



**FINAL  
ENVIRONMENTAL ASSESSMENT FOR  
BEDDOWN OF THE 24TH AIR FORCE  
August 2009**



## Report Documentation Page

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14. ABSTRACT

In December 2005, the Air Force announced its new mission statement, "to fly, fight and win in air, space, and cyberspace as an integral member of the Joint team that ensures our Nation's freedom and security." To accomplish the cyberspace mission, the Air Force proposes to establish the 24 AF to serve as a new warfighting headquarters to present Air Force Cyberspace Forces to combatant commanders. This EA has been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of the proposed beddown of the 24 AF at Lackland Air Force Base (AFB), Texas or Peterson AFB, Colorado. The Proposed Action involves the Air Force building or occupying approximately 25,000 square feet of administrative space to serve as the 24 AF headquarters for 240 personnel. The Air Force would also require 19,000 square-feet of building space to serve as the 624th Operational Center (OC) for 220 personnel. A portion of 24 AF building space would be constructed in accordance with requirements to be a Sensitive Compartmented Information Facility (SCIF). Lackland AFB is the preferred alternative for the permanent beddown of the 24 AF. This option combines the use of Facilities 171, 178, 179, 2011, and 2058 for Initial Operational Capability (IOC). Facilities 171, 178, and 179 would be occupied under a leaseback scenario from the Port of San Antonio. Facility 171 is the recommended Final Operational Capability (FOC) location. Peterson AFB was evaluated as an alternative for the beddown of the 24 AF. At Peterson AFB, Facility 1470 would be used for IOC and as the interim facility for FOC until a new facility is constructed. A new facility would be constructed for permanent FOC. Under the No-Action Alternative, the proposed 24 AF beddown would not occur. The current organizations performing the functional cyber warfare activities would continue to operate at their present locations. All environmental resources were analyzed in this EA; however, only the environmental resources potentially affected by the alternatives were analyzed in-depth, including socioeconomics, land use/aesthetics, transportation, utilities, hazardous materials management, hazardous waste management, Environmental Restoration Program sites, storage tanks, asbestos-containing material, lead-based paint, geology and soils, air quality, biological resources, and cultural resources. Based on the analysis of the alternatives, the Air Force has determined that no significant impacts would occur.

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## **FINDING OF NO SIGNIFICANT IMPACT BEDDOWN OF 24th AIR FORCE**

The attached environmental assessment (EA) analyzes the potential for impacts to the environment as a result of the proposed beddown of the 24<sup>th</sup> Air Force (24 AF) at Lackland Air Force Base (AFB) (and former Kelly AFB), Texas or Peterson AFB, Colorado. The EA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S. Code Section 4321 et seq.), the Council on Environmental Quality regulations implementing the procedural provisions of NEPA, 40 Code of Federal Regulations (CFR) Parts 1500-1580, and Air Force policy and procedures (32 CFR Part 989).

This Finding of No Significant Impact (FONSI) summarizes the alternatives considered and the results of the analysis of the proposed beddown of the 24 AF contained in the EA for Beddown of the 24<sup>th</sup> Air Force, et seq.

### **Site Locations**

Lackland AFB (and former Kelly AFB) are situated in Bexar County, Texas, approximately 8 miles southwest of downtown San Antonio. Facilities 2011 and 2058 on Lackland AFB and Facilities 171, 178, and 179 on former Kelly AFB are proposed for use in supporting the 24 AF mission.

Peterson AFB is situated in El Paso County, Colorado, approximately 7 miles east of Colorado Springs. Facility 1470 is proposed for use in supporting the 24 AF mission with land adjacent to Facility 1470 available for construction of a new facility to house the 24 AF mission in the future.

### **Description of Proposed Action**

Based on the requirements of the 24 AF mission, the Air Force developed selection criteria and evaluated a number of candidate bases using the site survey process outlined under Air Force Instruction 10-503, *Base Unit Beddown Program*. Based on the evaluation, the Air Force identified Lackland AFB and Peterson AFB as the primary candidate installations to host the 24 AF.

As part of the proposed 24 AF beddown action, the Air Force would build or occupy approximately 25,000 square feet of administrative space to serve as the 24 AF headquarters. The Air Force would also require 19,000 square-feet of building space to serve as the Operations Center. A portion of the 24 AF building space would be constructed in accordance with Sensitive Compartmented Information Facility (SCIF) requirements. During Initial Operational Capability (IOC), the 24 AF would operate with a staff of 100 personnel. During Final Operational Capability (FOC), the 24 AF would be staffed with 460 personnel.

The **Preferred Alternative** involves the permanent beddown of the 24 AF at Lackland AFB. This option combines the use of facilities 171, 178, 179, 2011, and 2058 for IOC. Facilities 178, 179, and 171 would be occupied under a leaseback scenario from the Port of San Antonio. Facility 171 is the recommended FOC location. Resolution of communications requirements and completion of facility renovations would take approximately 15 months and would be completed by October 2010.

**Alternative 1** involves the permanent beddown of the 24 AF at Peterson AFB. Facility 1470 would be used for IOC and as the interim facility for FOC until a new facility is constructed. A Military Construction (MILCON) effort would be necessary for permanent FOC. Approximately 5 acres of land within the Peterson AFB Community Center Area would be disturbed for construction of the 24 AF FOC (building and vehicle parking). Construction would occur over a 1-year period and would be completed in calendar year 2014.



Under the **No-Action Alternative**, the proposed 24 AF beddown would not occur. The current organizations performing the functional cyber warfare activities would continue to operate at their present locations.

### **Summary of Environmental Consequences**

Final Air Force analysis indicates that proposed activities will not result in significant impacts on human health or the natural environment. Airspace, pesticide usage, polychlorinated biphenyls, radon, medical/biohazardous waste, ordnance, radioactive materials, water resources, noise, and environmental justice would not be impacted and therefore are addressed briefly in Section 1.4 of the EA. The resources analyzed in more detail are socioeconomics, land use/aesthetics, transportation, utilities, hazardous materials management, hazardous waste management, Environmental Restoration Program (ERP) sites, storage tanks, asbestos-containing material (ACM), lead-based paint (LBP), geology and soils, air quality, biological resources, and cultural resources.

During IOC, the 24 AF would operate with a staff of 100 personnel. During FOC, the 24 AF would be staffed with 460 personnel. Personnel would include approximately 75 officers, 100 enlisted personnel, and 285 civilian/contractor personnel. Some of the 460 personnel assigned to the 24 AF would reside on base if military family housing is available or would reside in the local area. Regional housing markets have adequate inventory to service the needs of 24 AF personnel if off-base housing is required.

The 24 AF mission would be compatible with surrounding existing land uses at Lackland AFB and Peterson AFB.

The number of vehicle trips associated with the 24 AF would represent a small increase and result in an insignificant impact to current traffic levels; however, the level of service of the local road network would not be affected.

