaningfully Greater Criterion	**-**	***41.0***	***11.5***
Colorado	5,773,714	34.9	9.6
United States	331,449,281	42.2	12.6

Sources: USCB, 2019; USCB, 2018

The average minority population percentage of Arapahoe County is 37.7 percent. If the ROIs percentage of minority individuals meets the 50 percent criterion or exceeds 120 percent (meaningfully greater content) of the total minority population within Arapahoe County (i.e., 41.0 percent), the area is considered to have a minority population. Because the minority population percentage relative to the general population of Arapahoe County would not exceed the 50 percent threshold defined by CEQ, the secondary threshold of 41.0 percent is used to identify areas with meaningfully greater minority populations within 1 mile of the project area. The total minority population residing within 1 mile of the project area is approximately 34.7 percent of the entire population. Therefore, the overall composition of the ROI is predominantly nonminority.

Low-income populations were evaluated using a similar method. The total low-income population residing within 1 mile of the project area is approximately 24 percent of the entire population which exceeds criteria identifying Environmental Justice (EJ) low-income populations.

In addition, in accordance with the CDPHE and USEPA Memorandum of Understanding (MOU) on Advancing Environmental Justice through Enforcement and Compliance Assurance in Disproportionately Impacted Communities, the Colorado EnviroScreen tool was queried to evaluate potential impacts to communities near BSFB. Block Group 1, Census Tract 71.08 has an EnviroScreen score of 37, which means that approximately 63 percent of block groups in Colorado are more likely to be affected by environmental health injustices (CDPHE 2023a).

Protection of Children's Health and Safety and Elderly Populations

Table 3.8-2 shows the population of children under age 5 and ages 1 to 18 and elderly populations within 1 mile of the project area.

Table 3.8-2 Children and Elderly Population within BSFB ROI

Location	Children under Age 5 (%)	Children 1 to 18 Years (%)	Individuals Greater than 65 Years (%)
ROI	7.0	27.0	6.0
El Paso County	6.5	20.4	12.9
Colorado	5.7	19.0	14.3
United States	5.9	19.3	16.0

Source: USCB, 2018a

Table 3.8-3 represents the socioeconomic data for Aurora and Arapahoe County, Colorado, as well as the Alternative 1 ROI for this resource area. For both the City of Aurora and Arapahoe County, approximately 4 percent of housing units were vacant in 2020. The city of Aurora

represents 58 percent of Arapahoe county population. Civilians account for over 99 percent of the total labor force in 2020 in both Aurora and Arapahoe County.

Table 3.8-3 Socioeconomic Data for BSFB ROI

Demographic Indicator	City of Aurora	Arapahoe County
Total Population	357,323	626,612
Total Housing Units	157,168	262,493
Vacant Housing Units	7,101	12,287
Total Labor Force	217,757	371,046
Civilian Labor Force	216,194	368,345

Source: USCB,2018b

3.8.1.2 Alternative 2 – Patrick SFB

Table 3.8-4 summarizes the percentage of minority and low-income populations within 1 mile of the project area, Brevard County, Florida, and the United States for comparison purposes.

Table 3.8-4 Minority and Low-Income Populations within PaSFB ROI

Geographic Area	Total Population	Minority (%)	Low Income (%)
ROI Total	7,582	19.4	7.2
Census Tract 669, Block Group 1	755	13.5	0.0
Census Tract 669, Block Group 2	912	21.5	1.0
Census Tract 669, Block Group 3	2,091	11.7	5.5
Census Tract 669, Block Group 4	1,105	19.0	11.0
Census Tract 669, Block Group 5	1,411	15.2	2.3
Census Tract 671, Block Group 1	1,308	38.4	16.8
Brevard County, Florida	606,612	29.0	10.6
Meaningfully Greater Criterion	**-**	***34.8***	***12.7***
Florida	21,538,187	48.5	13.1
United States	331,449,281	42.2	12.6

Sources: USCB, 2019; USCB, 2018

The average minority population percentage of Brevard County is 29 percent. The total minority population residing within 1 mile of the project area is approximately 19.4 percent of the entire population. Therefore, the overall composition of the ROI is predominantly nonminority when using the assessment method laid out in section 3.8.2.1.

Low-income populations were evaluated using a similar method. The total low-income population residing within 1 mile of the project area is approximately 7.2 percent of the entire population, thus the ROI is not considered a low-income population.

Based on a review of the USEPA's EJSCREEN model, the ROI did not include EJ indicators exceeding the 80th national percentile threshold (USEPA, 2023b).

Protection of Children's Health and Safety and Elderly Populations

Table 3.8-5 shows the population of children under age 5 and ages 1 to 18, as well as elderly populations within 1 mile of the project area, Brevard County, Florida, and the United States for

comparison. Within 1 mile of the project area, there are four sites identified that children may regularly attend (e.g., childcare centers or schools, community centers, or recreational facilities). These include Patrick Shores Beach (350 feet from the project area), an on-Base childcare facility (2,300 feet from the project area), South Patrick Community Park (3,200 feet) and Sea Park Elementary (4,100 feet from the project area) (USSF, 2023b). Within 1 mile of the project area, no sites were identified where elderly populations may be regularly present (e.g., senior care facilities, hospitals).

Table 3.8-5 Children and Elderly Populations within PaSFB ROI

Location	Children under Age 5 (%)	Children 1 to 18 Years (%)	Individuals Greater than 65 Years (%)
1-Mile ROI	4.3	14.8	21.0
Brevard County	4.6	15.9	23.5
Florida	5.2	17.0	20.4
United States	5.9	19.3	16.0

Source: USCB, 2018a

Table 3.8-6 represents the socioeconomic data for Titusville and Brevard County. For both Titusville and Brevard County, approximately 10 percent of housing units were vacant in 2020. The city of Titusville represents 7 percent of Brevard County population. Civilians accounted for over 99 percent of the total labor force in 2020 in both Titusville and Brevard County.

Table 3.8-6 Socioeconomics Data for PaSFB ROI

Demographic Indicator	City of Titusville	Brevard County
Total Population	45,932	601,942
Total Housing Units	23,433	288,794
Vacant Housing Units	2,383	31,768
Total Labor Force	20,863	292,685
Civilian Labor Force	20,850	290,185

Source: USCB,2018b

3.8.1.3 Alternative 3 – Peterson SFB

Table 3.8-7 represents the EJ data for the Alternative 3 ROI.

Table 3.8-7 Minority and Low-Income Populations within ROI of PeSFB

Geographic Area	Total Population	Minority (%)	Low Income (%)
ROI Block Group 2, Census Tract 40.08	1,313	24.0	13
El Paso County, Colorado	730,395	34.2	9.6
Meaningfully Greater Criterion	**-**	***41.0***	***11.5***
Colorado	5,773,714	34.9	9.6
United States	331,449,281	42.2	12.6

Sources: USCB, 2019; USCB, 2018

The average minority population percentage of El Paso County is 34 percent. The total minority population residing within 1 mile of the project area is approximately 24 percent of the entire

population. Therefore, the overall composition of the ROI is predominantly nonminority when using the assessment method laid out in section 3.8.2.1.

Low-income populations were evaluated using a similar method. The total low-income population residing within 1 mile of the project area is approximately 13 percent of the entire population, thus the ROI would be considered a low-income population.

Based on a review of the USEPA's EJSCREEN model, the ROI did not include EJ indicators exceeding the 80th national percentile threshold (USEPA, 2023b).

Block Group 2, Census Tract 40.08 has an EnviroScreen score of 41, which means that approximately 59 percent of block groups in Colorado are more likely to be affected by environmental health injustices (CDPHE 2023a).

Protection of Children's Health and Safety and Elderly Populations

Table 3.8-8 shows the population of children under age 5 and ages 1 to 18 and elderly populations within 1 mile of the project area.

Table 3.8-8 Children and Elderly Populations within PeSFB ROI

Location	Children under Age 5 (%)	Children 5 to 19 Years (%)	Individuals Greater than 65 Years (%)
1-Mile ROI	9.0	28.0	7.0
El Paso County	6.5	20.4	12.9
Colorado	5.7	19.0	14.3
United States	5.9	19.3	16.0

Source: USCB, 2018a

Table 3.8-9 represents the socioeconomic data for Colorado Springs and El Paso County, Colorado. For both Colorado Springs and El Paso County, approximately 5 percent of housing units were vacant in 2020. The city of Colorado Springs represents 64 percent of El Paso County population. Civilians account for approximately 95 percent of the total labor force in 2020 in both Colorado Springs and El Paso County.

Table 3.8-9 Socioeconomics Data for PeSFB ROI

Demographic Indicator	City of Colorado Springs	El Paso County
Total Population	464,871	720,403
Total Housing Units	191,476	272,379
Vacant Housing Units	9,998	14,872
Total Labor Force	248,684	371,817
Civilian Labor Force	238,560	343,102

Source: USCB,2018b

3.8.1.4 Alternative 4 – Schriever SFB

Table 3.8-10 summarizes the percentage of minority and low-income populations within 1 mile of the project area, El Paso County, Colorado, and the United States for comparison purposes.

All data is similar to what is presented in Section 3.8.2.3 for Alternative 3. The total minority population residing within 1 mile of the Alternative 4 project area is approximately 36 percent of the entire population. Therefore, the overall composition of the ROI is predominantly nonminority.

Table 3.8-10 Minority and Low-Income Populations within the SSFB ROI

Geographic Area	Total Population	Minority (%)	Low Income (%)
ROI Block Group 1, Census Tract 46.03	2,495	36.2	12.1
El Paso County, Colorado	730,395	34.2	9.6
Meaningfully Greater Criterion	**-**	***41.0***	***11.5***
Colorado	5,773,714	34.9	9.6
United States	331,449,281	42.2	12.6

Sources: USCB, 2019; USCB, 2018

Based on criteria in Table 3.8-10, the ROI has a low-income population that slightly exceeds the meaningfully greater environmental justice criteria.

Based on a review of the USEPA's EJSCREEN model, the ROI exceeds the 80th national percentile threshold for Wastewater Discharge environmental justice indicator (USEPA 2023b). This indicator suggests an existing elevated relative risk for exposure to pollutants in downstream water bodies.

Block Group 1, Census Tract 46.03 has an EnviroScreen score of 41, which means that approximately 59 percent of block groups in Colorado are more likely to be affected by environmental health injustices (CDPHE 2023a).

Protection of Children's Health and Safety and Elderly Populations

Table 3.8-11 shows the population of children under age 5 and ages 5 to 19, as well as elderly populations within 1 mile of the project area.

Table 3.8-11 Children and Elderly Populations within SSFB ROI

Location	Children under Age 5 (%)	Children 5 to 19 Years (%)	Individuals Greater than 65 Years (%)
1-Mile ROI	16.1	22.3	11.3
El Paso County	6.5	20.4	12.9
Colorado	5.7	19.0	14.3
United States	5.9	19.3	16.0

Source: USCB, 2018a

Socioeconomic data is similar to data for Alternative 3 – PeSFB and can be found in Table 3.8-9.

3.8.1.5 Alternative 5 – Vandenberg SFB

Table 3.8-12 summarizes the percentage of minority and low-income populations within 1 mile of the project area, El Paso County, Colorado, and the United States for comparison purposes.

Table 3.8-12 Minority and Low-Income Populations within VSFB ROI

Geographic Area	Total Population	Minority (%)	Low Income (%)
ROI Block Group 1, Census Tract 9802	3,533	45.0	27.0

Santa Barbara County, California	447,651	57.0	31.0
Meaningfully Greater Criterion	**-**	***34.44***	***11.52***
California	39,240,00	28.7	9.6
United States	331,449,281	42.2	12.6

Sources: USCB, 2019; USCB, 2018

The average minority population percentage of Santa Barbara County is 57 percent. If the ROIs percentage of minority individuals meets the 50 percent criterion or exceeds 120 percent (meaningfully greater content) of the total minority population within Santa Barbara County (i.e., 34.44 percent), the area is considered to have a minority population. The total minority population residing within 1 mile of the project area is approximately 45 percent of the entire population. Therefore, the overall composition of the ROI is predominantly a minority population.

Protection of Children's Health and Safety and Elderly Populations

Table 3.8-13 shows the population of children under age 5 and ages 1 to 18, as well as elderly populations within 1 mile of the project area. When compared to Santa Barbara County and the United States there is a disproportionate number of children within the ROI population.

Table 3.8-13 Children and Elderly Populations within VSFB ROI

Location	Children under Age 5 (%)	Children 1 to 18 Years (%)	Individuals Greater than 65 Years (%)
1-Mile ROI	12	29	0
Santa Barbara County, California	6	22	15
California	5.5	21.8	15.8
United States	5.9	19.3	16.0

Source: USCB, 2018a

Table 3.8-14 represents the socioeconomic data for Lompoc/Santa Maria and Santa Barbara County. Lompoc and Santa Maria accounted for approximately 34 percent of Santa Barbara County's population. Collectively, for Lompoc and Santa Maria, approximately 4 percent of housing units were vacant in 2020, while in Santa Barbara County over 7 percent of housing units were vacant in 2020. Civilians accounted for over 99 percent of the total labor force in 2020 in Lompoc, Santa Maria, and in Santa Barbara County.

Table 3.8-14 Socioeconomics Data for VSFB ROI

Demographic Indicator	City of Lompoc/Santa Maria	Santa Barbara County
Total Population	148,553	442,996
Total Housing Units	43,016	158,279
Vacant Housing Units	1,835	9,926
Total Labor Force	69,512	222,996
Civilian Labor Force	69,091	219,734

Source: USCB, 2018b

3.8.2 Environmental Consequences

The evaluation of socioeconomic and environmental justice impacts was conducted in two distinct ways: (1) short-term impacts resulting from the construction of the Proposed Action, and (2) long-term impacts arising from the continued staffing and operations of the Proposed Action once it is constructed. Adverse impacts could encompass human health or environmental consequences such as air, noise, or water pollution, along with interconnected socioeconomic effects such as employment, displacement of individuals or businesses, and public service provision.

Socioeconomic impacts from the Proposed Action would be deemed significant if:

- The location and distribution of the local population was substantially altered;
- The population would exceed historic growth rates;
- The number of jobs decreased resulting in a substantial rise in regional unemployment rates, or reduced income generation; and/or
- Local housing markets or vacancy rates were substantially affected, or if the need for new social services and support facilities substantially increased.

Environmental justice impacts would be considered significant if the Proposed Action disproportionately impacts a low-income, minority, and/or youth population.

3.8.2.1 Short Term

Implementation of the Proposed Action would be expected to have a short-term positive socioeconomic impact for all the alternative sites. The adjacent jurisdictions would secure a positive socioeconomic impact if local contractors are hired to construct the interim RLF or permanent facilities associated with the Proposed Action. If workers from outside the region are used to implement the Proposed Action, positive socioeconomic impacts also would be expected, with direct benefits to accommodation, food, retail, and other industries, in addition to local fiscal benefits from associated sales tax revenues.

Implementation of the Proposed Action would not result in significant adverse short-term environmental justice impacts in the defined ROIs of the proposed alternative sites. Potential environmental justice impacts evaluated in this EA would occur primarily on site (air quality impacts are regional); off-base minority, low-income, and youth populations would not be affected. A summary can be found in Table 3.8-15.

This EA identifies the following impacts that could occur during construction and that may disproportionately affect environmental justice populations, or disproportionately affect children or elderly populations surrounding the project area.

- **Air Quality Impacts** –Short term, less than significant adverse impacts could occur due to increases in air pollutant emissions in the immediate vicinity of the project area, but would not likely be transported more than 1 mile except on windy days. Particulates would be reduced through the use of BMPs such as watering of soils.
- **Noise Disturbance** – Short-term, less than significant adverse impacts from noise would be expected as a result of operation of equipment and construction activities, as described in Section 3.6, Noise.
- **Traffic Congestion** – Short-term, less than significant, adverse transportation and traffic impacts would be expected during construction locally from increased congestion as

described in Section 3.7, Transportation. These impacts would occur primarily on main roads, primarily traveling in and out of the installations.

- **Job Opportunities** – Short-term, beneficial impacts on employment locally would result from the creation of jobs during construction and spending locally.

Table 3.8-15 Environmental Justice and Socioeconomic Impacts for Alternatives

Proposed Action Alternative	Environmental Justice	Socioeconomics
Alternative 1 - BSFB	No significant impacts, low income population present	Beneficial socioeconomic impact
Alternative 2 – PaSFB (Preferred)	No significant impacts	Beneficial socioeconomic impact
Alternative 3 - PeSFB	No significant impacts, low income population present	Beneficial socioeconomic impact
Alternative 4 - SSFB	No significant impacts, low income population present	Beneficial socioeconomic impact
Alternative 5 - VSFB	No significant impacts, large population of children under 18, predominate minority population	Beneficial socioeconomic impact

3.8.2.2 Long Term

Implementation of the Proposed Action would not result in significant long-term socioeconomic impacts for any of the proposed candidate sites. All ROIs have an existing supply of housing, schools, and other public and private services to meet the needs of the assumed 350 personnel after the construction is completed for the Proposed Action. This finding was made with the conservative assumption that all personnel would be new to the region.

For all alternatives no environmental justice populations have been identified off Base that would be affected by the Proposed Action.

While minority and low-income individuals are located within the ROI, adverse impacts would be less than significant as described in Section 3.8.2.

Protection of Children's Health and Safety and Elderly Populations

There could be overall less than significant adverse impacts to children or elderly populations surrounding the project area during construction. Based on the distance of the project area from sensitive receptors, the physical separation of the project area by other structures, the nature of anticipated impacts, and implementation of BMPs, impacts to children or elderly populations are not anticipated to be disproportionate or significant. Although the Proposed Action would result in adverse noise impacts, impacts on children or the elderly would be minor and would not be an environmental health or safety risk. Air quality impacts would be minimized through BMPs as described in Section 3.1, Air Quality and Greenhouse Gas/Climate Change. Standard construction site safety precautions (e.g., fencing and other security measures) would reduce potential risks to children to minimal levels.

3.8.2.3 No Action Alternative

Under the No Action Alternative, permanent beddown of HQ STARCOM would not occur, and no related facilities would be built or renovated at BSFB, PaSFB, PeSFB, SSFB, or VSFB. Therefore, there would be no additional socioeconomic impacts or disproportionate impacts to EJ communities at these alternative sites.

4 Cumulative Impacts and Other Environmental Considerations

4.1 Cumulative Impact Analysis

The cumulative analysis definition and a list of DAF selected cumulative projects included in the analysis can be found in Appendix E.

4.1.1 Alternative 1 – Buckley SFB

4.1.1.1 Air Quality and Greenhouse Gas/Climate Change

The proposed beddown at BSFB and the associated increase of 350 personnel and their dependents would contribute to short-term, insignificant impacts on air quality and GHG emissions during construction. Cumulative projects would likely contribute to criteria pollutant and GHG emissions. Some of these would be temporary in duration and restricted to construction or a specific training event, while others would generate long-term steady state emissions through facility/building operations. The staggered timelines of proposed projects, adherence to applicable permits and regulations, and implementation of BMPs would reduce emissions and keep cumulative effects at less-than-significant levels, even considering the installation's location in a nonattainment area for O_3. Cumulative effects would be further limited as new facilities would adhere to applicable DoD UFC. Other DAF goals such as conversion of government-owned vehicle fleets to electric vehicles would help further offset emissions.

4.1.1.2 Water Resources

The Proposed Action and other projects are anticipated to result in an increase in impervious surface area within the region of interest (ROI). While this combined expansion of impervious surfaces may have a cumulative impact on stormwater runoff, it is not expected to significantly alter the hydrology, particularly within a setting that contains existing storm water management systems which effectively treat and reduce the speed of stormwater runoff before releasing it into nearby water bodies surrounding the installation. Despite an inevitable overall increase in the volume of stormwater runoff within the installation, these measures, along with the continued adherence to an installation-wide SWPPP, would ensure that the Proposed Action's contribution to water quality remains less than significant.

4.1.1.3 Cultural Resources

The proposed beddown at BSFB would have no effect to resources protected under the NHPA, therefore, no cumulative effects would be anticipated.

4.1.1.4 Biological Resources

The Proposed Action at BSFB would have negligible or minor cumulative impacts on vegetation due to clearing and disturbance required for accommodating new construction.

Lighting impacts may have the potential to impact sea turtles with sky glow and extensive illumination. The lighting designs will follow the SLD 45 USFWS Biological Opinion 41910-2009-F-0087 for light management, would be evaluated by SLD 45 for compliance with fixture selection, and would include separate consultations with USFWS should light management plans be required. Construction and lighting designs may affect but are not likely to adversely affect sea turtles as long as light management requirements such as use of shielded, downward directed

true color amber LED fixtures set at minimal heights, and application of facility glass tinting with 30-15% visible light transmittance occurs.

It is important to note that most of the disturbance would take place in previously disturbed areas, these areas typically do not offer diverse or high-quality habitat for vegetation, which means the potential impacts on plant life would be minimal.

The assessment suggests that the overall effect on vegetation would be limited because the disturbance is concentrated in areas where the habitat quality is already compromised. In such areas, the ecological value of the vegetation is likely to be lower, and the impact on important plant species would be less significant compared to undisturbed or high-quality habitat areas.

Overall, this assessment suggests that the proposed construction activities are not expected to cause significant harm to the vegetation or local habitat, and the impacts should be manageable given the context of the development occurring in areas with already compromised habitat quality.

4.1.1.5 Noise

The noise generated from the Proposed Action would be expected to be within less than significant levels, primarily due to construction and increased traffic from the increase of 350 personnel. Due to the temporary nature of construction noise and noise generated from increase of traffic compared to existing conditions, no significant cumulative effects are anticipated.

4.1.1.6 Transportation

The anticipated beddown at BSFB and the associated 350 additional personnel and their dependents would contribute short-term, less than significant impacts to traffic during construction. Projects identified would likely contribute to impacts to traffic. Construction projects would cause short-term impacts due to construction traffic and potential temporary road closures. Further, infrastructure and transportation projects included as part of the Buckley ADP are expected to have a beneficial effect throughout the installation. Overall, cumulative effects are anticipated to be less than significant at BSFB and other alternatives.

4.1.1.7 Hazardous Materials and Waste

The proposed beddown at SSFB would have negligible impacts on HMW, therefore, no cumulative effects would be anticipated.

4.1.1.8 Environmental Justice and Socioeconomics

The proposed beddown at BSFB would result in short-term less than significant impacts from construction. There could be long-term beneficial impacts to low-income populations from increased spending and job opportunities locally during construction. Cumulative projects listed in Appendix E would have short-term and beneficial impacts to the economy from construction. Overall, cumulative effects would be anticipated to be less than significant from the identified projects.

4.1.2 Alternative 2 – Patrick SFB

4.1.2.1 Air Quality and Greenhouse Gas/Climate Change

The proposed beddown at PaSFB and the associated increase of 350 personnel and their dependents would contribute to an increase in air emissions and GHG emission in the ROI. Short-term and less than significant effects from facility construction and renovations would occur. Emissions from operations of facilities are expected to be less than significant and would not represent an increase from the current conditions. Cumulative projects identified would likely

contribute to criteria pollutant and GHG emissions. Some of these would be temporary in duration and restricted to construction, while others would generate long-term steady state emissions through facility/building operations. The PaSFB projects listed in Appendix E include a range of past, present, and future actions, as such the staggered timelines of these projects would limit emissions from simultaneous construction projects, and all projects would comply with applicable permits, regulations, and best practices. With implementation of these measures and considering PaSFB's location in an area that is designated as being in attainment for all criteria air pollutants, cumulative effects are anticipated to be less than significant. For reference, the EA for Installation Development at PaSFB (PaSFB 2023) found that the implementation of multiple infrastructure improvement projects would result in minor adverse impacts on air quality. New facilities would adhere to applicable DoD UFC standards and demolition of obsolete facilities would remove less energy efficient buildings, further reducing the potential cumulative air quality impacts. Other DAF goals such as conversion of government-owned vehicle fleets to electric vehicles would help offset increases in vehicle emissions from the additional personnel, along with renewable energy projects.

4.1.2.2 Water Resources

The proposed beddown at PaSFB is expected to have less than significant adverse impacts on water resources during both construction and operations. Among the projects listed in Table E-1, some may have the potential for adverse impacts on water resources during construction due to soil disturbance, erosion, and runoff. However, the overall cumulative effects are anticipated to be less than significant, as measures would be implemented to mitigate these impacts. These measures include the implementation of stormwater controls specifically designed to address the increased stormwater velocities and volumes during construction activities and resulting from the additional impervious surfaces on-site. These measures would effectively minimize the potential impacts and ensure that the cumulative effects on water resources remain below significant levels. In addition, the proposed action is consistent with measures found in the CZMA (Appendix B).

4.1.2.3 Cultural Resources

The proposed beddown at PaSFB would occur within the NRHP-eligible Patrick Air Force Base Administrative Historic District; however, PaSFB has determined there would be a negligible impact on the eligible district. As stated in Section 3.4.2.2, there are no known archaeological sites at PaSFB and it is generally thought to have low potential for archaeological sites. Overall, cumulative effects are anticipated to be less than significant as the projects would be required to adhere to Section 106 requirements regarding identification, avoidance and mitigation for cultural resources, if present.

4.1.2.4 Biological Resources

The proposed action at PaSFB is not expected to result in any adverse effects on protected species, therefore no significant cumulative effects are anticipated. Construction would not reduce the overall amount of available habitat, although impacts are expected from noise and lighting. PaSFB is consulting with the USFWS for a "may effect but is not likely to adversely effect" determination for listed sea turtles with adherence of the light management requirements within the Space Launch Delta 45 USFWS Biological Opinion 41910-2009-F-0087. Measures for protection of other listed and special status species documented at PaSFB including the Eastern indigo snake, least tern, black skimmer, burrowing owl and gopher tortoise would be enacted where these species may be present or could be indirectly affected. The Proposed Action would

lead to minor impacts on vegetation and wildlife, with a potential disturbance of up to 8 acres. However, it is not anticipated to cause substantial habitat loss or significant impacts to overall native vegetation communities. Temporary construction-related noise is also expected to be minor and would not have long-term effects. Some projects listed in Table E-1 may have the potential for adverse impacts on vegetation and wildlife due to habitat loss or disturbance during construction. Despite these potential impacts, the cumulative effects are anticipated to be below significant levels, as the projects would adhere to site-restoration standards. Overall, cumulative effects are anticipated to be less than significant.

4.1.2.5 Noise

The noise generated from the Proposed Action would be expected to be within less than significant levels. Due to the temporary nature of construction noise generated from construction and renovations and the insignificant noise sources generated from increase of traffic compared to existing conditions, no significant cumulative effects are anticipated from implementation of other projects listed in Table E-1.

4.1.2.6 Transportation

Projects identified in Table E-1 would likely contribute to impacts to traffic. Construction projects would cause short-term impacts due to construction traffic and potential temporary road closures. Overall, cumulative effects are anticipated to be less than significant as the installation would update, develop, and implement applicable transportation management procedures during construction and training events to accommodate traffic volume increases associated with the applicable projects.

4.1.2.7 Hazardous Materials and Waste

The Proposed Action at PaSFB would have short-term and minor impacts on hazardous materials and waste during construction and renovations and beneficial impacts during operations from remediation of contaminated soil within the 8-acre parcel. Activities in Table E-1 could generate hazardous materials and waste, similar to construction activities on contaminated sites and renovations to facilities pre-dating the late 1970s. All waste would be handled and disposed of according to applicable federal and state requirements and overall cumulative impacts would be less than significant.

4.1.2.8 Environmental Justice and Socioeconomics

Projects identified in Table E-1 would likely contribute to impacts on environmental justice populations that occur within the ROI. Similar to the Proposed Action, these impacts would likely be temporary and minor and phased over time (not all occurring simultaneously). Overall, cumulative effects are anticipated to be less than significant with most long-term impacts being restricted to the project footprints occurring within PaSFB.

4.1.3 Alternative 3 – Peterson SFB

4.1.3.1 Air Quality and Greenhouse Gas/Climate Change

Similar to BSFB, cumulative effects are anticipated to be less than significant due to the staggered timelines of proposed projects, the installation's location in an area designated as being in attainment for all criteria air pollutants, implementation of BMPs and DAF goals, and adherence to applicable permits, regulations, and DoD UFC standards. The EA for Multiple Base-Wide Projects at PeSFB (PeSFB, 2022), which includes implementation of the installation's Installation Development Plan and the other PeSFB projects included in Table E-1, determined that only

short-term construction related emissions would occur and no significant increase in criteria pollutant air emissions would be expected. As such, no significant cumulative air quality impacts are anticipated from beddown of HQ STARCOM at PeSFB.

4.1.3.2 Water Resources

Future projects would likely cause the potential for adverse impacts to surface waters from construction due to soil disturbance and potential for erosion and runoff into adjected surface waters if present. Overall, cumulative effects are anticipated to be less than significant as the projects would be required to adhere to NPDES permitting, SWPPPs and employ BMPs to protect water resources.

4.1.3.3 Cultural Resources

The proposed beddown at PeSFB would have no effect to resources protected under the NHPA, therefore, no cumulative effects would be anticipated.

4.1.3.4 Biological Resources

Similar to BSFB, the Proposed Action at PeSFB is expected to have less than significant cumulative impacts on vegetation due to clearing and disturbance required for accommodating new construction.

As stated in section 3.4.3.3, if burrowing owls are confirmed to be nesting within the Alternative 3 sites, the installation would proceed with construction in accordance with the recommended timing and monitoring measures required by the state (CPW, 2021). Other projects within the vicinity are assumed to have the same requirements.

Overall, this assessment suggests that the proposed construction activities are not expected to cause significant harm to the vegetation or wildlife, and the impacts should be manageable given the context of the development occurring in areas with already compromised habitat quality.

4.1.3.5 Noise

Due to the temporary nature of construction noise generated from construction and renovations and the less than significant noise sources generated from increase of traffic compared to existing conditions, no significant cumulative effects are anticipated from implementation of other projects listed in Table E-1.

4.1.3.6 Transportation

Projects identified in E-1 would likely contribute to impacts to traffic. Construction projects would cause short-term impacts due to construction traffic and potential temporary road closures. Further, infrastructure and transportation projects included as part of the PeSFB ADP project and the North gate project are expected to have a beneficial effect on transportation throughout the installation. Overall, cumulative effects are anticipated to be less than significant at PeSFB.

4.1.3.7 Hazardous Materials and Waste

The proposed beddown at PeSFB would have no adverse impacts on HTMW, therefore, no cumulative effects would be anticipated.

4.1.3.8 Environmental Justice and Socioeconomics

Similar to BSFB, the proposed beddown at PeSFB would result in less than significant short-term impacts from construction. There could be long-term beneficial impacts to low-income populations from increased spending and job opportunities locally during construction.

4.1.4 Alternative 4 – Schriever SFB

4.1.4.1 Air Quality and Greenhouse Gas/Climate Change

Similar to PeSFB, cumulative effects are anticipated to be less than significant due to the staggered timelines of proposed projects, the installation's location in an area designated as being in attainment for all criteria air pollutants, implementation of BMPs and DAF goals, and adherence to applicable permits, regulations, and DoD UFC standards.

4.1.4.2 Water Resources

Overall, cumulative effects are anticipated to be less than significant as the projects would be required to adhere to NPDES permitting, SWPPPs and employ BMPs to protect water resources.

4.1.4.3 Cultural Resources

The proposed beddown at SSFB would have no effect to resources protected under the NHPA, therefore, no cumulative effects would be anticipated.

4.1.4.4 Biological Resources

Future projects would likely cause the potential for adverse impacts to vegetation and wildlife from loss of or disturbance to habitat during construction, and potential for disturbance to these communities due to training events. Overall, cumulative effects are anticipated to be less than significant as the projects would comply to site-restoration standards.

4.1.4.5 Noise

The noise generated from the Proposed Action would be expected to be within less than significant levels, primarily due to construction and increased traffic from the increase of 350 personnel. Due to the temporary nature of construction noise generated from construction and renovations and the insignificant noise sources generated from increase of traffic compared to existing conditions, no significant cumulative effects are anticipated from implementation of other future projects.

4.1.4.6 Transportation

The anticipated beddown at SSFB and the associated 350 additional personnel and their dependents would contribute short-term, less than significant impacts to traffic during construction. Other future projects would likely contribute to impacts to traffic. Construction projects would cause short-term impacts due to construction traffic and potential temporary road closures. Overall, cumulative effects are anticipated to be less than significant as SSFB.

4.1.4.7 Hazardous Materials and Waste

The proposed beddown at SSFB would have negligible impacts on HTMW, therefore, no cumulative effects would be anticipated.

4.1.4.8 Environmental Justice and Socioeconomics

Other future projects would likely contribute to impacts on environmental justice populations that occur within the ROI. Similar to the Proposed Action, these impacts would likely be temporary and minor and phased over time (not all occurring simultaneously). Overall, cumulative effects are anticipated to be less than significant with most long-term impacts being restricted to the project footprints occurring at SSFB.