24 AF utility usage (electrical, natural gas, water, wastewater) would not affect the ability of the local utility purveyors to provide service. Solid waste generation would not affect the service life of the local landfills.

24 AF operations would primarily involve the use of batteries and household cleaning products. Storage, handling, and transportation of hazardous materials and hazardous waste associated with the 24 AF would be conducted in accordance with applicable regulations and established procedures.

For Lackland AFB, ERP Site SS040 is in the parking lot at the southern end of Facility 171. This site is scheduled to undergo soil excavation with parking lot restoration occurring after soil excavation activities are completed. Monitoring wells will be installed or replaced and annual groundwater monitoring would be conducted. Appropriate access to the monitoring wells to conduct inspections and annual monitoring would be required. There are no ERP sites situated near the proposed 24 AF beddown area at Peterson AFB.

Any new storage tanks (e.g., to support emergency generators) required by the 24 AF would be subject to applicable federal, state, and local regulations. Proper management of these storage tanks would minimize the potential for impacts.

ACM and LBP would likely be encountered during renovation activities. These activities would be subject to applicable federal, state, and local regulations to minimize the potential risk to human health and the environment. ACM and LBP paint waste generated as a result of renovation activities would be disposed in accordance with applicable regulations.

Insignificant short-term erosion impacts could occur to soils and surface water resources as a result of ground disturbance associated with construction activities at Peterson AFB. Potential impacts would be minimized by implementing standard construction best management practices as defined in a storm water pollution prevention plan that would be prepared prior to initiation of construction activities.



Air emissions from construction and renovation activities and from operational activities would result in an insignificant impact and would not adversely affect the regional air quality.

The proposed 24 AF beddown areas contain no natural vegetation and development of the property would affect only developed and disturbed areas of the bases. Wildlife that could be displaced would consist of common and widespread species. There are no known threatened or endangered species known to occur on Lackland AFB (and former Kelly AFB) or Peterson AFB. There are no sensitive habitats within the proposed 24 AF beddown areas on Lackland AFB or Peterson AFB.

No archaeological resources are known to be present at the proposed 24 AF beddown locations. Because of the severe ground disturbance that occurred during construction of buildings and vehicle parking areas, the potential for discovery of intact archaeological resources is considered very low. None of the facilities that would support the 24 AF have been recommended as eligible for inclusion in the National Register of Historic Places. Based on past consultation with representatives of Native American groups, no traditional cultural resources, sacred areas, or traditional use areas have been identified at Lackland AFB or Peterson AFB.

Activities associated with the proposed beddown of the 24 AF would not have a significant impact on any of the resources analyzed in the attached EA. As a result, no disproportionately high or adverse impacts to minority, low-income, or child populations would be expected.

### **Cumulative Impacts**

Other future actions at Lackland AFB and Peterson AFB were evaluated to determine whether cumulative environmental impacts could result due to the implementation of proposed 24 AF beddown actions in conjunction with other past, present, or reasonably foreseeable future actions.

For Lackland AFB, several Air Force and Department of Defense (DOD) agencies will also be moving into Facility 171, the recommended FOC for 24 AF. At full occupancy, Facility 171 is anticipated to have approximately 2,700 personnel operating within the building. Due to DOD force protection requirements, vehicle parking availability could be a concern; however, the Port of San Antonio is working with the Air Force to set aside additional land that could be used for vehicle parking.

Peterson AFB currently has limited growth potential and accommodating requests from organizations for building space has been a standing issue of concern at the base. The future redevelopment of the Community Center Area on Peterson AFB would alleviate some of the growth limitations of the base. This 52-acre area represents a substantial opportunity for fulfilling the current and future needs of the base. However, until the Community Center Area is redeveloped, the base will continue to experience growth limitations. The current conflicts regarding requests for building space on base and specifically within Facility 1470 will continue. If vacant building space is not available on base, organizations would be denied their request for building occupation and would be required to seek other accommodations (either off-base lease possibilities or at a different military installation).

### **Conclusion**

Based on the analysis of impacts in the EA, which is incorporated by reference, I find that the proposed activities would not have a significant impact on human health or the natural environment at either Lackland AFB or Peterson AFB; therefore, an environmental impact statement will not be prepared.

  
CHRIS PUCKETT, SES, DAF  
Director of Installations and Logistics

3 April 2009  
Date

Attach: Environmental Assessment



**FINAL**  
**ENVIRONMENTAL ASSESSMENT**  
**BEDDOWN OF 24<sup>th</sup> AIR FORCE**

**AUGUST 2009**





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CHRIS PUCKETT, SES, DAF  
Director of Installations and Logistics

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Date

Attach: Environmental Assessment



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## COVER SHEET

### ENVIRONMENTAL ASSESSMENT BEDDOWN OF 24<sup>th</sup> AIR FORCE

- a. Lead Agency: U.S. Air Force
- b. Proposed Action: Beddown of 24<sup>th</sup> Air Force (24 AF).
- c. Written comments and inquiries regarding this document should be received by August 1, 2009 and should be directed to: Ms. Lynne Neuman, HQ AFSPC/A4/A7PP, 150 Vandenberg Street, Suite 1105, Peterson AFB, CO 80914-2370; facsimile, (719) 554-3849.
- d. Designation: Environmental Assessment (EA)
- e. Abstract: In December 2005, the Air Force announced its new mission statement, "-- to fly, fight, and win in air, space, and cyberspace as an integral member of the Joint team that ensures our Nation's freedom and security." To accomplish the cyberspace mission, the Air Force proposes to establish the 24 AF to serve as a new warfighting headquarters to present Air Force Cyberspace Forces to combatant commanders. This EA has been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of the proposed beddown of the 24 AF at Lackland Air Force Base (AFB), Texas or Peterson AFB, Colorado.

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## ACRONYMS AND ABBREVIATIONS

24 AF	24 <sup>th</sup> Air Force
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
AETC	Air Education and Training Command
AFB	Air Force Base
AFCEE	Air Force Center for Engineering and the Environment
AFGSC	Air Force Global Strike Command
AFI	Air Force Instruction
AFIOC	Air Force Information Operations Center
AFLOA	Air Force Legal Operations Agency
AFRPA	Air Force Real Property Agency
AFSPC	Air Force Space Command
AFSVA	Air Force Services Agency
AHERA	Asbestos Hazard Emergency Response Act
AQCR	Air Quality Control Region
AST	aboveground storage tank
BRAC	Base Realignment and Closure
BX	Base Exchange
CAA	Clean Air Act
CAAQS	Colorado Ambient Air Quality Standards
CCR	Code of Colorado Regulations
CDPHE	Colorado Department of Public Health and the Environment
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH <sub>4</sub>	methane
CITS	Combat Information Transport System
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CPSC	Consumer Product Safety Commission
CPSG	Cryptologic Systems Group
CWA	Clean Water Act
DCID	Director of Central Intelligence Directive
DNAPL	dense non-aqueous phase liquid
DOD	Department of Defense
DRMO	Defense Reutilization and Marketing Office
EA	environmental assessment
EO	Executive Order
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ERP	Environmental Restoration Program
FOC	Final Operational capability
GHG	greenhouse gas
gpd	gallons per day
HAZMAT	Hazardous Material Pharmacy
HVAC	Heating, Ventilation, and Air Conditioning

ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
IOC	Initial Operational capability
KWH	kilowatt-hours
LBP	lead-based paint
LOS	Level of Service
LRA	Local Redevelopment Authority
MAJCOM	Major Command
MCF	thousand cubic feet
$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
mgd	million gallon per day
mg/l	milligram per liter
MILCON	military construction
NAAQS	National Ambient Air Quality Standards
NAF	Numbered Air Force
National Register	National Register of Historic Places
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NIPR	Non-Secure Internet Protocol Router
$\text{NO}_x$	nitrogen oxide
$\text{NO}_2$	nitrogen dioxide
$\text{N}_2\text{O}$	nitrous oxide
NPDES	National Pollutant Discharge Elimination System
NSR	New Source Review
NSSI	National Security Space Institute
$\text{O}_3$	ozone
OC	Operations Center
OSHA	Occupational Safety and Health Administration
pb	lead
PCB	polychlorinated biphenyl
pCi/l	pico curies per liter
P.L.	Public Law
$\text{PM}_{2.5}$	particulate matter equal to or less than 2.5 micron in diameter
$\text{PM}_{10}$	particulate matter equal to or less than 10 micron in diameter
POL	petroleum, oil, lubricant
POP	Point of Presence
ppm	part per million
PSD	Prevention of Significant Deterioration
RCRA	Resources Conservation and Recovery Act
ROI	region of influence
SAF/GCN	Secretary of the Air Force, General Counsel
SAP	satellite accumulation point
SAPA	San Antonio Port Authority
SAWS	San Antonio Water System
SCI	Sensitive Compartmented Information
SCIF	Sensitive Compartmented Information Facility
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SIPR	Secure Internet Protocol Router

SO <sub>x</sub>	sulfur oxide
SO <sub>2</sub>	sulfur dioxide
SPCCP	Spill Prevention, Control, and Countermeasures Plan
STO	special technical operations
SWPPP	Storm Water Pollution Prevention Plan
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TCLP	Toxic Characteristic Leaching Procedure
tpy	tons per year
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
VOC	volatile organic compound
WW II	World War II
WWTP	Wastewater Treatment Plant

## **1.0 PURPOSE OF AND NEED FOR ACTION**

---

This environmental assessment (EA) evaluates the potential environmental impacts associated with the proposed beddown of the 24<sup>th</sup> Air Force (24 AF) at Lackland Air Force Base (AFB), Texas or Peterson AFB, Colorado.

This document has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code [U.S.C.] 4321, et seq.), the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and Air Force policy and procedures (32 CFR Part 989).

### **1.1 PURPOSE OF THE ACTION**

The purpose of the action is to establish the 24 AF through the relocation and assignment of approximately 460 personnel to establish the Numbered Air Force (NAF) headquarters and an Operations Center (OC) for cyberspace operations.

The 24 AF would be responsible for providing full capabilities in the cyberspace environment, supporting joint operations and Combatant Commanders. Its mission is to “provide cyberspace superiority through persistent and responsive world-class networks and cyber forces.” Three organizations (the 688<sup>th</sup> Information Operations Wing, the 689<sup>th</sup> Combat Communications Wing, and the 67<sup>th</sup> Network Warfare Wing) would support the 24 AF mission from their current or to be determined locations.

### **1.2 NEED FOR THE ACTION**

In 2003, the White House published "The National Strategy to Secure Cyberspace," presenting cyberspace security as a Homeland Security component and establishing initiatives to "protect against the debilitating disruption of the operation of information systems for critical infrastructures and, thereby, help to protect the people, economy, and national security of the United States" (The White House, 2003). One of those initiatives is for the Federal government to "improve coordination for responding to cyber attacks within the U.S. national security community."

The United States faces a strategic environment characterized by increasing globalization, economic disparities, and competition for scarce resources. Added to that, the diffusion of technology and expansion of electronic capabilities create significant vulnerabilities and profoundly impact state and non-state actors and international institutions. Competitors realize the United States is a globally networked society dependent on the cyberspace domain. Essential process controls in manufacturing, public utilities distribution, banking, communications, and national security have shifted to integrated networked systems. This trend is expanding, and our economy and national security are increasingly exposed to the associated risks.

In December 2005, the Air Force announced its new mission statement – “to fly, fight, and win in air, space, and cyberspace as an integral member of the Joint team that ensures our Nation’s freedom and security.” To accomplish the cyberspace mission, the Air Force proposes to establish the 24 AF to serve as a new warfighting headquarters to present Air Force Cyberspace Forces to combatant commanders and deliver, as directed, kinetic and non-kinetic effects across Air Force operational functions. The vision of the 24 AF is to secure our nation by employing world-class cyber capabilities to dominate the cyberspace domain, create integrated global effects, and deliver sovereign options.

### 1.3 LOCATION OF THE PROPOSED ACTION

Lackland AFB is situated in Bexar County, Texas, approximately 8 miles southwest of downtown San Antonio (Figure 1-1). In 1995, the Base Realignment and Closure (BRAC) Commission recommended the closure of adjacent Kelly AFB and realigned the runway and some Air Force functions to Lackland AFB. The main portion of Kelly AFB was closed, and the land and facilities were transferred to the San Antonio Port Authority (SAPA). Facilities 2011 and 2058 on Lackland AFB and Facilities 171, 178, and 179 on former Kelly AFB are proposed for use in supporting the 24 AF mission (Figures 1-2 and 1-3).

Peterson AFB is situated in El Paso County, Colorado, 7 miles east of downtown Colorado Springs and approximately 15 miles northeast of Fort Carson Military Reservation (Figure 1-4). Facility 1470 is proposed for use in supporting the 24 AF mission with land adjacent to Facility 1470 available for construction of a new facility to house the 24 AF mission in the future (Figure 1-5).

### 1.4 SCOPE OF ENVIRONMENTAL REVIEW

Consistent with the CEQ regulations, the scope of analysis presented in this EA is defined by the potential range of environmental impacts that would result from implementation of proposed 24 AF beddown activities. This document is "issue-driven," in that it concentrates on those resources that may be affected by implementation of proposed 24 AF beddown activities.

Resources that have a potential for impact were considered in detail in order to determine if implementing proposed 24 AF beddown activities would have a significant impact on environmental resources. The resources analyzed in detail are socioeconomics, land use/aesthetics, transportation, utilities, hazardous materials management, hazardous waste management, Environmental Restoration Program (ERP) sites, storage tanks, asbestos-containing material (ACM), lead-based paint (LBP), geology and soils, air quality, biological resources, and cultural resources. The affected environment and the potential environmental consequences relative to these resources are described in Chapters 3.0 and 4.0, respectively.

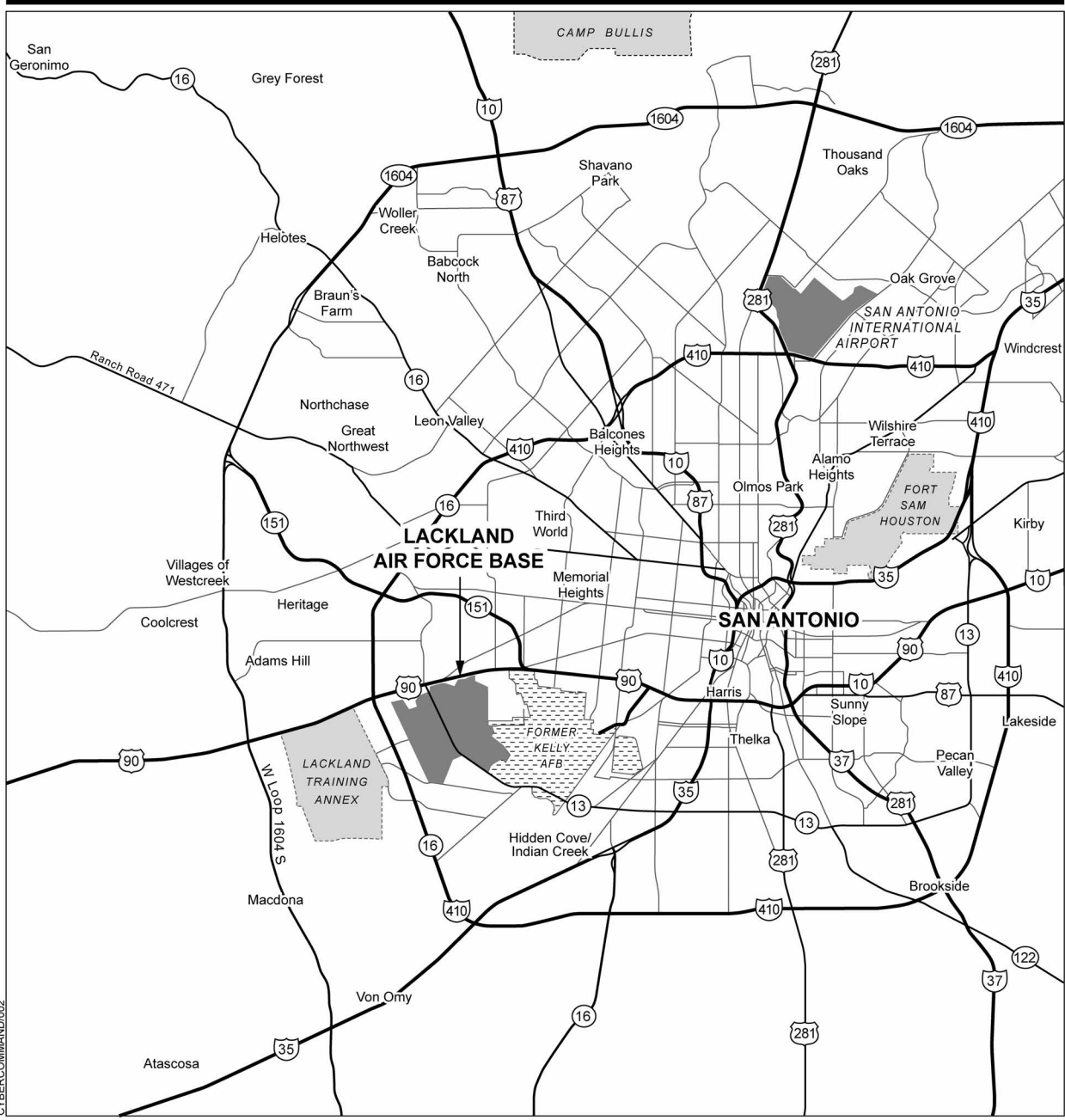
Initial analysis indicates that proposed activities would not result in impacts to airspace, pesticide usage, polychlorinated biphenyls (PCBs), radon, medical/biohazardous waste, ordnance, radioactive materials, water resources, noise, and environmental justice. The reasons for not addressing these resources are briefly discussed in the following paragraphs.

**Airspace.** There are no aircraft operations associated with the 24 AF mission; therefore, potential impacts to airspace are not expected and are not analyzed further in this EA.

**Pesticide Usage.** Pesticide applications would be conducted in accordance with applicable laws and label directions; therefore, potential impacts from pesticide usage are not expected and are not analyzed further in this EA.

**Polychlorinated Biphenyls.** No transformers, capacitors, or switches containing PCBs are present on Lackland AFB or Peterson AFB (U.S. Air Force, 1998). PCBs may still be present in older light ballasts; however, these are not regulated as PCB equipment or PCB-contaminated equipment. Therefore, potential impacts from PCBs are not expected and are not analyzed further in this EA.

**Radon.** Bexar County, Texas is within U.S. Environmental Protection Agency (EPA) radon zone 3 which indicates indoor average radon levels of less than 2 pico curies per liter (pCi/l) (U.S. Environmental Protection Agency, 2009a). Although El Paso County, Colorado is within U.S. EPA radon zone 1 which indicates indoor average radon levels greater than 4 pCi/l (U.S. Environmental Protection Agency, 2009b),