4.1.5 Alternative 5 – Vandenberg SFB

4.1.5.1 Air Quality and Greenhouse Gas/Climate Change

Similar to BSFB and PeSFB, cumulative effects are anticipated to be less than significant due to the staggered timelines of proposed projects, the installation's location in an area designated as being in attainment for all criteria air pollutants, implementation of BMPs and DAF goals, and adherence to applicable permits, regulations, and DoD UFC standards. The only cumulative project for VSFB is the proposed demolition of SLC-2. The Draft EA for that project (VSFB, 2022) found that proposed emissions would not exceed the significance threshold for any criteria pollutant. Emissions from proposed demolition activities would not produce adverse air quality impacts, and therefore no significant cumulative air quality impacts are anticipated from the proposed beddown of HQ STARCOM at VSFB.

4.1.5.2 Water Resources

Increase in impervious surface resulting from cumulative projects could contribute to cumulative effects on stormwater runoff. However, it is expected that the overall impact on water resources would be kept below significant levels. This is primarily because the projects are required to adhere to NPDES permitting, SWPPPs, and employ BMPs. These measures would help safeguard water resources by managing and mitigating the effects of increased stormwater runoff.

4.1.5.3 Cultural Resources

The proposed beddown at VSFB would have no effect to resources protected under the NHPA, therefore, no cumulative effects would be anticipated.

4.1.5.4 Biological Resources

There could be potential for cumulative adverse impacts on biological resources. To avoid these impacts the DAF would conduct thorough surveys and assessments of the project area before ground disturbance. If vernal pool fairy shrimp or their habitats are identified in the project area, a redesigning of the project layout to avoid direct impacts to species or habitat of concern would allow a less than significant adverse cumulative effect determination.

4.1.5.5 Noise

The noise generated from the Proposed Action would be expected to be within less than significant levels, primarily due to construction and increased traffic from the increase of 350 personnel. Due to the temporary nature of construction noise generated from construction and the less than significant noise sources generated from increase of traffic compared to existing conditions, no significant cumulative effects are anticipated from implementation of other future projects.

4.1.5.6 Transportation

The anticipated beddown at VSFB and the associated 350 additional personnel and their dependents would contribute short-term, less than significant impacts to traffic during construction. Other future projects would likely contribute to impacts to traffic. Construction projects would cause short-term impacts due to construction traffic and potential temporary road closures. Overall, cumulative effects are anticipated to be less than significant as VSFB.

4.1.5.7 Hazardous Materials and Waste

Contaminated sites exist within the Alternative 5 interim RLF site. However, by following the processes specified in the installations LUCIP, the potential impacts of hazardous materials and

hazardous wastes in the short and long term would be less than significant in contributing to the cumulative impact.

4.1.5.8 Environmental Justice and Socioeconomics

The proposed beddown at VSFB would result in less than significant short-term impacts from construction. There could be long-term beneficial impacts to low-income populations from increased spending and job opportunities locally during construction. Overall, cumulative effects are anticipated to be less than significant with most long-term impacts being restricted to the project footprints occurring at VSFB.

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Appendix A

Agency Coordination and Public Involvement

Intergovernmental Coordination, Public and Agency Participation

The DAF coordinated with other federal agencies with jurisdiction by law or special expertise over the Proposed Action and Alternatives, as well as state and local agencies relevant to each alternative location, to inform the range of issues to be addressed in the EA. The DAF sent an Early Notification Letter, delivered by mail or email, to each agency listed below in June 2023. A sample of these letters, as well as all responses received, is provided in this appendix.

A.1 Federal, State and Local Agencies Consultation

The DAF coordinated with federal, state, and local agencies and other entities with jurisdiction by law or special expertise over the Proposed Action and alternatives to inform the range of issues to be addressed in the EA. A sample early notification letter is presented in Exhibit 1. Section A.1.1 contains a list of stakeholders DAF sent the early notification letters and Section A.1.2 contains responses received.

A.1.1 List of Stakeholders

Florida - Patrick SFB

Federal Agencies

U.S. Environmental Protection Agency
Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303
POC: Mr. Daniel Blackman, Regional Administrator

Federal Aviation Administration
Southern Region
1701 Columbia Avenue
College Park, GA 30337
POC: Mr. Michael O'Harra, Southern Regional Administrator

United States Army Corps of Engineers
Cocoa Permits Section
400 High Point Drive, Suite 600
Cocoa, FL 32926

United States Fish and Wildlife Service
Florida Ecological Services Office
7915 Bay Meadows Way, Suite 200
Jacksonville, FL 32256
POC: Mr. Larry Williams, State Supervisor

United States Senate
502 Hart Senate Office Building
Washington, DC 20510
POC: Mr. Rick Scott, Senator

284 Russell Senate Office Building
Washington, DC 20510
POC: Mr. Marco Rubio, Senator

United States House of Representatives
2150 Rayburn House Office Building
Washington, DC 20515
POC: Mr. Bill Posey, Representative

State Agencies

Florida Department of Environmental Protection
Central District
3319 Maguire Boulevard
Orlando, FL 32803
POC: Mr. Aaron Watkins, Director

Florida Division of Historical Resources
R.A. Gray Building, Room 305
500 South Bronough Street
Tallahassee, FL 32399
POC: Ms. Alissa Slade Lotane, SHPO

Florida Department of Transportation
Spaceport Office
605 Suwannee Street
Tallahassee, FL 32399
POC: Mr. Wayne Lambert, Spaceport Office Manager

Florida State Clearinghouse
Project Review and Single Point of Contact
3900 Commonwealth Blvd, Mail Station 47
Tallahassee, FL 32399
POC: Mr. Chris Stahl

St. Johns River Water Management District
PO Box 1429
Palatka, FL 32178
POC: Mr. Michael Register, Executive Director

Local Agencies

Brevard County
Viera Government Center
2725 Judge Fran Jamieson Way Building C
Viera, FL 32940
POC: Mr. Frank Abbate, County Manager

City of Cocoa Beach
PO Box 322430
Cocoa Beach, FL 32932
POC: Mr. Ben Malik, Mayor

City of Satellite Beach
565 Cassia Blvd
Satellite Beach, FL 32937
POC: Mr. Steve Osmer, Mayor

City of Melbourne
900 E. Strawbridge Ave
Melbourne, FL 32901
POC: Mr. Paul Alfrey, Mayor

Space Coast Transportation Planning Organization
2725 Judge Fran Jamieson Way
Building B, Room 105, MS #82
Melbourne, FL 32940
POC: Ms. Georganna Gillete , Executive Director

East Central Florida Regional Planning Council
455 N. Garland Ave Fourth Floor
Orlando, FL 32801
POC: Ms. Tara McCue, Executive Director

Colorado – Buckley SFB, Peterson SFB, and Schriever SFB

Federal Agencies

U.S. Army Corps of Engineers
Pueblo Regulatory Field Office
201 West 8th Street, Suite 350
Pueblo, CO 81003

U.S. Environmental Protection Agency
Region 8
1595 Wynkoop St.
Denver, CO 80202
POC: Ms. KC Becker, Regional Administrator

U.S. Fish and Wildlife Service
Colorado Ecological Services Field Office
134 Union Blvd, Suite 670
Lakewood, CO 80228
POC: Ms. Nicole Alt, Supervisor

U.S. Department of Agriculture
Natural Resources Conservation Service
Colorado State Office
PO Box 25426
Denver, CO 80225
POC: Mr. Clint Evans, State Conservationist

United States Senate
261 Russell Senate Office Building
Washington, DC 20510
POC: Honorable Michael Bennet, Senator

374 Russell Senate Office Building
Washington, DC 20510
POC: Honorable John Hickenlooper, Senator

United States House of Representatives
2371 Rayburn House Office Building
Washington DC 20510
POC: Mr. Doug Lamborn, Representative

State Agencies

Colorado Department of Agriculture
305 Interlocken Parkway
Broomfield, CO 80021
POC: Ms. Kate Greenberg, Commissioner

Colorado Department of Public Health and Environment
Environmental Health and Protection
4300 Cherry Creek Drive South
Denver, CO 80246
POC: Ms. Trisha Oeth, Director
Mr. Michael Ogletree, Director

Colorado Natural Heritage Program
1475 Campus Delivery
Fort Collins, CO 80523
POC: Mr. David Anderson, Director

History Colorado
1200 Broadway
Denver, CO 80203
POC: Ms. Dawn DiPrince, SHPO

Colorado Department of Transportation
2829 W. Howard Place
Denver, CO 80204
POC: Ms. Shoshana Lew, Executive Director

Local Agencies

El Paso County Planning and Community Development
2880 International Circle, Suite 110
Colorado Springs, CO 80910
POC: Ms. Meggan Herington, Executive Director

El Paso County Public Health Department
1675 West Garden of the Gods Roads
Suite 2044
Colorado Springs, CO 80907
POC: Mr. Ted Collas, Board of Health President

Pikes Peak Area Council of Governments
14 S Chestnut Street
Colorado Springs, CO 80905
POC: Mr. Andrew Gunning, Executive Director

El Paso County Board of County Commissioners
Centennial Hall, 200 South Cascade Suite 100
Colorado Springs, CO 80903
POC: Ms. Cami Bremer, Chair

El Paso County Community Services Department
2002 Creek Crossing Street
Colorado Springs, CO 80905
POC: Mr. Todd Marts, Executive Director

California – Vandenberg SFB

Federal Agencies

Channel Islands National Marine Sanctuary Ocean Science Education Building, 514, MC 6155
Santa Barbara, CA 93106
POC: Mr. Chris Mobley, Sanctuary Superintendent

National Marine Fisheries Service
Southwest Regional Office
263 13th Avenue South
St. Petersburg, FL 33701
POC: Ms. Mary Wunderlich, Section 7 Coordinator

National Park Service
Channel Islands National Park
1901 Spinnaker Drive
Ventura, CA 93001
POC: Mr. Ethan Mckinley, Superintendent

U.S. Army Corps of Engineers
Los Angeles District
915 Wilshire Blvd, Suite 930
Los Angeles, CA 90017
POC: Colonel Julie Balten, Commander

U.S. Coast Guard
Sector Los Angeles-Long Beach
1001 S. Seaside Avenue, Building 20
San Pedro, CA 90731
POC: Captain Kristi Bernstein, Deputy Commander

U.S. Department of Transportation Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591
POC: Mr. Billy Nolen, Acting Administrator

U.S. Environmental Protection Agency
Region 9
75 Hawthorne Street
San Francisco, CA 94105
POC: Ms. Martha Guzman, Regional Administrator

U.S. Fish and Wildlife Service
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, CA 93003
POC: Mr. Stephen Henry, Field Supervisor

United States Senate
331 Hart Senate Office Building
Washington, DC 20510
POC: Honorable Diane Feinstein, Senator
Honorable Alex Padilla, Senator

United States House of Representatives
2331 Rayburn House Office Building
Washington, DC 20515
POC: Mr. Salud Carbajal, Representative

State Agencies

California Coastal Commission
Energy, Ocean Resources, and Federal Consistency Division
455 Market Street, Suite 300
San Francisco, CA 94105
POC: Ms. Cassidy Teufel, Program Manager

California Department of Fish and Wildlife
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
POC: Mr. Ed Pert, Regional Manager

California Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816
POC: Ms. Julianne Pulanco, SHPO

Central Coast Regional Water Quality Control Board
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401
POC: Ms. Jane Gray, Chair

Office of the Governor
Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814
POC: Mr. Samuel Assefa, Director

Local Agencies

City of Lompoc
Community Development
100 Civic Center Plaza
Lompoc, CA 93436
POC: Ms. Christie Alarcon, Director

Santa Barbara County Air Pollution Control District
260 N. San Antonio Road, Suite A
Santa Barbara, CA 93110
POC: Ms. Aeron Arlin Genet, Director

Santa Barbara County Board of Supervisors
Planning and Development Division
105 E. Anapamu Street
Santa Barbara, CA 93101
POC: Ms. Lisa Plowman, Director

Non-Governmental Organizations

California Trout
435 Pacific Avenue, Suite 200
San Francisco, CA 94133
POC: Mr. Curtis Knight, Executive Director

Environmental Defense Center
906 Garden Street
Santa Barbara, CA 93101
POC: Ms. Kristen Hislop, Senior Director

Sierra Club
Santa Barbara-Ventura Chapter
PO Box 31241
Santa Barbara, CA 93130
POC: Mr. John Ullman, Chapter Executive Director

Early Notification Letter Sample

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE INSTALLATION AND MISSION SUPPORT CENTER
JOINT BASE SAN ANTONIO LACKLAND TEXAS

13 JUNE 2023

Molly Thrash
Air Force Civil Engineer Center
National Environmental Policy Act Division (AFCEC/CZN)
2261 Hughes Ave, Ste 155
JBSA Lackland TX 78236-9853

Frank Abbate
County Manager
Brevard County
2725 Judge Fran Jamieson Way Building C
Viera, FL 32940

Dear Mr. Abbate,

The U.S. Department of the Air Force (DAF) is preparing an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) to evaluate potential environmental impacts associated with the United States Space Force (USSF) decision to locate Strategic Training and Readiness Command Headquarters (HQ STARCOM) at one of multiple DAF installations (Figure 1). As part of the Environmental Impact Analysis Process (EIAP) the DAF is engaging early with tribal governments as it formulates the undertaking.

The installations being considered to host HQ STARCOM include the following:

1. Buckley Space Force Base, Colorado (BSFB), see Figure 2;
2. Patrick Space Force Base, Florida (PaSFB), see Figure 3;
3. Peterson Space Force Base, Colorado (PeSFB), see Figure 4;
4. Schriever Space Force Base, Colorado (SSFB), see Figure 5; and
5. Vandenberg Space Force Base, California (VSFB), see Figure 6.

HQ STARCOM would require 68,599 square feet of facility space and 94,500 square feet of parking area at both the temporary interim and permanent locations to support approximately 350 authorized positions. Authorized positions began filling in 2022 and will continue to be added over the next 3 years. The USSF currently has HQ STARCOM stationed at PeSFB. This location is temporary until completion of the DAF's Strategic Basing Process. Once the DAF identifies a location for beddown of HQ STARCOM, personnel and operations would relocate from current temporary facilities at PeSFB to the selected base. Operations at the new location would be conducted out

of temporary, reusable, modular components (also known as relocatable facilities, or RLFs) until construction of permanent facilities is complete.

The purpose of the Proposed Action is to beddown HQ STARCOM in conformance with Air Force Instruction (AFI) 10-503, *Strategic Basing*. The Proposed Action is needed to implement the DAF's Strategic Basing Process and to provide HQ STARCOM appropriate permanent facilities of sufficient size to perform its mission effectively.

To initiate early coordination under the EIAP, the DAF requests input in identifying general or specific issues or areas of concern regarding any potential adverse effects of the Proposed Action on resources of significance. Items identified will be incorporated into the environmental analysis. We also intend to provide you with notice once the Draft EA is complete and welcome comments and input at that time as well.

This letter serves as an initial assessment tool to inform project planning and identify potential impacts. It does not replace or fulfill the consultation obligations mandated by the National Historic Preservation Act (NHPA), the Endangered Species Act (ESA), or any other applicable regulations.

We request your comments within 30 days of receipt of this letter to ensure we can address them during the EIAP. For any questions, comments, or requests for more information, please contact Ms. Molly Thrash preferably by email at sherry.thrash@us.af.mil,, or by mail at AFCEC/CZN, 2261 Hughes Ave, Ste 155, JBSA Lackland, TX 78236, or by phone at (480) 740-1234. Thank you for your assistance.

Sincerely,

Molly Thrash, DAF
Environmental Program Manager
AFCEC NEPA Division

Attachments:
Figure 1: HQ STARCOM Beddown Locations Under Consideration
Figure 2: Proposed Interim and Permanent Beddown Locations within BSFB
Figure 3: Proposed Interim and Permanent Beddown Locations at PaSFB
Figure 4: Proposed Interim and Permanent Beddown Locations at PeSFB
Figure 5: Proposed Interim and Permanent Beddown Locations within SSFB
Figure 6: Proposed Interim and Permanent Beddown Locations within VSFB

A.1.2. Stakeholder Responses

BOARD OF COUNTY COMMISSIONERS

Natural Resources Management Department
2725 Judge Fran Jamieson Way
Building A, Room 219
Viera, Florida 32940

July 28, 2023

Ms. Molly Thrash
Air Force Civil Engineer Center
National Environmental Policy Act Division (AFCEC/CZN}
2261 Hughes Avenue, Suite 155
JBSA Lackland TX 78236-9853

RE: HQ STARTCOM Beddown, Environmental Impact Analysis Request

Dear Ms. Thrash:

This letter serves to provide Brevard County Natural Resource Management Department (NRM} comments on the Environmental Assessment for a proposed HQ Strategic Training and Readiness Command (STARTCOM} Headquarters Beddown at Patrick Space Force Base (PaSFB}, located between unincorporated Cocoa Beach and Satellite Beach, Brevard County, Florida.