**EXPLANATION**

- U.S. Highway
- Interstate Highway
- State Highway
- Military Installation

**Regional Map  
Lackland AFB**





**Figure 1-1**

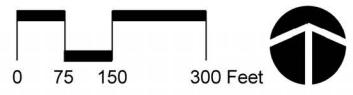


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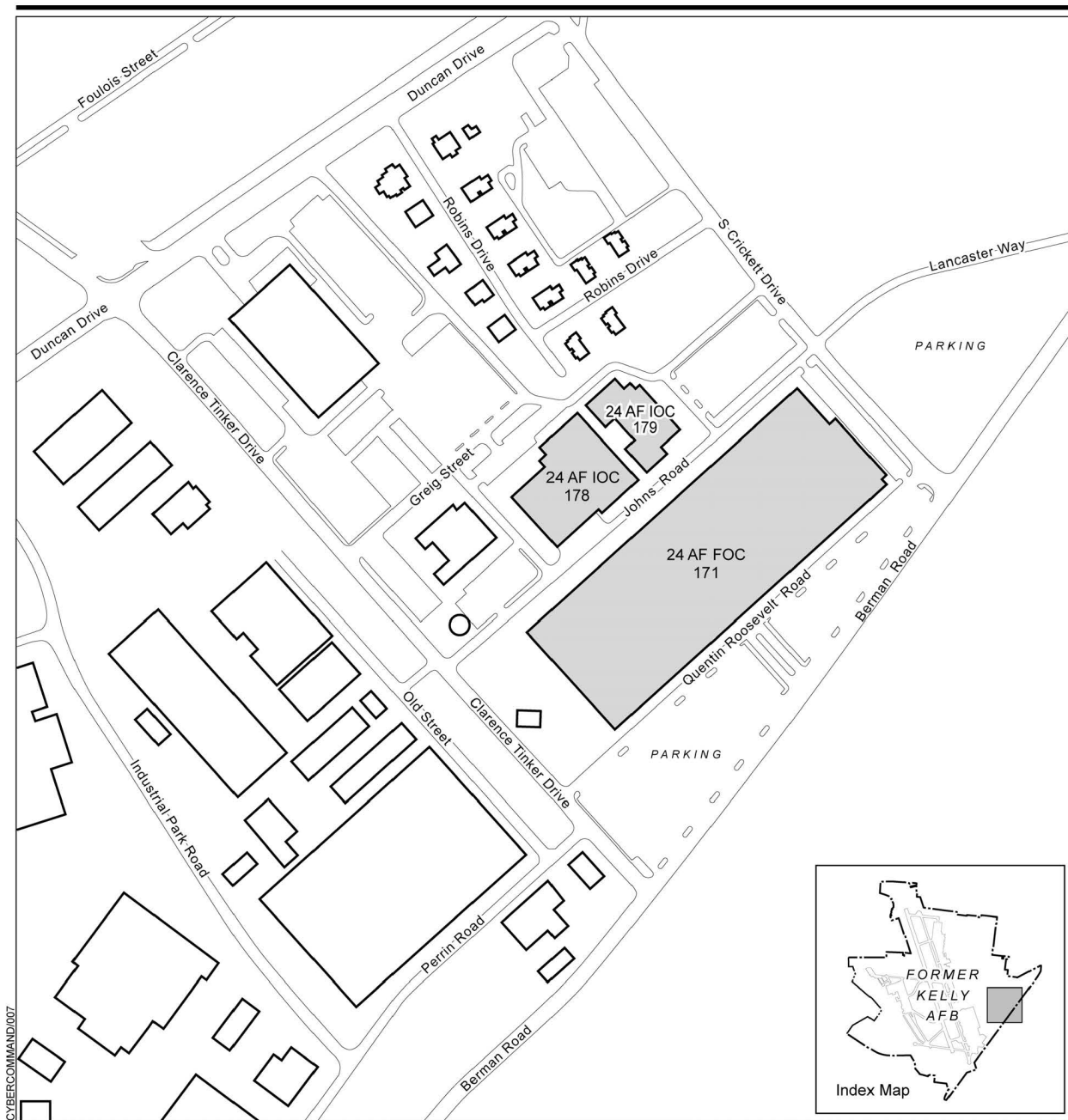
**EXPLANATION**

-  Facilities to Support 24 AF
- IOC Initial Operational Capability
-  Base Boundary

**24 AF Beddown  
Lackland AFB  
(Facilities 2011 and 2058)**



**Figure 1-2**

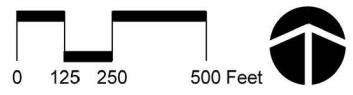


CYBERCOMMAND/007

**EXPLANATION**

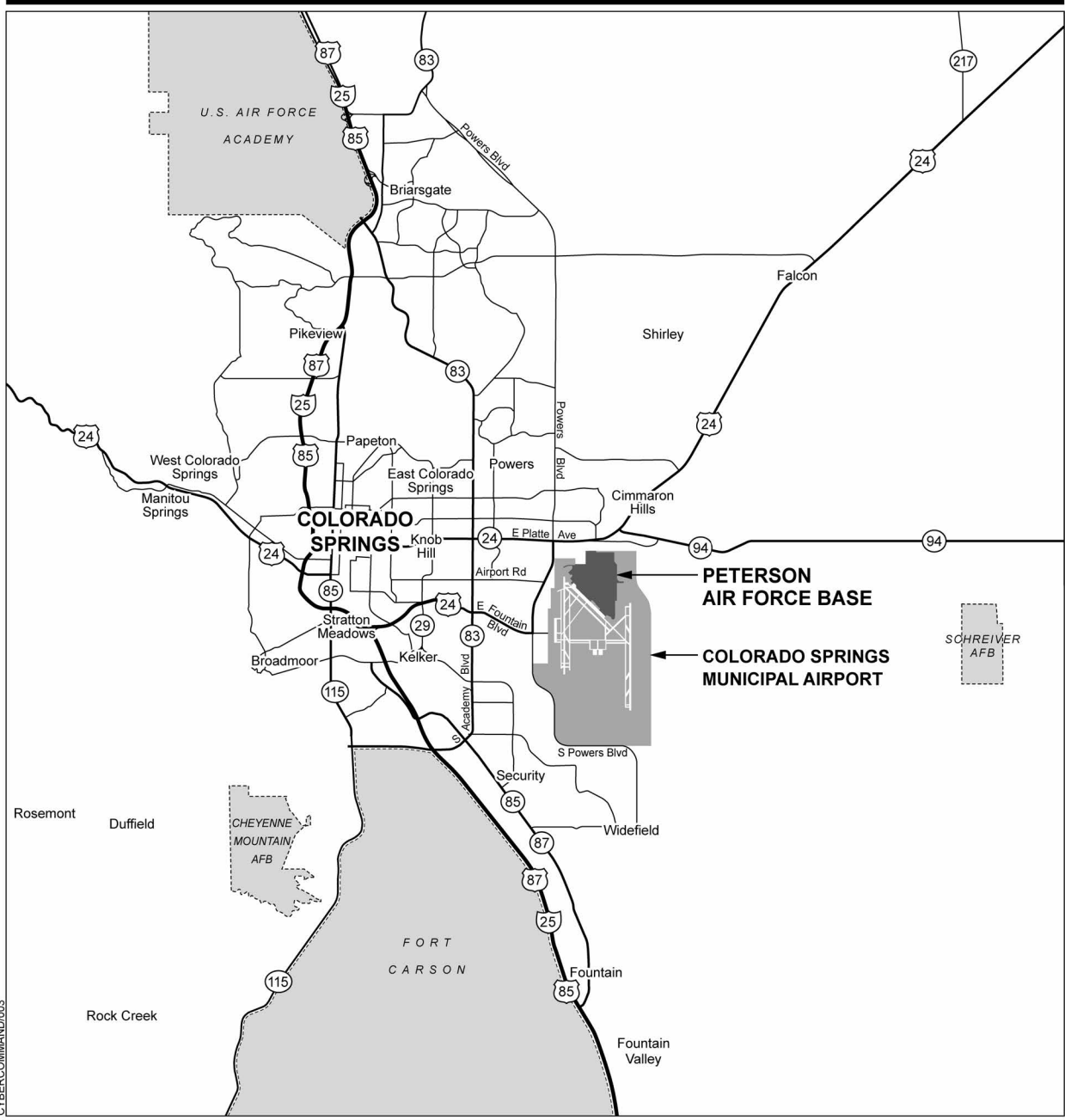
- Facility to Support 24 AF
- IOC Initial Operational Capability
- FOC Final Operational Capability

**24 AF Beddown  
Lackland AFB (Former  
Kelly AFB Facilities 171,  
178, and 179)**



**Figure 1-3**





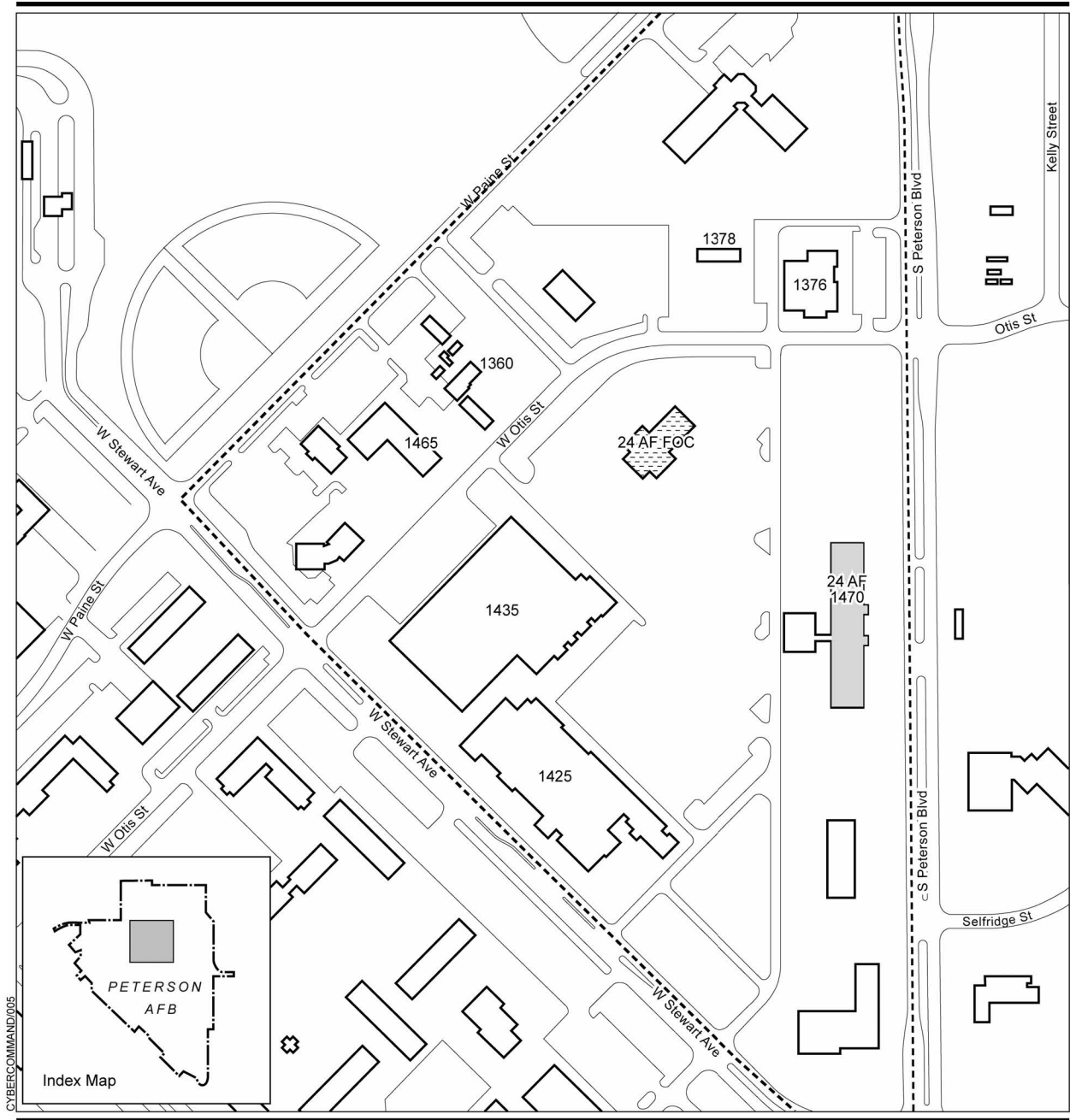
**EXPLANATION**

-  U.S. Highway
-  Interstate Highway
-  State Highway
-  Military Installation

**Regional Map  
Peterson AFB**






**Figure 1-4**



CYBERCOMMAND/005

**EXPLANATION**

-  Facility to Support 24 AF
-  Potential 24 AF Location
- FOC Final Operational Capability
-  Community Center Boundary

**24 AF Beddown  
Peterson AFB**



Source: Peterson AFB, 2006c.  
 Note: Facilities 1360, 1376, 1378, 1425, 1435, and 1465 are proposed for demolition to allow redevelopment in the Community Center area.

**Figure 1-5**

the base conducted a radon screening in 1987-1991 which resulted in a finding that over 94 percent of the base structures had radon levels below the U.S. EPA recommended action level of 4 pCi/l (Peterson AFB, 2001). Because indoor average radon levels are anticipated to be below the U.S. EPA recommended mitigation level and the proposed structure(s) that the 24 AF mission would operate within are administrative in nature and would not be used for lodging, potential impacts from radon are not expected and are not analyzed further in this EA.

**Medical/Biohazardous Waste.** Medical/biohazardous waste is not generated at facilities that the 24 AF would operate within and none would be generated during 24 AF operations. Therefore, potential impacts from medical/biohazardous waste are not expected and are not analyzed further in this EA.

**Ordnance.** Ordnance is not stored, used, or disposed at facilities from which the 24 AF would operate. The 24 AF would not require the use of ordnance. Therefore, potential impacts from ordnance are not expected and are not analyzed further in this EA.

**Radioactive Materials.** Radioactive materials are not stored, used, or disposed within facilities from which the 24 AF would operate. The 24 AF would not require the use of radioactive materials. Therefore, potential impacts from radioactive materials are not expected and are not analyzed further in this EA.

**Water Resources.** No water resources (surface water, ground water, floodplains, or wetlands) are situated near or would be impacted by proposed 24 AF beddown activities on Lackland AFB or Peterson AFB. Therefore, impacts to water resources are not expected and are not analyzed further in this EA. Because the amount of ground disturbance anticipated to occur during the project (at Peterson AFB) would be approximately 5 acres, construction activities would be conducted in accordance with a Construction Site Storm Water National Pollutant Discharge Elimination System (NPDES) permit for storm water runoff. NPDES permit requirements are subject to the provisions of the NPDES Permit Application Regulations for Storm Water Discharges issued by the U.S. EPA. NPDES requirements, storm water discharge, and potential soil erosion effects are discussed further in Section 3.4.1 and 4.4.1, Geology and Soils, of this EA.