NRM is aware that extensive assessment, remediation, and closure efforts regarding a variety of regulated materials are underway at PaSFB. NRM's concerns are related to existing per- and polyfluoroalkyl substances (PFAS}, an emerging contaminant, and other contaminant plumes (e.g., PCBs, petroleum}, and potential discharge to surface waters. PFAS is particularly concerning. While other contaminants might break down quickly in the lagoon, PFAS bioaccumulates up the food chain, and the Indian River Lagoon levels already exceed the human health criteria adopted in other states for fish consumption. The Environmental Protection Agency (EPA} and Florida Department of Environmental Protection (FDEP} are in the process of adopting more stringent PFAS standards than the current EPA Health Advisory Limit.

The latest information available to NRM indicates that there have been no PFAS Release Areas identified in the Beddown project location. However, continued construction means and methods should consider impacts to existing PFAS plumes at PaSFB.

Thank you for the opportunity to provide comments. Please contact me at (321} 633-2016 if you should have any questions.

Sincerely,

Mcgee, Darcie
Digitally signed by Mcgee, Darcie
DN: cn=Mcgee, Darcie, email=Darcie.Mcgee@brevardfl.gov
Date: 2023.07.28 12:32:25 -04'00'

Darcie McGee
Assistant Director, Natural Resources Management Department

Phone (321} 633-2016
Website: BrevardFL.gov

United States Department of Agriculture

NRCS
Natural Resources Conservation Service
Denver Federal Center
Building 56, Room 2604
P.O. Box 25426
Denver, CO 80225

SUBJECT: Farmland Protection Policy Act July 3rd, 2023

Molly Thrash, DAF
Air Force Civil Engineer
National Environmental Policy Act Division (AFCEC/CZN)
2261 Hughes Ave, Ste 155
JBSA Lackland TX 78236-9853

RE: Buckley SFB STARCOM HQ Development Plans - Aurora, CO – Environmental Assessment

Dear Molly,

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to non-agricultural use. It assures that to the extent possible federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland.

For the purpose of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to the FPPA requirements does not have to be currently used for cropland. Projects are subject to the FPPA requirements if they may irreversibly convert farmland to non-agriculture use and are completed by a federal agency or with assistance from a federal agency.

All aspects of this project will occur in the existing developed areas or in previously disturbed rights-of-way and the project is not subject to the FPPA. NRCS encourages the use of accepted erosion control practices during the construction of this project.

If you have any further questions, please call at (720) 544-2855.

Thank you,

T. Riley Dayberry
Asst. State Soil Scientist
thomas.dayberry@usda.gov

cc:
Eugene Backhaus - State Resource Conservationist, NRCS, Denver CO
Clint Evans – State Conservationist, NRCS, Denver CO
William Shoup – State Soil Scientist, NRCS, Denver CO

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United States Department of Agriculture

NRCS
Natural Resources Conservation Service
Denver Federal Center
Building 56, Room 2604
P.O. Box 25426
Denver, CO 80225

SUBJECT: Farmland Protection Policy Act July 3rd, 2023

Molly Thrash, DAF
Air Force Civil Engineer
National Environmental Policy Act Division (AFCEC/CZN)
2261 Hughes Ave, Ste 155
JBSA Lackland TX 78236-9853

RE: Peterson SFB STARCOM HQ Development Plans – Colorado Springs, CO – Environmental Assessment

Dear Molly,

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to non-agricultural use. It assures that to the extent possible federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland.

For the purpose of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to the FPPA requirements does not have to be currently used for cropland. Projects are subject to the FPPA requirements if they may irreversibly convert farmland to non-agriculture use and are completed by a federal agency or with assistance from a federal agency.

All aspects of this project will occur in an area identified as an urban area by the US Census Bureau and the project is not subject to the FPPA. NRCS encourages the use of accepted erosion control practices during the construction of this project.

If you have any further questions, please call at (720) 544-2855.

Thank you,

T. Riley Dayberry
Asst. State Soil Scientist
thomas.dayberry@usda.gov

cc:
Eugene Backhaus - State Resource Conservationist, NRCS, Denver CO
Clint Evans – State Conservationist, NRCS, Denver CO
William Shoup – State Soil Scientist, NRCS, Denver CO

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United States Department of Agriculture

NRCS
Natural Resources Conservation Service
Denver Federal Center
Building 56, Room 2604
P.O. Box 25426
Denver, CO 80225

SUBJECT: Farmland Protection Policy Act July 3rd, 2023

Molly Thrash, DAF
Air Force Civil Engineer
National Environmental Policy Act Division (AFCEC/CZN)
2261 Hughes Ave, Ste 155
JBSA Lackland TX 78236-9853

RE: Schriever SFB STARCOM HQ Development Plans – Colorado Springs, CO – Environmental Assessment

Dear Molly,

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to non-agricultural use. It assures that to the extent possible federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland.

For the purpose of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to the FPPA requirements does not have to be currently used for cropland. Projects are subject to the FPPA requirements if they may irreversibly convert farmland to non-agriculture use and are completed by a federal agency or with assistance from a federal agency.

All aspects of this project will occur in the existing developed areas or in previously disturbed rights-of-way and the project is not subject to the FPPA. NRCS encourages the use of accepted erosion control practices during the construction of this project.

If you have any further questions, please call at (720) 544-2855.

Thank you,

T. Riley Dayberry
Asst. State Soil Scientist
thomas.dayberry@usda.gov

cc:
Eugene Backhaus - State Resource Conservationist, NRCS, Denver CO
Clint Evans – State Conservationist, NRCS, Denver CO
William Shoup – State Soil Scientist, NRCS, Denver CO

Helping People Help the Land

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From: White, Douglas
To: THRASH, SHERRY CIV USAF AFMC AFCEC/CZN
Cc: Brandon Faustini
Subject: RE: STARCOM HQ Beddown Scoping
Date: Wednesday, July 19, 2023 2:23:28 PM

Hi Molly,

Understood. This project appears relatively similar to other recent projects that we have provided scoping comments on, including the Delta 10,11,12 Beddown; SLC-20 Launchpad; and Cape Canaveral SFS Infrastructure Development; and our scoping comments on this project would look similar to those.
Please include me on the contact list for NEPA/STARCOM and future developments in Florida.
Thank you

V/R
Doug

Douglas White
U.S. Environmental Protection Agency / Region 4
Strategic Programs Office / NEPA Section
61 Forsyth Street, SW
Atlanta, GA 30303-8960
404-562-8586

From: THRASH, SHERRY CIV USAF AFMC AFCEC/CZN <sherry.thrash@us.af.mil>
Sent: Tuesday, July 18, 2023 5:22 PM
To: White, Douglas <White.Douglas@epa.gov>
Cc: Brandon Faustini <BFaustini@thendncompanies.com>
Subject: RE: STARCOM HQ Beddown Scoping

Good afternoon, Doug.

The agency pre-scoping period has closed. As the public availability period is coming up, we need to be wrapping up a draft document to make available.

Having said that, please feel free to provide additional input, and it can be included in later drafts when other comments are incorporated. Please be sure to copy Brandon Faustini, cc'd here, on any response.

v/r
Molly

Molly Thrash, DAF
AFCEC/CZN
NEPA Program Manager, US Space Force

CALIFORNIA Water Boards

GAVIN NEWSOM
GOVERNOR

YANA GARCIA
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Coast Regional Water Quality Control Board

July 24, 2023

Sent via Electronic Mail

Molly Thrash, DAF
Environmental Program Manager
Air Force Civil Engineer Center
National Environmental Policy Act Division (AFCEC/CZN)
2261 Hughes Ave, Ste. 155
JBSA Lackland, TX 78236-9853
Email: sherry.thrash@us.af.mil

Dear Molly Thrash:

DEPARTMENT OF DEFENSE: ENVIRONMENTAL ASSESSMENT CONSIDERATIONS AT VANDENBERG SPACE FORCE BASE LOCATIONS CONSIDERED FOR PROPOSED STRATEGIC TRAINING AND READINESS COMMAND HEADQUARTERS – RECORDS REVIEW RESULTS

The California Regional Water Quality Control Board, Central Coast Region (Central Coast Water Board[1]) staff reviewed Air Force Civil Engineer Center's (AFCEC) environmental impact analysis process (EIAP) letter dated June 13, 2023, which was received on July 13, 2023, after the 30-day deadline to receive Central Coast Water Board comments. As described in the AFCEC letter, the U.S. Department of the Air Force (DAF) plans to locate the Strategic Training and Readiness Command Headquarters (HQ STARCOM) at one of five candidate DAF installations across the U.S. Vandenberg Space Force Base (VSFB) is one of the candidate hosting facilities under consideration. Although AFCEC's letter does not provide access to the actual Environmental Assessment Report for us to review. Instead, the letter provides a VSFB-specific figure that shows proposed interim and permanent beddown locations.

The purpose of this response letter is to alert AFCEC that Central Coast Water Board staff's record's review identified multiple soil and/or groundwater cleanup sites (one open and several closed) that fall within the general areas shown in the figure as HQ STARCOM beddown locations under consideration at VSFB. Of the cleanup sites identified, most notable is the Installation Restoration Program's (IRP)[2] SD024 site located under a portion of the interim beddown location. SD024 is currently undergoing a multi-year cleanup process, which commenced in the early 1990s. The proposed

[1] The Central Coast Water Board is a state regulatory agency with the responsibility for protecting the quality of the waters of the state within its area of jurisdiction, which is along the central coast of California, extending from southern Santa Clara County to northern Ventral County.
[2] The IRP program is designed to identify, investigate, and clean up hazardous substances, pollutants, and contaminants that pose environmental health and safety risks at active military installations.

interim beddown location may or may not be compatible with the continuing SD024 cleanup. Central Coast Water Board staff recommends that AFCEC confer with VSFB IRP staff regarding viability and options. More details are provided below regarding the sites identified in Central Coast Water Board staff's record's review.

Records Review Results

AFCEC identified one proposed military construction (MILCON) location and one interim, temporary, reusable, modular components (also known as relocatable facilities, or RLFs) at VSFB. Within the MILCON area, two closed cleanup sites (TU649[3] and TU587[4]) are located outside the proposed construction area footprint. One closed cleanup site (TA549[5]) is also located within the footprint of the RLF area. If construction activities extend into areas where the closed sites are located, please contact VSFB IRP staff to discuss any land use control[6] limitations and protective measures that will need to be implemented to prevent construction workers being exposed to contaminants that may remain in place.

One active IRP cleanup site known as SD024[7], (Site 24; Former Entomology Wash Rack) is located within the proposed RLF area footprint. Chlorinated solvents are detected in soil gas, soil, and groundwater beneath SD024. Portions of the RLF area, as shown on the attached map, lie within the Northern Plume Treatment and Biobarrier Treatment Areas associated with SD024. Please contact VSFB IRP staff as part of DAF's Environmental Impact Analysis Process (EIAP) if RLFs are planned for this area. Central Coast Water Board requests that VSFB retain and protect valuable IRP program cleanup assets (e.g., existing groundwater monitoring and injection wells) to ensure SD024 cleanup efficiency is not compromised. In addition, proposed soils management plans and/or future human health risk assessment reports will also need to be reviewed by the California Department of Toxic Substances Control before construction activities can begin.

VSFB IRP Staff Contacts

If DAF intends to proceed with the proposed project at VSFB, Central Coast Water Board staff recommends that you engage VSFB IRP staff. Key VSFB IRP staff include:

Kathleen Gerber, AFCEC/CZOW Kathleen.Gerber@us.af.mil, (805) 605-0577
Francesca Perrell, AFCEC/CZOW Francesca.Perrell.1@us.af.mil, (805) 606 2812

[3] More information about underground storage tanks (USTs) and other site features related to closed case TU649 can be found on the GeoTracker website. https://geotracker.waterboards.ca.gov/?surl=98mut

[4] More information related to multiple transformers once located at TU587 can be found on the GeoTracker website at https://geotracker.waterboards.ca.gov/?surl=1xxs5.

[5] More information about the above ground storage tank and transformers related to TA549 can be found on the GeoTracker website at: https://geotracker.waterboards.ca.gov/?surl=1bcrr.

[6] VSFB developed a Final Land Use Control Implementation Plan for VSFB dated August 13, 2018. More information about the plan can be found on the GeoTracker website at: https://geotracker.waterboards.ca.gov/?surl=tg3ny

[7] More information about SD024 is available on the GeoTracker website at: http://geotracker.waterboards.ca.gov/?gid=DOD100382800

Jeff Holston, AFCEC/CZOW Jefferson.Holston.1@us.af.mil, (805),605-8794

If you have questions regarding this letter, please contact Central Coast Water Board staff **Don Eley at (805) 542-4626** or Sheila Soderberg at (805) 549-3592 (email addresses provided below).

Sincerely,

Sheila Soderberg
Digitally signed by Sheila Soderberg
Date: 2023.07.24 08:15:23 -07'00'

for Matthew T. Keeling
Executive Officer

Attachment: Arcadis Figure 1, SD024 – Site Features cc:

via electronic mail:

Kathleen Gerber, AFCEC/CZOW Kathleen.Gerber@us.af.mil

Jeff Holston, AFCEC/CZOW, Jefferson.Holston.1@us.af.mil Francesca Perrell, AFCEC/CZOW Francesca.Perrell.1@us.af.mil Manjulika Chakrabarti, DTSC Manjulika.Chakrabarti@dtsc.ca.gov

Bryan Little, Central Coast Water Board Bryan.Little@Waterboards.ca.gov

Sheila Soderberg, Central Coast Water Board Sheila.Soderberg@waterboards.ca.gov
Angela Schroeter, Central Coast Water Board, Angela.Schroeter@waterboards.ca.gov
Water Board – GeoTracker File, Don.Eley@waterboards.ca.gov

GeoTracker global identification number and internet link to the SD024 case in GeoTracker:
DOD100382800

Central Coast Water Board staff's internal link to this letter's electronic file:
r:\rb3\shared\dod\facilities\vafb\correspnd\sites\24\hq starcom\07-24-2023_dod_vsfb_sd024_ea_hqstarcom.docx

H6600 DoD Vandenberg AFB, 16626, WC, SD024, CERCLA - Remedial Action - Operation (RA-O), Review and Response, EIAP

History Colorado

21 June 2023 HC #83111

Molly Thrash
Environmental Program Manager, AFCEC
Department of the Air Force
AFCEC/CZN
2261 Hughes Ave., Ste. 155
JBSA Lackland, TX 78236-9853

RE: Proposed Location and Development of the Strategic Training and Readiness Command Headquarters, Multiple Proposed Sites, Colorado

Dear M. Thrash:

Thank you for your recent correspondence received 29 June 2023, concerning a proposal to locate the aforementioned Strategic Training and Readiness Command Headquarters at one of five possible military bases within the continental United States. Three of the five proposed locations are within the state of Colorado: Buckley SFB (Arapahoe County); Peterson SFB (El Paso County); and Schriever SFB (El Paso County).

Pursuant to your request for early comments, we note that all three of the Colorado locations have vacant land which, if developed, would have the potential to uncover and affect historic and/or prehistoric archaeological resources. Buckley SFB and Peterson SFB also have identified historic districts and historic buildings within their boundaries.

Should one of the three Colorado sites be chosen for the Strategic Training and Readiness Command Headquarters complex, a historical and archaeological survey and assessment should be conducted by an individual who meets the Secretary of the Interior's Professional Qualification Standards. Please note that, because the three bases in question are on federal land, the individual(s) conducting the archaeological survey must obtain the proper permits before undertaking their work.

We look forward to working with your agency as this project moves forward. If you have any questions, please contact Joseph Saldibar, Architectural Services Manager, at (303) 866-3741.

Sincerely,

Dr. Holly Kathryn Norton Digitally signed by Dr. Holly Kathryn Norton
Date: 2023.07.13 15:35:57 -06'00'

Dawn DiPrince
State Historic Preservation Officer

A.2 Native American Consultation

The DAF offered consultation with federally recognized tribes that are historically affiliated with the geographic region of each alternative site being considered for the Proposed Action regarding the potential to affect properties of cultural, historical, or religious significance to the tribes. This section contains a list of tribes DAF sent the early notification letters including status of responses and a sample letter. [Note to Reviewer: Additional government to government consultation is ongoing. All remaining communications regarding tribal consultations will be included in the appendices of the final EA.]

Table A.2-1 provides a summary of responses from Tribes who responded to the initial inquiry.

Table A.2-1: Summary of Native American Tribal Consultation

Tribe Affiliation by Installation	Status of Response
BSFB, PeSFB, and SSFB	
Apache Tribe of Oklahoma	No Response received to date
Northern Arapaho Tribe of the Wind River Reservation, Wyoming	No Response received to date
Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation, Montana	No Response received to date
Cheyenne and Arapaho Tribes, Oklahoma	No Response received to date
Cheyenne River Sioux Tribe of the Cheyenne River Reservation, South Dakota	No Response received to date
Comanche Nation, Oklahoma	No Response received to date
Crow Tribe of Montana	No Response received to date
Eastern Shoshone Tribe of the Wind River Reservation, Wyoming	No Response received to date
Flandreau Santee Sioux Tribe of South Dakota	No Response received to date
Fort Belknap Indian Community of the Fort Belknap Reservation of Montana	No Response received to date
Fort Sill Apache Tribe of Oklahoma	No Response received to date
Jicarilla Apache Nation, New Mexico	No Response received to date
Kiowa Indian Tribe of Oklahoma	No Response received to date
Little Shell Tribe of Chippewa Indians of Montana	No Response received to date
Lower Brule Sioux Tribe of the Lower Brule Reservation, South Dakota	No Response received to date
Mescalero Apache Tribe of the Mescalero Reservation, New Mexico	No Response received to date
Northern Cheyenne Tribe of the Northern Cheyenne Indian Reservation, Montana	No Response received to date
Oglala Sioux Tribe	No Response received to date
Pawnee Nation of Oklahoma	No Response received to date
Pueblo of Taos, New Mexico	No Response received to date
Pueblo of Zuni, New Mexico	No Response received to date
Rosebud Sioux Tribe of the Rosebud Indian Reservation, South Dakota	No Response received to date
Santee Sioux Nation, Nebraska	No Response received to date
Southern Ute Indian Tribe of the Southern Ute Reservation, Colorado	No Response received to date
Spirit Lake Tribe, North Dakota	No Response received to date

Table A.2-1: Summary of Native American Tribal Consultation

Tribe Affiliation by Installation	Status of Response
Standing Rock Sioux Tribe of North & South Dakota	No Response received to date
Three Affiliated Tribes of the Fort Berthold Reservation, North Dakota	No Response received to date
Upper Sioux Community, Minnesota	No Response received to date
Ute Indian Tribe of the Uintah & Ouray Reservation, Utah	No Response received to date
Ute Mountain Ute Tribe	No Response received to date
Yankton Sioux Tribe of South Dakota	No Response received to date
PaSFB	
Miccosukee Tribe of Indians of Florida	No Response received to date
Seminole Nation of Oklahoma	No Response received to date
Seminole Tribe of Florida	No Response received to date
VSFB	
Santa Ynez Band of Chumash Indians	Not contacted because basing alternatives do not meet the definition of a federal undertaking in 36CFR800.3, and therefore were not sent an early notification letter.

Florida - Patrick SFB

Miccosukee Tribe of Indians of Florida
Tamiami Station
PO Box 440021
Miami, FL 33144
POC: Talbert Cypress

Seminole Nation of Oklahoma
36645 US-270
Wewoka, OK 74884
POC: Jake Tiger

Seminole Tribe of Florida
34725 West Boundary Road
Clewiston, FL 33440
POC: Danielle Simon

Colorado - Buckley SFB, Peterson SFB, and Schriever SFB

Apache Tribe of Oklahoma
PO Box 1330
Anadarko, OK 73005
POC: Bobby Komardley

Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation
PO Box 1027
Poplar, MT 59255
POC: Dyan Youpee

Blackfeet Nation
P.O. Box 850
Browning, MT 59417
POC: John Murray

Cheyenne and Arapaho Tribes of Oklahoma
100 Red Moon Circle
PO Box 167
Concho, OK 73022
POC: Reggie Wassana

Cheyenne River Sioux Tribe
PO Box 590
Eagle Butte, SD 57625
POC: Steve Vance

Comanche Nation of Oklahoma
PO Box 908
Lawton, OK 73502
POC: Martina Minthorn

Crow Creek
PO Box 50
Fort Thompson, SD 57339
POC: Merle Marks

Crow Tribe
PO Box 159
Crow Agency, MT 59022
POC: Aaron Brien

Eastern Shoshone Tribe
Building 17A North Fork Rd.
Fort Washakie, WY 82514
POC: Joshua Mann

Flandreau Santee Sioux Tribe
PO Box 283
Flandreau, SD 57028
POC: Gary Kills A Hundred

Fort Belknap Indian Community
656 Agency Main Street
Harlen, MT 59526
POC: Michael Black Wolf

Fort Sill Apache Tribe
48187 US Hwy 281
Apache, OK 73006
POC: Leland Darrow

Jicarilla Apache Tribe
PO Box 1367
Dulce, NM 87028

Kiowa Tribe of Oklahoma
PO Box 50
Carnegie, OK 73015
POC: Tahnee Growingthunder

Little Shell Tribe of Chippewa Indians
615 Central Avenue West
Great Falls, MT 59404
POC: Duane Reid

Lower Brule Sioux Tribe of the Lower Brule Reservation, SD
187 Oyate Circle
Lower Brule, SD 57548
POC: Boyd Gourneau

Mescalero Apache Tribe
PO Box 227
Mescalaro, NM 88340
POC: Holly Houghten

Navajo Nation
PO Box 4950
Window Rock, AZ 86515
POC: Olsen Johnson

Northern Arapaho Tribe
PO Box 396
Fort Washakie, WY 82514
POC: Crystal Bearing

Northern Cheyenne Tribe
PO Box 1128
Lame Deer, MT 59043
POC: Teanna Limpy

Oglala Sioux Tribe
Thomas Brings
TPHO
PO Box 2070
Pine Ridge, SD 57770
POC: Thomas Brings

Pawnee Nation of Oklahoma
PO Box 470
Pawnee, OK 74058
POC: Matt Reed

Pueblo of Taos
PO Box 2596
Taos, NM 87571
POC: Fred Romero

Pueblo of Zuni
PO Box 1149
Zuni, NM 87327
POC: Kurt Dongoske

Rosebud Sioux Tribe
PO Box 750
Rosebud, SD 57570
POC: Ione Quigley

Santee Sioux Nation
425 Frazier Avenue North #2
Niobrara, NE 68760
POC: Misty Flowers

Southern Ute Indian Tribe
PO Box 737
Ignacio, CO 81137
POC: Cassandra Atencio

Spirit Lake Nation
PO Box 198
Fort Trotten, ND 58335
POC: Kenneth Graywater

Standing Rock Sioux Tribe
PO Box D
Fort Yates, ND 58763
POC: Jonathan Eagle

T**hree Affiliated Tribes of the Mandan, Hidatsa & Arikara Nation**
404 Frontage Road
New Town, ND 58763
POC: Allen Demaray

Ute Indian Tribe of the Uintah & Ouray Reservation
PO Box 190
Ft. Duchesne, UT 84026
POC: Betsy Chapoose

Ute Mountain Ute Tribe
PO Box 468
Towaoc, CO 81334
POC: Terry Knight

Yankton Sioux Tribe
PO Box 1153
Wagner, SD 57380
POC: Galena Drapeau

California – Vandenberg SFB

Santa Ynez Band of Chumash Indians
PO Box 517
Santa Ynez, CA 93460
POC: Nakia Zavalla

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE INSTALLATION AND MISSION SUPPORT CENTER
JOINT BASE SAN ANTONIO LACKLAND TEXAS

12 JUNE 2023

Molly Thrash
Air Force Civil Engineer Center
National Environmental Policy Act Division (AFCEC/CZN)
2261 Hughes Ave, Ste 155
JBSA Lackland TX 78236-9853

Bobby Komardley
Chairman
Apache Tribe of Oklahoma
PO Box 1330
Anadarko, OK 73005

Dear Mr. Komardley,

The U.S. Department of the Air Force (DAF) is preparing an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) to evaluate potential environmental impacts associated with the United States Space Force (USSF) decision to locate Strategic Training and Readiness Command Headquarters (HQ STARCOM) at one of multiple DAF installations (Figure 1). As part of the Environmental Impact Analysis Process (EIAP) the DAF is engaging early with tribal governments as it formulates the undertaking.

The installations being considered to host HQ STARCOM include the following:

1. Buckley Space Force Base, Colorado (BSFB), see Figure 2;
2. Patrick Space Force Base, Florida (PaSFB), see Figure 3;
3. Peterson Space Force Base, Colorado (PeSFB), see Figure 4;
4. Schriever Space Force Base, Colorado (SSFB), see Figure 5; and
5. Vandenberg Space Force Base, California (VSFB), see Figure 6.

HQ STARCOM would require 68,599 square feet of facility space and 94,500 square feet of parking area at both the temporary interim and permanent locations to support approximately 350 authorized positions. Authorized positions began filling in 2022 and will continue to be added over the next 3 years. The USSF currently has HQ STARCOM stationed at PeSFB. This location is temporary until completion of the DAF's Strategic Basing Process. Once the DAF identifies a location for beddown of HQ STARCOM, personnel and operations would relocate from current temporary facilities at PeSFB to the selected base. Operations at the new location would be conducted out

of temporary, reusable, modular components (also known as relocatable facilities, or RLFs) until construction of permanent facilities is complete.

The purpose of the Proposed Action is to beddown HQ STARCOM in conformance with Air Force Instruction (AFI) 10-503, *Strategic Basing*. The Proposed Action is needed to implement the DAF's Strategic Basing Process and to provide HQ STARCOM appropriate permanent facilities of sufficient size to perform its mission effectively.

The DAF would like to initiate early coordination as part of the EIAP regarding the potential adverse effects of the Proposed Action on cultural and tribal resources of significance. We recognize that your Tribe has traditional cultural affiliation with the areas considered under the environmental analysis process and we respectfully request your input in identifying any issues or areas of concern you feel should be addressed. We also intend to provide you with notice once the Draft EA is complete and welcome comments and input at that time as well.

This letter serves as an initial assessment tool to inform project planning and identify potential impacts. It does not replace or fulfill the consultation obligations mandated by the National Historic Preservation Act (NHPA) or any other applicable regulations.

For any questions, comments, or requests for more information, please contact Ms. Molly Thrash preferably by email at sherry.thrash@us.af.mil,, or by mail at AFCEC/CZN, 2261 Hughes Ave, Ste 155, JBSA Lackland, TX 78236, or by phone at (480) 740-1234. Thank you for your assistance.

Sincerely,

Molly Thrash, DAF
Environmental Program Manager
AFCEC NEPA Division

Attachments:
Figure 1: HQ STARCOM Beddown Locations Under Consideration
Figure 2: Proposed Interim and Permanent Beddown Locations within BSFB
Figure 3: Proposed Interim and Permanent Beddown Locations at PaSFB
Figure 4: Proposed Interim and Permanent Beddown Locations at PeSFB
Figure 5: Proposed Interim and Permanent Beddown Locations within SSFB
Figure 6: Proposed Interim and Permanent Beddown Locations within VSFB

Appendix B

Coastal Zone Management Consistency Determination

COASTAL ZONE MANAGEMENT CONSISTENCY DETERMINATION

Section 307 of the Coastal Zone Management Act (CZMA) requires federal projects that affect land uses, water uses, or coastal resources in a state's coastal zone to be consistent, to the maximum extent practicable, with the enforceable policies of that state's federally approved coastal management plan. The Florida Coastal Management Program (FCMP) consists of 24 enforceable policies (Florida statutes) that protect and enhance Florida's natural, cultural, and economic coastal resources, and are administered by eight state agencies and five Water Management Districts. The Florida Department of Environmental Protection (FDEP) implements the FCMP and makes the state's final consistency determination, which will either agree or disagree with the applicant's own consistency determination. DAF anticipates that the Proposed Action would be consistent with the CZMA and FCMP. Table C-1 provides a summary of the 24 Florida statutes and the Proposed Action's consistency with each. The FDEP's determination is pending review of this Draft Environmental Assessment (EA).

Coastal Zone Management Determination Summary

Florida Statute	Legal Scope	Consistency Evaluation
Chapter 161 *Beach and Shore Preservation*	Authorizes the Bureau of Beaches and Coastal Systems within FDEP jurisdiction to regulate construction on or seaward of the state's beaches.	The Proposed Action would not adversely affect beach and shore management, specifically as it pertains to the Coastal Construction Permit Program, the Coastal Construction Control Line (CCCL) Program, and the Coastal Zone Protection Program. The Proposed Action would occur entirely within PaSFB and would not occur seaward of the CCCL.
Chapter 163, Part II *Growth Policy; County and Municipal Planning; Land Development Regulation*	Requires local governments to prepare, adopt, and implement comprehensive plans that encourage the most appropriate use of land and natural resources in a manner consistent with the public interest.	The Proposed Action would occur entirely within PaSFB and, therefore, would not affect municipal or county government comprehensive plans.
Chapter 186 *State and Regional Planning*	Details state level planning requirements. Requires the development of special statewide plans governing water use, land development, and transportation.	As part of the National Environmental Policy Act (NEPA) process, the Proposed Action has been coordinated with Federal, state, and local governments and agencies, including the FDEP State Clearinghouse, for compatibility with state and regional planning. During the 30-day scoping period, none of these agencies identified any issues related to state and regional planning (see Appendix A of this EA).
Chapter 252 *Emergency Management*	Provides for planning and implementation of the state's response to, efforts to recover from, and the mitigation of natural and man-made disasters.	The Proposed Action would occur entirely within PaSFB and would not have an effect on the ability of the state to respond to or recover from natural or manmade disasters.
Chapter 253 *State Lands*	Addresses the state's administration of public lands and property of this state and provides direction regarding the acquisition, disposal, and management of all state lands.	The Proposed Action would occur entirely within PaSFB. No state lands would be disturbed during the proposed construction of new facilities and the renovation to Building 991, and, therefore, would not be affected.
Chapter 258 *State Parks and Preserves*	Addresses administration and management of state parks and preserves.	The Proposed Action would not directly impact state parks, recreational areas or preserves. Secondary or indirect impacts to environmental or social resources related to the Proposed Action are not anticipated. Opportunity for recreation on state lands would not be affected.

Florida Statute	Legal Scope	Consistency Evaluation
Chapter 259 *Land Acquisition for Conservation or Recreation*	Authorizes acquisition of environmentally endangered lands and outdoor recreation lands.	The Proposed Action would occur entirely within PaSFB and would not have an effect on the acquisition of environmentally endangered or outdoor recreation lands.
Chapter 260 *Recreational Trails System*	Authorizes acquisition of land to create a recreational trails system and to facilitate management of the system.	The Proposed Action would occur entirely within PaSFB and would impact the acquisition of land to create a recreational trails system.
Chapter 267 *Historical Resources*	Addresses management and preservation of the state's archaeological and historical resources.	The Proposed Action is not anticipated to adversely affect historical or cultural resources of the State of Florida. Section 106 of the National Historic Preservation Act (NHPA) consultation with the Florida SHPO and CA SHPO is ongoing. Any mitigation measures identified during the consultation would be included in the Final EA.
Chapter 288 *Commercial Development and Capital Improvements*	Provides the framework for promoting and developing the general business, trade, and tourism components of the state economy.	The Proposed Action would occur entirely on an active military installation with limited access to the public and limited or no implications for or effect on general business, trade, and tourism components of the state economy. The additional of 350 personnel and their dependents from the proposed STARCOM HQ beddown action would benefit the local economy.
Chapter 334 *Transportation Administration*	Addresses the state's policy concerning transportation administration.	The Proposed Action would not have an impact on the state's transportation administration policies (also see Appendix A of this EA).
Chapter 339 *Transportation Finance and Planning*	Addresses the finance and planning needs of the state's transportation system.	The Proposed Action would not have an effect on the finance and planning needs of the state's transportation system (also see Appendix A of this EA).
Chapter 373 *Water Resources*	Addresses the state's policy concerning water resources.	The Proposed Action could have negligible impacts on surface waters and groundwater. Short-term, indirect, negligible impacts from soil disturbance could create non-point source water pollution; however, best management practices (BMPs) would be utilized to reduce the chance of impacts on surface water resources. Long-term, indirect, negligible impacts from the conversion of vegetated areas and permeable soils to impervious surfaces and an increase in personnel operations would could likewise create non-point source water pollution; however, BMPs would be utilized to minimize this possibility.
Chapter 375 Outdoor Recreation and Conservation Lands	Develops comprehensive multipurpose outdoor recreation plans to document recreational supply and demand, describes current recreational opportunities, estimates need for additional recreational opportunities, and proposes means to meet the identified needs.	The Proposed Action occurs entirely within PaSFB and would not impact the state's development or evaluation of multipurpose outdoor recreation plans.