**Noise.** Noise generated from proposed renovation and construction activities would be minor and short-term, and would primarily occur within the existing structures and at the potential construction site. Construction-related traffic noise would also be temporary. Use of the facilities (e.g., office) would not be expected to generate high noise levels or be incompatible with existing surrounding land uses. No sensitive noise receptors are located in the vicinity of the facilities at Lackland AFB; the nearest sensitive noise receptor at Peterson AFB is family housing, which is situated approximately 800 feet east of Facility 1470 and the potential future development site for the command facility. Potential impacts from noise are not expected and are not analyzed further in this EA.

**Environmental Justice.** The proposed beddown of the 24 AF would occur on Lackland AFB or Peterson AFB property. The environmental justice analysis considered those areas immediately adjacent to the proposed beddown locations where the likelihood of experiencing impacts from proposed activities would be greatest. Environmental justice impacts could occur if minority, low-income, or child populations are subjected to disproportionately high and adverse environmental impacts. Based upon the analysis conducted for this EA, it was determined that activities associated with the proposed beddown of the 24 AF would not have a significant impact on any of the resources analyzed in this EA (i.e., socioeconomics, land use/aesthetics, transportation, utilities, hazardous materials management, hazardous waste management, ERP sites, storage tanks, ACM, LBP, geology and soils, air quality, biological resources, and cultural resources). Because no significant impacts have been identified from

proposed activities, disproportionately high and adverse impacts to low-income, minority, or child populations are not expected and are not analyzed further in this EA.

#### **1.5 PUBLIC COMMENT PROCESS**

The Draft EA was made available for public review and comment in July 2009. Copies of the Draft EA were made available for review in local libraries and provided to individuals and agencies listed in Chapter 7 of the EA. All comments were reviewed and addressed, when applicable, and have been included in their entirety in this document (Appendix B).

#### **1.6 FEDERAL, STATE, AND LOCAL PERMITS, LICENSES, AND FEES**

The contractor responsible for conducting renovation/construction activities would obtain required federal, state, and local permits. The contractor would cooperate with the Air Force to ensure compliance with applicable Air Force, federal, state, and local regulations and/or requirements.

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## 2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

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### 2.1 INTRODUCTION

Under NEPA, reasonable alternatives to the Proposed Action, along with the No-Action Alternative, must be considered in an EA. Considering alternatives helps to avoid unnecessary impacts and allows analysis of reasonable ways to achieve the stated purpose. Only reasonable alternatives are evaluated within the EA. To determine which among the spectrum of alternatives were reasonable, the proponent developed selection criteria based on mission needs, economic feasibility, and technical parameters. The following discussion details proposed 24 AF beddown alternatives considered; whether they are reasonable and, consequently, whether they are evaluated in detail in the EA.

The potential environmental impacts of the alternatives are summarized in Table 2.6-1 at the end of this chapter.

### 2.2 SELECTION CRITERIA

The Air Force used the following factors to evaluate potential beddown locations for the 24 AF:

- **Cyber Mission Synergy:** Physical proximity to existing cyber-NAF operational missions, and availability of scientific and technical expertise in the area
- **Communication/Bandwidth Availability:** High-speed network capacity consisting of Point of Presence (POP), diversity level, and Combat Information Transport System (CITS) Block 30 Spiral 1 Installs (either existing or potential for upgrade)
- **Facilities and Infrastructure:** Space and infrastructure for 460-person NAF-Headquarters Complex and OC. The installation must have adequate facilities to meet Initial Operational Capability (IOC) by October 1, 2009 and Final Operational Capability (FOC) by October 1, 2010. IOC requirements consist of a 13,000 square foot building, to include 1,800 square feet of Sensitive Compartmented Information Facility (SCIF) space for 100 personnel. FOC requirements are discussed in Section 2.4.
- **Support Capacity:** Capability for sufficient housing, schools, medical, and base services, both on-base and off-base
- **Security:** Headquarters complex must meet or exceed Department of Defense (DOD) force protection standards
- **Transportation and Access:** Capability to provide efficient and secure movement of Air Force Space Command (AFSPC), NAF, Air Force, and DOD personnel.

Based on what were deemed the two most important operational criteria, Cyber Mission Synergy and Communication/Bandwidth Availability, the Air Force preliminarily identified six potential installations for consideration:

- Barksdale AFB, LA
- Lackland AFB, TX
- Langley AFB, VA

- Offutt AFB, NE
- Peterson AFB, CO
- Scott AFB, IL.

The Air Force then evaluated these bases further under all six criteria using the site survey process under Air Force Instruction (AFI) 10-503, *Base Unit Beddown Program*.

## **2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED**

### **2.3.1 Barksdale AFB**

Barksdale AFB was eliminated as an alternative due to insufficient communications and bandwidth availability to support the 24 AF mission, both on-base and in the community. The base did not have CITS Block 30 Spiral 1 installation in the timeline necessary to activate the 24 AF, and it had insufficient dual-homed bandwidth. Furthermore, its POP was also not dual-homed and had limited throughput capacity.

### **2.3.2 Langley AFB**

Langley AFB was eliminated from further analysis primarily because it lacked a facility that would meet IOC requirements, but also because the base had deficiencies with communications and bandwidth capabilities to support the 24 AF mission.

### **2.3.3 Offutt AFB**

Offutt AFB was eliminated from further evaluation for lack of cyber mission synergy, because it did not have any physical proximity to other Cyber NAF operational missions, whether collocated on-base or near the base. The closest Cyber NAF operations to Offutt AFB are hundreds of miles away at Peterson AFB, CO.

### **2.3.4 Scott AFB**

Scott AFB was eliminated from further analysis because of the lack of cyber mission synergy and lack of facilities and infrastructure to meet IOC and interim FOC requirements. Like Offutt AFB, the base did not have any physical proximity to other Cyber NAF operational missions, whether collocated on-base or near the base. The closest Cyber NAF operations are two states away at Tinker AFB, OK. In addition, the base did not have facilities that would be available for 24 AF use in the timeline designated by the Air Force to activate the 24 AF to meet mission requirements.

## **2.4 DESCRIPTION OF THE PROPOSED ACTION**

The Air Force would build or occupy approximately 25,000 square feet of administrative space to serve as the 24 AF headquarters for 240 personnel. The Air Force would also require 19,000 square-feet of building space to serve as the OC for 220 personnel. A portion of the 24 AF building space would be constructed in accordance with SCIF requirements. As part of the proposed action, communications infrastructure is required to support the IOC and FOC missions, including Non-Secure Internet Protocol Router/Secure Internet Protocol Router (NIPR/SIPR) drops; telephony with specific security levels in the NAF and OC; and room for special technical operations (STO) equipment.