Florida Statute	Legal Scope	Consistency Evaluation
Chapter 376 *Pollutant Discharge Prevention and Removal*	Regulates transfer, storage, and transportation of pollutants, and cleanup of pollutant discharges.	PaSFB currently maintains a stormwater discharge permit from FDEP. The Proposed Action would implement project specific BMPs in accordance with existing or modified permit conditions. Additionally, a comprehensive spill plan and program is maintained at PaSFB to address spills and minimize potential impacts that could result from a spill or leak of a contaminant. The Proposed Action would not alter the types of hazardous and other regulated materials used at PaSFB (e.g., cleaning solvents, lubricants). No involvement with or impact to hazardous materials or wastes is anticipated. The Proposed Action would not involve the transfer of pollutants between vessels; between onshore facilities and vessels; between offshore facilities and vessels; or between terminal facilities within jurisdiction of the state and state waters.
Chapter 377 *Energy Resources*	Addresses regulation, planning, and development of energy resources of the state.	Implementation of the Proposed Action would not cause unsupportable demands on available natural resources or energy supplies, and the construction and operation of the Proposed Action would not require nonrenewable resources.
Chapter 379 *Fish and Wildlife Conservation*	Addresses management and protection of fish and wildlife in the state.	The Proposed Action would have minimal impacts on vegetation potentially utilized by wildlife. The majority of PaSFB is developed; however, undeveloped uplands and wetlands/other surface waters potentially provide habitat to wildlife species. However, the small number of individuals that may be impacted from the implementation of the Proposed Action would not appreciably reduce the overall population of wildlife species known to occur within the region. It is anticipated that the Proposed Action would have "no effect" or "may affect, but not likely to adversely affect" protected species. Coordination with the 45th Civil Engineer Squadron Environmental Office (45 CES/CEIE) would be required during the design and permitting phase to ensure compliance with the Installation Natural Resources Management Plan (INRMP) and federal and state agency guidelines.
Chapter 380 *Land and Water Management*	Establishes land and water management policies to guide and coordinate local decisions relating to growth and development.	The Proposed Action would be consistent with local land and water management plans. The Proposed Action is subject to federal and state permit, stormwater, and environmental regulations and would require coordination with and authorization from the USACE, FDEP and SJRWMD.
Chapter 381 *Public Health, General Provision*	Establishes public policy concerning the state's public health system.	The Proposed Action does not involve the construction of an onsite sewage treatment and disposal system. Construction activities associated with the Proposed Action are governed by regulations established by the Air Force Occupational Safety and Health (AFOSH) Program and the Occupational Safety and Health Administration (OSHA). No appreciable change in the type, quantity, or disposal of solid wastes is expected. The Proposed Action would not impact public policy or management in regard to sanitation, communicable diseases, or public health.

Florida Statute	Legal Scope	Consistency Evaluation
Chapter 388 Mosquito Control	Addresses mosquito control efforts in the state.	The Proposed Action would not affect local mosquito control efforts or contribute to increased propagation of mosquitos.
Chapter 403 Environmental Control	Establishes public policy concerning environmental control in the state.	The Proposed Action would include project specific BMPs and pollution prevention measures for construction and operation. The Proposed Action is not expected to exceed applicable state water quality standards or have substantial and long-term water quality impacts. Air pollutant emissions associated with the construction of the Proposed Action would not exceed federal or state significance thresholds or cause exceedances of air quality standards. Changes to the long-term air emissions resulting from the Proposed Action are expected to be negligible. Construction and operational wastes would be collected, transported, recycled, and disposed of in compliance with applicable federal, state, and local regulations. The USSF would obtain and comply with all applicable permits as required by law.
Chapter 553 Building Construction Standard	Provides a mechanism for the uniform adoption, updating, amendment, interpretation, and enforcement of a single, unified state building code, to be called the Florida Building Code. Obtain a permit from the appropriate enforcing agency.	The Proposed Action would not affect the Building Construction Standards of the State of Florida. USSF would obtain and comply with all applicable permits as required by law.
Chapter 582 *Soil and Water Conservation*	Provides for the control and prevention of soil erosion.	Prior to construction of the Proposed Action, a project specific Stormwater pollution prevention plan (SWPPP) would be developed and followed, and project specific BMPs addressing erosion and sediment controls would be implemented to minimize impact to soils and water quality. The Proposed Action would be consistent with the current characteristic features of the area and landscape and would not result in any changes to land use. The Proposed Action would not affect soils or farmland within a Soil and Water Conservation District and would not convert prime farmland.

Appendix C

Air Conformity Applicability Model Report

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

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: BUCKLEY AFB
State: Colorado
County(s): Arapahoe
Regulatory Area(s): Denver Metro, CO; Denver-Boulder, CO; Denver-Boulder-Greeley-Ft Collins-Loveland, CO; Denver Metro/North Front Range, CO

b. Action Title: Headquarters Strategic Training and Readiness Command (STARCOM) at Buckley

c. Project Number/s (if applicable):

d. Projected Action Start Date: 7 / 2024

e. Action Description:

The Proposed Action includes establishment of HQ STARCOM in permanent facilities at one of five considered USSF bases. HQ STARCOM would require 68,599 square feet of facility space including 36,700 square feet of secure space suitable for the handling of sensitive and classified data. In addition, 94,500 square feet of parking area would be needed at both the temporary interim and permanent locations to support approximately 350 authorized positions.

f. Point of Contact:

Name: Katelyn Kopp
Title: Contractor
Organization: Potomac Hudson Engineering
Email: katelyn.kopp@phe.com
Phone Number: 301-907-9078

2. Analysis: Total reasonably foreseeable net change in direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the "worst-case" (highest annual emissions) and "steady state" (no net gain/loss in emission stabilized and the action is fully implemented) emissions. General Conformity under the Clean Air Act, Section 1.76 has been evaluated for the action described above according to the requirements of 40 CFR 93, Subpart B.

All emissions estimates were derived from various sources using the methods, algorithms, and emission factors 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*. For greater details of this analysis, refer to the Detail ACAM Report.

____ applicable
_X_ not applicable

Conformity Analysis Summary:

2024

Pollutant		GENERAL CONFORMITY

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

	Action Emissions (ton/yr)	Threshold (ton/yr)	Exceedance (Yes or No)
Denver Metro, CO			
VOC	0.268		
NOx	0.189		
CO	3.531		
SOx	0.002		
PM 10	0.006	100	No
PM 2.5	0.006		
Pb	0.000		
NH3	0.026		
Denver-Boulder, CO			
VOC	0.268		
NOx	0.189		
CO	3.531	100	No
SOx	0.002		
PM 10	0.006		
PM 2.5	0.006		
Pb	0.000		
NH3	0.026		
Denver-Boulder-Greeley-Ft Collins-Loveland, CO			
VOC	0.268	25	No
NOx	0.189	25	No
CO	3.531		
SOx	0.002		
PM 10	0.006		
PM 2.5	0.006		
Pb	0.000		
NH3	0.026		
Denver Metro/North Front Range, CO			
VOC	0.268	100	No
NOx	0.189	100	No
CO	3.531		
SOx	0.002		
PM 10	0.006		
PM 2.5	0.006		
Pb	0.000		
NH3	0.026		

2025

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Denver Metro, CO			
VOC	1.048		
NOx	4.539		
CO	12.417		
SOx	0.013		
PM 10	4.759	100	No
PM 2.5	0.172		
Pb	0.000		
NH3	0.057		
Denver-Boulder, CO			
VOC	1.048		
NOx	4.539		

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

CO	12.417	100	No
SOx	0.013		
PM 10	4.759		
PM 2.5	0.172		
Pb	0.000		
NH3	0.057		
Denver-Boulder-Greeley-Ft Collins-Loveland, CO			
VOC	1.048	25	No
NOx	4.539	25	No
CO	12.417		
SOx	0.013		
PM 10	4.759		
PM 2.5	0.172		
Pb	0.000		
NH3	0.057		
Denver Metro/North Front Range, CO			
VOC	1.048	100	No
NOx	4.539	100	No
CO	12.417		
SOx	0.013		
PM 10	4.759		
PM 2.5	0.172		
Pb	0.000		
NH3	0.057		

2026

Pollutant	**Action Emissions (ton/yr)**	**GENERAL CONFORMITY**	
		Threshold (ton/yr)	**Exceedance (Yes or No)**
Denver Metro, CO			
VOC	0.560		
NOx	0.645		
CO	7.279		
SOx	0.016		
PM 10	0.040	100	No
PM 2.5	0.038		
Pb	0.000		
NH3	0.051		
Denver-Boulder, CO			
VOC	0.560		
NOx	0.645		
CO	7.279	100	No
SOx	0.016		
PM 10	0.040		
PM 2.5	0.038		
Pb	0.000		
NH3	0.051		
Denver-Boulder-Greeley-Ft Collins-Loveland, CO			
VOC	0.560	25	No
NOx	0.645	25	No
CO	7.279		
SOx	0.016		
PM 10	0.040		
PM 2.5	0.038		
Pb	0.000		

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

NH3	0.051		
Denver Metro/North Front Range, CO			
VOC	0.560	100	No
NOx	0.645	100	No
CO	7.279		
SOx	0.016		
PM 10	0.040		
PM 2.5	0.038		
Pb	0.000		
NH3	0.051		

2027 - (Steady State)

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Denver Metro, CO			
VOC	0.560		
NOx	0.645		
CO	7.279		
SOx	0.016		
PM 10	0.040	100	No
PM 2.5	0.038		
Pb	0.000		
NH3	0.051		
Denver-Boulder, CO			
VOC	0.560		
NOx	0.645		
CO	7.279	100	No
SOx	0.016		
PM 10	0.040		
PM 2.5	0.038		
Pb	0.000		
NH3	0.051		
Denver-Boulder-Greeley-Ft Collins-Loveland, CO			
VOC	0.560	25	No
NOx	0.645	25	No
CO	7.279		
SOx	0.016		
PM 10	0.040		
PM 2.5	0.038		
Pb	0.000		
NH3	0.051		
Denver Metro/North Front Range, CO			
VOC	0.560	100	No
NOx	0.645	100	No
CO	7.279		
SOx	0.016		
PM 10	0.040		
PM 2.5	0.038		
Pb	0.000		
NH3	0.051		

The Criteria Pollutants (or their precursors) with a General Conformity threshold listed in the table above are pollutants within one or more designated nonattainment or maintenance area/s for the associated National Ambient

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

Air Quality Standard (NAAQS). These pollutants are driving this GCR Applicability Analysis. Pollutants exceeding the GCR thresholds must be further evaluated potentially through a GCR Determination.

The pollutants without a General Conformity threshold are pollutants only within areas designated attainment for the associated NAAQS. These pollutants have an insignificance indicator for VOC, NOx, CO, SOx, PM 10, PM 2.5, and NH3 of 250 ton/yr (Prevention of Significant Deterioration major source threshold) and 25 ton/yr for Pb (GCR de minimis value). Pollutants below their insignificance indicators are at rates so insignificant that they will not cause or contribute to an exceedance of one or more NAAQSs. These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Refer to the *Level II, Air Quality Quantitative Assessment Insignificance Indicators* for further details.

None of the annual net change in estimated emissions associated with this action are above the GCR threshold values established at 40 CFR 93.153 (b); therefore, the proposed Action has an insignificant impact on Air Quality and a General Conformity Determination is not applicable.

Katelyn Kopp, Contractor	Sep 08 2023
Name, Title	**Date**

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

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: PATRICK AFB
State: Florida
County(s): Brevard
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Headquarters Strategic Training and Readiness Command (STARCOM) at Patrick

c. Project Number/s (if applicable):

d. Projected Action Start Date: 7 / 2024

e. Action Description:

The Proposed Action includes establishment of HQ STARCOM in permanent facilities at one of five considered USSF bases. HQ STARCOM would require 68,599 square feet of facility space including 36,700 square feet of secure space suitable for the handling of sensitive and classified data. In addition, 94,500 square feet of parking area would be needed at both the temporary interim and permanent locations to support approximately 350 authorized positions.

f. Point of Contact:

Name: Katelyn Kopp
Title: Contractor
Organization: Potomac Hudson Engineering
Email: katelyn.kopp@phe.com
Phone Number: 301-907-9078

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	0.294	250	No
NOx	0.174	250	No
CO	4.458	250	No
SOx	0.003	250	No
PM 10	0.005	250	No
PM 2.5	0.004	250	No
Pb	0.000	25	No
NH3	0.026	250	No

2025

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.103	250	No
NOx	4.504	250	No
CO	14.431	250	No
SOx	0.013	250	No
PM 10	4.755	250	No
PM 2.5	0.168	250	No
Pb	0.000	25	No
NH3	0.057	250	No

2026

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.614	250	No
NOx	0.637	250	No
CO	9.152	250	No
SOx	0.016	250	No
PM 10	0.038	250	No
PM 2.5	0.037	250	No
Pb	0.000	25	No
NH3	0.052	250	No

2027 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			

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

VOC	0.614	250	No
NOx	0.637	250	No
CO	9.152	250	No
SOx	0.016	250	No
PM 10	0.038	250	No
PM 2.5	0.037	250	No
Pb	0.000	25	No
NH3	0.052	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.

Katelyn Kopp, Contractor — Sep 08 2023

Name, Title — **Date**

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

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: PETERSEN AFB
State: Colorado
County(s): El Paso
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Headquarters Strategic Training and Readiness Command (STARCOM) at Peterson

c. Project Number/s (if applicable):

d. Projected Action Start Date: 7 / 2024

e. Action Description:

The Proposed Action includes establishment of HQ STARCOM in permanent facilities at one of five considered USSF bases. HQ STARCOM would require 68,599 square feet of facility space including 36,700 square feet of secure space suitable for the handling of sensitive and classified data. In addition, 94,500 square feet of parking area would be needed at both the temporary interim and permanent locations to support approximately 350 authorized positions.

f. Point of Contact:

Name: Katelyn Kopp
Title: Contractor
Organization: Potomac Hudson Engineering
Email: katelyn.kopp@phe.com
Phone Number: 301-907-9078

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*.

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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	0.103	250	No
NOx	0.073	250	No
CO	1.362	250	No
SOx	0.001	250	No
PM 10	0.002	250	No
PM 2.5	0.002	250	No
Pb	0.000	25	No
NH3	0.010	250	No

2025

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.718	250	No
NOx	4.307	250	No
CO	8.079	250	No
SOx	0.010	250	No
PM 10	4.752	250	No
PM 2.5	0.165	250	No
Pb	0.000	25	No
NH3	0.025	250	No

2026

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.230	250	No
NOx	0.413	250	No
CO	2.941	250	No
SOx	0.013	250	No
PM 10	0.032	250	No
PM 2.5	0.031	250	No
Pb	0.000	25	No
NH3	0.020	250	No

2027 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			

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

VOC	0.230	250	No
NOx	0.413	250	No
CO	2.941	250	No
SOx	0.013	250	No
PM 10	0.032	250	No
PM 2.5	0.031	250	No
Pb	0.000	25	No
NH3	0.020	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.

Katelyn Kopp, Contractor — Sep 08 2023

Name, Title — **Date**

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

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: SCHRIEVER AFB
State: Colorado
County(s): El Paso
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Headquarters Strategic Training and Readiness Command (STARCOM) at Schriever

c. Project Number/s (if applicable):

d. Projected Action Start Date: 7 / 2024

e. Action Description:

The Proposed Action includes establishment of HQ STARCOM in permanent facilities at one of five considered USSF bases. HQ STARCOM would require 68,599 square feet of facility space including 36,700 square feet of secure space suitable for the handling of sensitive and classified data. In addition, 94,500 square feet of parking area would be needed at both the temporary interim and permanent locations to support approximately 350 authorized positions.

f. Point of Contact:

Name: Katelyn Kopp
Title: Contractor
Organization: Potomac Hudson Engineering
Email: katelyn.kopp@phe.com
Phone Number: 301-907-9078

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*.

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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	0.268	250	No
NOx	0.189	250	No
CO	3.531	250	No
SOx	0.002	250	No
PM 10	0.006	250	No
PM 2.5	0.006	250	No
Pb	0.000	25	No
NH3	0.026	250	No

2025

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.049	250	No
NOx	4.558	250	No
CO	12.433	250	No
SOx	0.013	250	No
PM 10	4.761	250	No
PM 2.5	0.173	250	No
Pb	0.000	25	No
NH3	0.057	250	No

2026

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.560	250	No
NOx	0.645	250	No
CO	7.279	250	No
SOx	0.016	250	No
PM 10	0.040	250	No
PM 2.5	0.038	250	No
Pb	0.000	25	No
NH3	0.051	250	No

2027 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			

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

VOC	0.560	250	No
NOx	0.645	250	No
CO	7.279	250	No
SOx	0.016	250	No
PM 10	0.040	250	No
PM 2.5	0.038	250	No
Pb	0.000	25	No
NH3	0.051	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.

Katelyn Kopp, Contractor — Sep 08 2023

Name, Title — **Date**

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

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: VANDENBERG AFB
State: California
County(s): Santa Barbara
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Headquarters Strategic Training and Readiness Command (STARCOM) at Vandenburg

c. Project Number/s (if applicable):

d. Projected Action Start Date: 7 / 2024

e. Action Description:

The Proposed Action includes establishment of HQ STARCOM in permanent facilities at one of five considered USSF bases. HQ STARCOM would require 68,599 square feet of facility space including 36,700 square feet of secure space suitable for the handling of sensitive and classified data. In addition, 94,500 square feet of parking area would be needed at both the temporary interim and permanent locations to support approximately 350 authorized positions.

f. Point of Contact:

Name: Katelyn Kopp
Title: Contractor
Organization: Potomac Hudson Engineering
Email: katelyn.kopp@phe.com
Phone Number: 301-907-9078

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*.

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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	0.292	250	No
NOx	0.151	250	No
CO	1.844	250	No
SOx	0.003	250	No
PM 10	0.018	250	No
PM 2.5	0.006	250	No
Pb	0.000	25	No
NH3	0.035	250	No

2025

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	1.088	250	No
NOx	4.454	250	No
CO	8.704	250	No
SOx	0.015	250	No
PM 10	4.786	250	No
PM 2.5	0.174	250	No
Pb	0.000	25	No
NH3	0.080	250	No

2026

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.607	250	No
NOx	0.570	250	No
CO	3.904	250	No
SOx	0.017	250	No
PM 10	0.062	250	No
PM 2.5	0.040	250	No
Pb	0.000	25	No
NH3	0.070	250	No

2027 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			

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

VOC	0.607	250	No
NOx	0.570	250	No
CO	3.904	250	No
SOx	0.017	250	No
PM 10	0.062	250	No
PM 2.5	0.040	250	No
Pb	0.000	25	No
NH3	0.070	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.

Katelyn Kopp, Contractor — Sep 08 2023

Name, Title — **Date**

Appendix D

Definition of Resources Retained for Detailed Analysis and Regulatory Setting

D.1 Air Quality and Greenhouse Gas/Climate Change

Air quality conditions at a given location are a function of several factors including the quantity and type of pollutants emitted locally and regionally, as well as the dispersion rates of pollutants in the region. Primary factors affecting pollutant dispersal include wind speed and direction, atmospheric stability, climate and temperature, and topography.

The Region of Influence (ROI) for air quality is the air quality control region (AQCR) or, in California, the air pollution control district (APCD) for each alternative site. Air quality and climate conditions within the ROI are described in terms of the USEPA's attainment list and the relationship to air quality standards.

Criteria Pollutants

This section assesses the baseline conditions for air quality and climate change within the sites and assesses the plausibility of air quality and/or climate change to affect or be affected by the implementation of the Proposed Action at any of the proposed alternative sites. The National Ambient Air Quality Standards (NAAQS) represent the acceptable levels of exposure to criteria pollutants, defined as carbon monoxide (CO); lead (Pb); nitrogen dioxide (NO_2); ozone (O_3); particulate matter, divided into two size classes of aerodynamic size less than or equal to 2.5 micrometers ($PM_{2.5}$), and aerodynamic size less than or equal to 10 micrometers (PM_{10}); and sulfur dioxide (SO_2). NAAQS are split into two types. Primary air quality standards provide public health protection, including “sensitive populations” such as the elderly. Secondary standards provide public welfare protection, including decreased visibility and damage to animals and crops. Primary NAAQS are used as the basis for determining whether a region is complying with Clean Air Act (CAA) requirements. These criteria can be found in Table D-1.

Table D-1 Criteria Air Pollutants

Pollutant		Primary/Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)		Primary	8 hours	9 ppm	Not to be exceeded more than once per year
			1 hour	35 ppm	
Lead (Pb)		Primary and Secondary	Rolling 3-month average	0.15 µg/m^3	Not to be exceeded
Nitrogen Dioxide (NO_2)		Primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentration, averaged over 3 years
		Primary and Secondary	1 year	53 ppb	Annual Mean
Ozone (O_3)		Primary and Secondary	8 hours	0.070 ppm	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution (PM)	$PM_{2.5}$	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	98th percentile, averaged over 3 years

Table D-1 Criteria Air Pollutants

Pollutant		Primary/Secondary	Averaging Time	Level	Form
	PM_{10}	Primary and Secondary	24 hours	150 µg/m^3	Not to be exceeded once per year on average over 3 years
Sulfur Dioxide (SO_2)		Primary	1 hour	75 ppb	99th 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: USEPA, 2023a
Notes: µg – micrograms; CO – carbon monoxide; m3 – cubic meter; NO_2 – nitrogen dioxide; O_3 – ozone; Pb – lead; $PM_{2.5}$ – particulate matter of diameter 2.5 microns or less; PM_{10} – particulate matter of diameter 10 microns or less; ppm – parts per million; ppb – parts per billion; SO_2 – sulfur dioxide

The ambient air quality in an area is classified by whether it complies with the NAAQS. Areas where monitored outdoor air concentrations are within an applicable NAAQS are considered in attainment of that NAAQS. If sufficient ambient air monitoring data are not available to make a determination, the area is instead deemed as attainment/unclassifiable. Areas where monitored outdoor air concentrations exceed the NAAQS are classified by the USEPA as nonattainment. Nonattainment designations for some pollutants (e.g., O_3) can be further classified based on the severity of the NAAQS exceedances. Lastly, areas that have historically exceeded the NAAQS but have since instituted controls and programs that have successfully remedied these exceedances are known as maintenance areas.

The General Conformity Rule of the federal CAA mandates that the federal government abides by approved State Implementation Plans (SIP) (i.e., air quality control plans). Air Force Policy Directive (AFPD) 32-70, Environmental Considerations in Air Force Programs and Activities, mandates that the DAF comply with all federal, state, and local environmental laws and standards. In accordance with AFPD 32-70, AFMAN 32-7002, Environmental Compliance and Pollution Prevention, explains responsibilities and specific details on how to comply with the CAA and other federal, state, and local air quality regulations. This provides further and more specific instructions on the requirements of the DAF's EIAP for air quality promulgated at 32 CFR 989.30, which mandates that EIAP documents address General Conformity.

Other Air Quality Considerations

In addition to the criteria pollutants discussed above, Hazardous Air Pollutants (HAPs) also are regulated under the CAA. The USEPA has identified 188 HAPs that are known or suspected to cause health effects in small concentrations. HAPs are emitted by a wide range of anthropogenic and naturally occurring sources, including combustion of fuel from mobile and stationary sources. Unlike the NAAQS for criteria pollutants, federal ambient air quality standards do not exist for non-criteria pollutants. Therefore, HAPs are regulated through specific air emission permit provisions for stationary sources and HAP emission limits for mobile sources.

The CAA also designates visibility goals in Class I Federal areas, such as national parks or wilderness areas. Visibility-impairing pollutants can be transported over state lines, so states are encouraged to work together to develop regional visibility plans. Visibility-impairing pollutants are emitted by a range of sources, including mobile source fuel combustion, agriculture, and manufacturing. Emissions of said pollutants are regulated by NAAQS, through state programs, and through specific air emission permit provisions.

The current level of air emissions from all natural and human activities within a region represents the baseline emissions for that area. The National Emissions Inventory, updated every 3 years by the USEPA, can be used to identify the baseline emissions. It contains estimates of annual air emissions by county within the U.S. The most recent publicly available inventory data is for calendar year 2020 (USEPA, 2020).

Greenhouse Gas Emissions

Greenhouse gas (GHG) emissions released into the atmosphere from human-induced fossil fuel combustion are widely believed to be contributing to changes in global climate. GHGs, which include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), water vapor, and several trace gases, trap radiant heat reflected from Earth in the atmosphere, causing Earth's average surface temperature to rise. The predominant GHGs are CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Although GHG levels have varied for millennia (along with corresponding variations in climate conditions), increases driven by human activity have contributed significantly to recent climatic changes.

D.2 Water Resources

Water resources encompass both groundwater and surface water. Groundwater refers to subsurface water sources and is characterized by factors such as the depth of the aquifer or water table, the quality of the water, and the geological composition of the surrounding area. Stormwater flows, which are the result of precipitation runoff, can be amplified by impermeable surfaces and have the potential to introduce sediments and other pollutants into the water resource environment. Surface water resources comprise lakes, rivers, streams, and wetlands. The evaluation of these resources in the EA aligns with the project boundaries associated with the Proposed Action plans, which involve construction and demolition activities.

Per section 307 of the Coastal Zone Management Act (CZMA), the Proposed Action is subject to a federal Coastal Zone Consistency Review because it would involve activities within the coastal zone. Consistency with the Coastal Zone Management Act will be considered and sought for Alternative 2 – PaSFB and Alternative 5 - VSFB as these are the only two action alternatives located within the coastal zone.

D.3 Cultural Resources

Cultural resources are defined as any prehistoric or historic place, site, building, structure, object, or collection of these elements that was built or used by people. Some cultural resources, such as Traditional Cultural Places and Sacred Sites, may be places without any visible evidence of human use or modification. A restricted class of cultural resources are those that are designated as historic properties, which are defined at 36 CFR 800.16(l)(1) as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP."

This section identifies cultural resources investigations and known cultural resources in and adjacent to the proposed interim and permanent site alternatives. Most of the areas encompassed in the five installations included as alternatives have been surveyed for cultural resources. Although it is likely that most of the surficial archaeological resources have been discovered at the five installations, the potential for buried cultural resources remains. Therefore, it is important that all ground-disturbing activities – including grading, excavating, digging, trenching, or ripping – that have the potential for impacts on subsurface archaeological materials be reviewed for effects on extant but previously unidentified cultural resources. The likelihood of encountering

previously undocumented cultural resources is assessed for each installation and is based on such factors as the extent of previous surveys and previous disturbances.

To identify potential effects to historic properties, the Area of Potential Effect (APE) is defined to address both direct and indirect effects. The APE for direct and indirect effects encompasses those areas that might be affected by construction activities within the building site of each alternative, plus a reasonable buffer for the passage and usage of equipment, utilities, and the like. The APE for indirect effects coincides with the direct APE, and takes into consideration the viewshed; that is, the likelihood that visual intrusions may compromise the integrity of nearby historic properties.

In addition to these conventional cultural resources investigations, the Air Force and candidate installations also are conducting ongoing government-to-government consultation with several Native American tribes that claim cultural affiliation to lands encompassed by the installations. Conducted in compliance with DAFI 90-2002, Air Force Interactions with Federally Recognized Tribes, these consultations are intended to build relationships and address potential impacts on Protected Tribal Resources, as defined by DoDI 4710.02, DoD Interactions with Federally Recognized Tribes.

D.4 Biological Resources

Biological resources are defined as the resource consisting of native vegetation and wildlife species. Habitat in which vegetative and wildlife species rely on in order to occupy or potentially occupy the analysis area of the Proposed Action are also included in the definition. Specific species defined under biological resources, for the purposes of this EA, will be focused on listed species.

Listed species are those species that are listed as threatened, endangered, candidate, or species of concern under the Endangered Species Act (ESA) by the USFWS and species listed under state designations. Federal agencies, in consultation with the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS), are required by Section 7(a)(4) of the ESA (19 U.S.C. 1536(c)), as amended, to ensure that any actions authorized, funded, or carried out by the agency do not jeopardize the continued existence of a federally listed threatened or endangered species, or result in the destruction or modification of designated critical habitat of a federally listed species.

State agencies also designate special-status species. This section also discusses species designated as threatened or endangered at the state level within California, Colorado, and Florida.

Migratory birds are protected under the MBTA (16 U.S.C. 703-711); bald and golden eagles are additionally protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d). EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, (66 FR 3853) directs federal agencies to identify where unintentional take is likely to have a measurable negative effect on migratory bird populations and to avoid or minimize adverse impacts on migratory birds through enhanced collaboration with the USFWS. EO 13186 was issued in part to ensure that environmental analyses of federal actions assess the impacts of these actions on migratory birds. It also states that emphasis should be placed on species of concern, priority habitats, and key risk factors, and it prohibits the take of any migratory bird without authorization from the USFWS.

D.4 Noise

Noise is generally defined as unwanted sound. Excessive noise can lead to annoyance and disrupt simple day-to-day activities, especially in areas where occupants are more susceptible to the adverse effects of noise pollution. These areas are referred to as noise-sensitive receptors and include, but are not limited to, residences, schools, daycare facilities, libraries, hospitals, elderly housing, and outdoor recreational areas.

Noise levels are measured in terms of decibels (dB) and are typically adjusted to the "A-weighted" scale (i.e., dBA) to account for the varying sensitivity of the human ear to different frequencies of sound. Human response to noise can vary depending on the type and characteristic of the noise source, the distance between the noise source and the receptor, the sensitivity of the receptor, and the time of day. Table D-2 presents typical sound levels and the corresponding human response. In general, sounds at or below 70 dBA are generally considered safe. The USEPA and the World Health Organization recommend maintaining environmental noises below 70 dBA over 24 hours (75 dBA over 8 hours) to prevent noise-induced hearing loss. Over 2 hours of continuous noise levels between 80 dBA to 85 dBA can lead to damage of hearing (CDC, 2022).

Table D-2 Sound Levels and Human Response

Sound Level (dBA)	Effect	Outdoor	Indoor
30	Very quiet	Rustling leaves	Soft whisper (15 feet)
40	Quiet	Quiet residential area	Library
55	Ambient	Rainfall or light auto traffic (100 feet)	Refrigerator
60	Intrusive	Normal Conversation	Air conditioning unit (20 feet)
70	Telephone use difficult	Freeway traffic	Noisy restaurant or TV audio
80	Annoying	Downtown (large city)	Alarm clock (2 feet) or ringing telephone
90	Very annoying; hearing damage (8 hours)	Tractor, bulldozer, excavator	Garbage disposal
100	Very annoying	Garbage truck, motorcycle	Subway train
110	Strained vocal effort	Pile drivers	Power saw at 3 feet
120	Maximum vocal effort	Jet takeoff (200 feet) or auto horn (3 feet)	Rock concert
140	Painfully loud	Carrier deck jet operation	--

Source: USEPA 1981
dBA = A-weighted decibel

The standard reduction for point source noise is 6 dB per doubling of distance from the source. Barriers, both manmade (e.g., sound walls) and natural (e.g., forested areas, hills, etc.), as well as other natural factors, such as temperature and climate, may reduce noise levels. Standard buildings typically provide, on average, approximately 15 dB of noise reduction between exterior and interior noise levels for buildings with windows open and 25 dB with windows closed (USEPA 1978).

The day-night average sound level (DNL) is another common metric that was developed by the USEPA to define the level of noise exposure on a community. The DNL presents the average sound energy at a given location over a 24-hour period (i.e., the DNL does not represent the sound level for a specific event but instead describes the average noise level over a 24-hour period). The DNL also adds an additional 10 dB to events occurring between 10:00 p.m. and 7:00

a.m. This 10-dB "night-time adjustment" represents the added intrusiveness of sounds due to the increased sensitivity to noise when ambient sound levels are low. The DNL has become the standard metric used by many government agencies and organizations, including the USEPA and the Federal Aviation Administration for addressing aircraft noise.

The Noise Control Act of 1972 (42 USC 4901) directs federal agencies to comply with applicable federal, state, interstate, and local noise control regulations. In 1982, the USEPA transferred the primary responsibility of regulating noise to state and local governments. Additionally, under the Noise Control Act, the Occupational Safety and Health Act (OSHA) noise standard (29 CFR 1910.95) establishes workplace standards for noise. The minimum requirement states that constant noise exposure must not exceed 90 dBA over an 8-hour period. The highest allowable sound level to which workers can be constantly exposed is 115 dBA; exposure to this level must not exceed 15 minutes within an 8-hour period. The standards limit instantaneous exposure, such as impact noise, to 140 dBA. If noise levels exceed these standards, employers are required to provide hearing protection equipment that reduces sound levels to acceptable limits (OSHA, 2008).

Because military noise is a by-product of weapons used to train for national defense, Congress exempted military weapons from being regulated as a product as defined by the Noise Control Act. Despite the exemption, in practice, all of the armed services have had a long-standing policy to work to minimize the public's exposure to high noise levels (AFCEC, 2023). As such, the DoD established the Air Installation Compatible Use Zone (AICUZ) program as a planning tool to help avoid incompatible urban development and land use conflicts around military airfields. Studies under this program are used in coordination efforts with local, state, and federal governments for their consideration in land use planning. Under the AICUZ program, aircraft operational data from an installation is collected and is used to develop noise contour maps indicating ground dB-level averages and noise exposure from aircraft operations. These noise contours are plotted in increments of 5 dB, ranging from a DNL of 65 dB up to 80+ dB. For land use planning purposes, an area with a 65-dB or less DNL is considered an area of low or no impact (DAF, 2020b). The USAF sites new construction on installations in compatible land use areas to the maximum extent possible. In circumstances when it is not feasible, USAF incorporates appropriate sound attenuation in the design and construction for structures in the high noise zone per AICUZ guidelines (AFCEC, 2023).

D.4 Transportation

This section describes the transportation systems for each installation and their respective surrounding areas. The ROI for transportation consists of the key public roadways providing access to the installation and the main roadways within the installation.

Typically, state, county and local agencies coordinate and are responsible for the public roads serving the installations. These agencies are responsible for planning, designing, constructing, operating, and/or maintaining the public roadways surrounding the installations.

Annual average daily traffic (AADT) is a measure of the average daily number of vehicles that pass through a given segment of roadway and is indicative of traffic conditions (i.e., higher AADT volumes lead to increases in traffic congestion and delays). Available AADT data from a state's traffic database are presented in the following subsections below for key roadway segments near an installation.

D.5 Hazardous Material and Waste

Hazardous materials and hazardous waste are those substances defined as hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, 42 U.S.C. 9601-9675), the Toxic Substances Control Act (15 U.S.C. 2601-2671), and the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act (42 U.S.C. 6901-6992). In addition, hazardous materials are regulated by the Emergency Planning and Community Right-to-Know Act (42 U.S.C. 11001-11050). Hazardous materials are further defined in AFMAN 32-7002, Environmental Compliance and Pollution Prevention, to include all items covered under the Emergency Planning and Community Right-to Know Act or other applicable host nation, federal, state, or local tracking or reporting requirements.

The presence of asbestos-containing materials (ACM), lead-based paint (LBP), and polychlorinated biphenyls (PCBs) in building materials and equipment can be found on installations. These hazardous materials were commonly used in construction and manufacturing in the past. Many buildings and equipment on Air Force installations were constructed or manufactured during a time when the use of these substances was prevalent. Asbestos was widely used for its fire-resistant and insulating properties, while lead-based paint was commonly used for its durability and weather resistance. PCBs were utilized in electrical equipment and insulation due to their insulating properties and chemical stability.

The DoD Environmental Restoration Program (ERP) was created to facilitate the remediation of environmental contamination at DoD installations. ERP sites encompass areas affected by previous defense activities that necessitate cleanup under the CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA). Additionally, certain corrective actions mandated by the Resource Conservation and Recovery Act (RCRA) are also included. On the other hand, sites not covered by the ERP are addressed through the Compliance-Related Cleanup Program.

D.6 Environmental Justice and Socioeconomics

The United States Environmental Protection Agency (USEPA) defines environmental justice as the equitable treatment and meaningful engagement of all individuals, regardless of race, color, national origin, or income, concerning the development, implementation, and enforcement of environmental laws, regulations, and policies (USEPA, 2022). This principle is mandated by two Executive Orders (EOs), specifically EO 12898, which requires federal actions to address environmental justice in minority populations and low-Income populations, and EO 13045, which prioritizes the protection of children from environmental health risks and safety risks. Additional EOs guiding this analysis are as follows:

- EO 13985 Advancing Racial Equity and Support for Underserved Communities Through the Federal Government
- EO 13990 Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis
- EO 14008 Tackling the Climate Crisis at Home and Abroad
- EO 14091 Further Advancing Racial Equity and Support for Underserved Communities Through the Federal Government

These orders instruct federal agencies to consider the potential adverse effects of their actions on environmental justice communities and children and to take necessary steps to address any disproportionate impacts that could affect these communities.

CEQ has established specific criteria to determine environmental justice communities based on race and income. According to these criteria, minority populations are considered to be present when they make up more than 50 percent of the population or significantly exceed the proportion in the surrounding area. Similarly, low-income populations are identified when there is a noticeable disparity in income and poverty levels between a community and its neighboring communities (CEQ, 1998). Adhering to these guidelines, this EA assesses the presence of environmental justice communities using key indicators such as the percentage of minority population, median household income, and the percentage of individuals living below the poverty level. Additionally, the EA examines the percentage of the population under 18 years of age to identify any significant concentrations of children within the study area.

The ROI encompasses the nearest surrounding community to the Proposed Action. The focus on nearby communities is based on the understanding that they are most likely to be directly affected by the Proposed Action, leading to potential changes in socioeconomic conditions and the possibility of disproportionate impacts.

The definitions of minority, low-income, and minority or low-income populations are presented below:

- **Minority** – Individual(s) who are members of the following population groups as designated in the U.S. Census: Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, as well as Hispanic or Latino of any race.
- **Low-income** – The U.S. Census Bureau uses a set of income thresholds that vary by family size and composition to determine who is in poverty (i.e., classified as 'low-income'). If a family's total income is less than the family's threshold, then that family and every individual in it is considered in poverty. The official poverty thresholds do not vary geographically but are updated for inflation using the Consumer Price Index. The official poverty definition uses income before taxes and does not include capital gains or noncash benefits (such as public housing, Medicaid, and food stamps) (USCB, 2023b).
- **Minority or low-income population** – Populations where either: (a) the total number of minority or low-income individuals of the affected area exceeds 50 percent of the overall population in the same area, or (b) the total number of minority or low-income individuals within the affected area is meaningfully greater (e.g., 120 percent greater) than the minority or low-income population percentage in an appropriate comparison unit of geographic analysis (CEQ, 1998).
- **Meaningfully Greater** – A meaningfully greater minority or low-income population within a geographic unit affected by a federal action is determined by comparing the minority or low-income composition of the geographic unit to the minority or low-income composition of the general population. As with selecting the appropriate unit of geographic analysis, a comparison population should be selected so as not to artificially dilute or inflate the affected minority populations. For this analysis, the comparison population is the total population of the respective county of each installation considered.

The analysis incorporates information from the USEPA's EJSCREEN model, which is utilized as an initial tool to identify regions that could be more vulnerable to environmental justice impacts

based on their demographic makeup and existing exposure to pollutants or proximity to pollution-generating facilities. The model employs various environmental indicators, such as data on the proximity to air and water pollution, traffic, and sites potentially contaminated from historical use of lead paint, leak, or facilities handling hazardous materials and waste.

In determining areas of potential environmental justice concern, USEPA typically considers a project to fall into this category if the EJSCREEN analysis for the affected area indicates that one or more of the 12 indices are at or above the 80th percentile in the nation and/or state. Consequently, this analysis includes EJSCREEN information for the ROIs that meet or exceed the 80th percentile in the nation.

Regarding environmental justice populations in Colorado, USEPA Region 8 and the CDPHE entered into a *Memorandum of Understanding (MOU) on Advancing Environmental Justice through Enforcement and Compliance Assurance in Disproportionately Impacted Communities*. The agreement commits to collaborating on enforcement and compliance to reduce pollution in communities overburdened by environmental and public health impacts, sets a strategic direction, and formalizes a state and federal agency partnership. Under this agreement, three areas are emphasized: (1) strategic targeting of inspections, (2) coordinated enforcement and compliance assurance actions to address impacts on communities, and (3) enhanced community engagement (CDPHE 2023b). CDPHE has also developed the EnviroScreen tool, which is similar to EJSCREEN and also serves as a screening-level tool to identify areas that may have a higher susceptibility to environmental justice impacts because of their demographic composition and environmental burden (CDPHE 2023a).

Appendix E

Projects Identified for Cumulative Impacts

According to the 2022 updates to the NEPA, cumulative impacts are defined in 40 CFR section 1508.1(g)(3) as the environmental effects that arise from the combined impacts of a Proposed Action when considered in conjunction with the impacts of past, present, and reasonably foreseeable actions. These cumulative effects can result from the accumulation of individually minor actions that, when taken together over a period of time, can have a significant impact on the environment.

In addition, CEQ and USEPA have published guidance addressing implementation of cumulative impact analyses—Guidance on the Consideration of Past Actions in Cumulative Effects Analysis (CEQ, 2005) and Consideration of Cumulative Impacts in EPA Review of NEPA Documents (USEPA, 1999). CEQ guidance entitled Considering Cumulative Impacts Under NEPA (1997) states that cumulative impact analyses should:

"…determine the magnitude and significance of the environmental consequences of the Proposed Action in the context of the cumulative impacts of other past, present, and future actions...identify significant cumulative impacts…[and]…focus on truly meaningful impacts."

Cumulative impacts are most likely to arise when a relationship or synergism exists between a Proposed Action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with or in close proximity to the Proposed Action would be expected to have more potential for a relationship than those more geographically separated. Similarly, relatively concurrent actions would tend to offer a higher potential for cumulative impacts. To identify cumulative impacts, the analysis needs to address the following three fundamental questions.

- Does a relationship exist such that affected resource areas of the Proposed Action might interact with the affected resource areas of past, present, or reasonably foreseeable actions?
- If one or more of the affected resource areas of the Proposed Action and another action could be expected to interact, would the Proposed Action affect or be affected by impacts of the other action?
- If such a relationship exists, then does an assessment reveal any potentially significant impacts not identified when the Proposed Action is considered alone?

The DAF identified the following past, present, and reasonably foreseeable future projects for analysis as listed in Table E-1.

Table E-1 Past, Present, and Reasonably Foreseeable Future Projects

Action	Alternative in Proximity	Project Summary	Relevance to Proposed Action	Timeframe
Aerospace Data Facility Colorado Implementation of the Electrical Infrastructure Master Plan	Buckley SFB	Provide a 13.2-kilovolt backup power generation plant and associated power distribution infrastructure at the NRO/ADF-C.	Utilities	Past
Buckley SFB ADP – short term projects	Buckley SFB	Implementation of new construction, demolition, and renovation projects over a 5 year period	Infrastructure, recreational	Future
Consolidated Communications Center	Patrick SFB	this project will construct a 3-story Space Communications facility to replace the current	Utilities	Present

Action	Alternative in Proximity	Project Summary	Relevance to Proposed Action	Timeframe
		communications center sitting in the Patrick SFB clear zone.		
Outdoor Recreation Beach Cottages on Patrick Air Force Base	Patrick SFB	Construction of three elevated duplex lodging units. Construction of two beach boardwalks. Project to include parking, sidewalk and utility installation	Recreation	Past
Spaceport Commerce Park	Patrick SFB	Construction of a 75,000-square foot building at Spaceport Commerce Park for office or industrial space.	Industrial	Present
S.R. 518/Montreal Avenue Milling and Resurfacing from U.S. 1 to Pineapple Avenue	Patrick SFB	Adding landscaped curb extensions, removing and updating on-street parking spaces, adding a 7-foot-wide buffered bike lane, and modifying existing sidewalks.	Transportation	Present
Construct DEOMI Building Expansion	Patrick SFB	Construct expansion on the north side of the existing DEOMI building to handle future curriculum and additional throughput.	Construction	Future
Airfield Repaving	Patrick SFB	Implement all airfield repaving planned projects.	Air	Present
Demolish Facilities within the Airfield Operation CZ	Patrick SFB	Implement efforts to demolish facilities 533 and 556 within the CZ by 2030.	Hazardous Waste	Future
Construct New General C- 130J Hangar	Patrick SFB	Construct new C-130J hangar.	Construction	Present
Construct New AGE Shop	Patrick SFB	Construct new AGE shop enclosure for equipment that is currently exposed to the elements	Construction	Future
Construct New 920 RQW Training Facility	Patrick SFB	Construct new 920 RQW Training facility.	Construction	Present
Construct Boresight Tower and Equipment	Patrick SFB	Construct the Radar Open System Architecture (ROSA) radar/telemetry test bed boresight tower and building replacement.	Construction	Present
Construct Department of State Campus	Patrick SFB	Consolidate DoS campus at Patrick SFB to include hangars, administrative and storage facilities, and parking; possible site location west of South Patrick Drive.	Air, noise, Hazardous Material	Future
Construct New Vehicle Maintenance Facility	Patrick SFB	Construct vehicle maintenance facility.	Air, noise	Future
Delta 10, 11, 12 Beddown	Patrick SFB	Beddown possible site location within the proposed SLD 45	All resource areas	Future

Action	Alternative in Proximity	Project Summary	Relevance to Proposed Action	Timeframe
		headquarters complex site on West Tech Road.		
Construct New Primitive Cottages at FAMCAMP	Patrick SFB	Construct primitive recreational cottages along the Banana River near FAMCAMP.	Biological, cultural	Future
Resurface SR A1A	Patrick SFB	Resurface SR A1A from SR 404 to the northern boundary of Patrick SFB.	Air, Hazardous Materials	Future
Renourish Brevard County Beaches	Patrick SFB	Hydraulic beach fill from an offshore sand source in Brevard County from Cape Canaveral to Sebastian Inlet State Park. Sand fencing and native dune planting also contribute to the shoreline stabilization. Partnership between the USSF, USACE, Brevard County and local municipalities.	Biological	Present
Special Operations Command; North	Peterson SFB	New construction of hangar	Infrastructure	Present
Peterson SFB ADP	Peterson SFB	Updated or renew facilities, new recreational trails, greenspace improvements, and transportation improvements.	Transportation, Recreational	Future
North Gate Project	Peterson SFB	Construction of new entrance/exit gate to Peterson SFB.	Transportation	Future
East Peterson Electrical Grid Update	Peterson SFB	Upgrade electrical grid for energy resiliency.	Utilities	Future
USSPACECOM MILCON	Peterson SFB	New construction of USSPACECOM facilities	Infrastructure	Future
Demolition of Space Launch Complex-2	Vandenberg SFB	Demolition of 32 facilities at SLC-2, as well as supporting facilities, roadways, driveways, pads, and above ground utilities adjacent to the facilities being demolished.	Hazardous Materials	Present

Appendix F

List of Acronyms

List of Acronyms and Abbreviations

Acronym	Definition
AADT	annual average daily traffic
ACAM	Air Conformity Applicability Model
ACM	asbestos-containing material
AFCEC	Air Force Civil Engineer Center
AFDP	Air Force Policy Directive
AFMAN	Air Force Manual
AICUZ	Air Installation Compatible Use Zone
AMSL	above mean sea level
APCD	Air Pollution Control District
AQCR	Air Quality Control Region
AT/FP	antiterrorism/force protection
BMP	Best Management Practices
BRL	Banana River Lagoon
BSFB	Buckley Space Force Base
BST	base support tail
CAA	Clean Air Act
CDPHE	Colorado Department of Health and Environment
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	carbon monoxide
CO^2	carbon dioxide
CO_2e	carbon dioxide equivalent
COC	Contaminant of Concern
COSA	Colorado Springs Airport
CWA	Clean Water Act
DAF	U.S. Department of Air Force
DAFI	Department of the Air Force Instruction
dB	decibel
DCE	dichloroethene
dBA	A-weighted decibel
DNL	day-night average sound level
DoD	Department of Defense
EA	Environmental Assessment

Acronym	Definition
ECARS	Employee-vehicle Certification and Reporting System
EISA	Energy Independence and Security Act
EO	Executive Order
EPA	Environmental Protection Agency
ERP	Environmental Resource Permit
FPPA	Farmland Protection Policy Act
FY	fiscal year
GHG	greenhouse gas
HAP	Hazardous air pollutant
HQ	Headquarters
HVAC	heating, ventilation, and air conditioning
HWMP	Hazardous Waste Management Plans
I	Interstate
IPaC	Information for Planning and Consultation
LA AFB	Los Angeles Air Force Base
LBP	lead-based paint
LID	low-impact development
LUC	Land Use Control
MILCON	military construction
mg/L	milligrams per liter
MOU	Memorandum of Understanding
MS4	Municipal (separate) Stormwater Sewer System
MSGP	Multi-Sector General Permit
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O_3	ozone
OSHA	Occupational Safety and Health Act
PAH	polycyclic aromatic hydrocarbon
PaSFB	Patrick Space Force Base
Pb	lead
PCB	polychlorinated biphenyls

Acronym	Definition
pCi/L	picocuries per liter
PeSFB	Peterson Space Force Base
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonic acid
$PM_{2.5}$	particulate matter of diameter 2.5 microns or less
PM_{10}	particulate matter of diameter 10 microns or less
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RLF	relocatable facilities
ROI	range of influence
ROTF	Range of the Future
SARA	Superfund Amendments and Reauthorization Act
SFS	Space Force Station
SH	State Highway
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SJRWMD	Saint Johns River Water Management District
SO_2	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasures
SpOC	Space Operations Command
SR	State Route
SSC	Space Systems Command
SSFB	Schriever Space Force Base
STARCOM	Strategic Training and Readiness Command
SVOC	semi-volatile organic compound
SWI	Space Wing Instruction
SWP	Space Wing Plan
TCE	Trichloroethene
TDS	total dissolved solids
TMP	Transportation Management Plan
TMDL	total maximum daily load
U.S.	United States
U.S.C.	United States Code
UFC	Unified Facilities Criteria
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USGS	United States Geological Service

Acronym	Definition
USSF	United States Space Force
USSPACECOM	United States Space Command
VSFB	Vandenberg Space Force Base