Physical security standards have been established governing the construction and protection of facilities for storing, processing, and discussing Sensitive Compartmented Information (SCI), which requires extraordinary security safeguards. Compliance with the Director of Central Intelligence Directive (DCID) 6/9 Implementing Manual is mandatory for all SCIFs. A SCIF is an accredited area, room, group of rooms, buildings, or installation where SCI may be stored, used, discussed, and/or electronically processed. SCIFs will be afforded personnel access control to preclude entry by unauthorized personnel. Non-SCI indoctrinated personnel entering a SCIF must be continuously escorted by an indoctrinated employee who is familiar with the security procedures of that SCIF. The physical security protection for a SCIF is intended to prevent as well as detect visual, acoustical, technical, and physical access by unauthorized persons. Physical security criteria are governed according to the following conditions: closed storage, open storage, continuous operations, and secure working areas (Director of Central Intelligence, 2002).

During IOC, the 24 AF would operate with a staff of 100 personnel. During FOC, the 24 AF would be staffed with 460 personnel and would be operational 24 hours a day, 365 days a year with primary duty hours occurring from 0800 to 1700. Personnel would include approximately 75 officers, 100 enlisted personnel, and 285 civilian/contractor personnel.

The activities associated with the 24 AF would generate the following utility demands:

- Water – 70,000 gallons per day (gpd)
- Wastewater – 60,000 gpd
- Electricity – 5,500 kilowatt-hours (KWH) per day
- Natural Gas – 100 therms per day
- Solid Waste – 800 pounds per day.

Existing utility connections to the site would be utilized. Utility service would continue to be provided by local purveyors.

#### **2.4.1 Preferred Alternative: Lackland AFB, TX**

Lackland AFB is the preferred alternative for the permanent beddown of the 24 AF. This option combines the use of facilities 171, 178, 179, 2011, and 2058 for IOC (see Figures 1-2 and 1-3). Facilities 178, 179, and 171 would be occupied under a leaseback scenario from the Kelly BRAC Local Redevelopment Authority (LRA). Facility 171 is the recommended FOC location. The facilities to be utilized to support the 24 AF are listed in Table 2.4-1 and a brief description of their function is provided below.

**IOC.** Facilities 178 and 179 are conjoined facilities connected by short breezeways and are Air Force Information Operations Center (AFIOC) facilities. Facility 178 has an existing suite that is suitable for the Major General to be assigned as the 24 AF/CC, and Facility 179 has 20 available cubicles. There would be negligible costs to renovate Facility 178, primarily to upgrade finishes. No renovations or upgrades are required for Facility 179. Facility 2058 is on Security Hill, approximately a 15 minute drive from Facility 171, and is an AFIOC/Cryptologic Systems Group (CPSG) facility. This facility has available cubicle space for 20 persons and requires no renovation or upgrades. The IOC and interim FOC solutions at Lackland AFB do not require displacement of current building occupants.



**Table 2.4-1. Lackland AFB, Facilities to Support 24 AF Beddown**

Facility No.	Year Constructed	Square Footage <sup>(a)</sup>	24 AF Use
171	1942	441,073	IOC <sup>(b)</sup> - 55 cubicles within facility, 55 personnel FOC - 460 personnel assigned to the facility
178	1989	79,415	IOC <sup>(b)</sup> - Command suite, 5 personnel FOC - facility not utilized
179	1995	39,845	IOC <sup>(b)</sup> - 20 cubicles within facility, 20 personnel FOC - facility not utilized
2011	1953	25,299	IOC <sup>(b)</sup> - 55 offices, 55 personnel; possible Command suite FOC - facility not utilized
2058	1990	140,000	IOC <sup>(b)</sup> - 20 cubicles within facility, 20 personnel FOC - facility not utilized

Notes: (a) Square footage represents the total square footage of the facility, not the area to be occupied by 24 AF personnel.

(b) Some combination of these facilities will be used. Actual workspaces will be adjusted as required

AF = Air Force

IOC = Initial Operational Capability

FOC = Final Operational Capability

Facility 171 is also available to house IOC personnel; however, the Air Force proposes to fully utilize facilities 178, 179, and 2058 before occupying space in Facility 171 due to required renovation work there.

As a last resort, Facility 2011 could be used, if necessary, to temporarily house some portion of the 24 AF while Facility 171 renovations are completed. Facility 2011 is a vacant, 3-story dormitory located at Security Hill. The facility includes 67 dorm rooms, a laundry room, and two day rooms. Approximately 55 non-SCIF administrative personnel could be assigned to Facility 2011. To address anti-terrorism concerns, approximately six rooms on each floor at the parking lot end of the building (northeast end) would not be occupied. Only minor interior renovations would be needed to convert dorm rooms into office/administrative space. Provided Facility 2011 is not occupied for more than one year by the 24 AF, additional anti-terrorism requirements, such as window hardening and Heating, Ventilation, and Air Conditioning (HVAC) modifications, would not be required. Facility 2011, while feasible for interim use, is less desirable than the use of facilities 178, 179, or 2058.

**IOC Communications.** For facilities 178, 179, 2011, and 2058 during IOC, ten communications requirements are not currently met but can be upgraded with minimal effort; and three requirements do not meet specifications and require extensive modification and funding. The timeframe to resolve communications requirements that do not meet standards is approximately three to six months.

**FOC.** Facility 171 is managed by the Air Force within the footprint of former Kelly AFB, now designated as Port San Antonio. There is no rental cost to utilize the facility, and it is available to the Air Force for 50 years with renewable options (41 years remaining on the current agreement). Building 171 is currently occupied or will soon be occupied by numerous Air Force and DOD entities, to include Air Force Legal Operations Agency (AFLOA/JACE), Secretary of the Air Force General Counsel (SAF/GCN), Air Force Real Property Agency (AFRPA), Air Force Center for Engineering and the Environment (AFCEE), and Air Force Services Agency (AFSVA). The building has sufficient administrative space available (approximately 60,000 square feet) to accommodate the requirements of the 24 AF. To expedite renovations in support of FOC, the preferred alternative is to accommodate IOC in facilities 178, 179, 2011, and 2058 as outlined above. The projected timeframe for renovations required for FOC is approximately 15 months. During renovation activities, the contractor would be responsible for transporting and disposing any construction debris and hazardous waste (including non-regulated waste such as used oil) off site at approved or permitted facilities

for that type of waste in accordance with federal, state, and local regulations. If a spill occurs during construction, it would be cleaned up by the contractor.

Facility 171 is not fenced; however, plans independent of 24 AF actions are already in place to install a fence to create a secured compound, which includes Facility 171 and neighboring facilities 178 and 179 by October 2009. Contract security is already provided for facilities 178 and 179 and would be expanded to include Facility 171. Use of Facility 171 as the FOC would not require displacement of existing personnel in the building.

**FOC Communications.** For Facility 171 during FOC, seven communications requirements are met or exceeded; six requirements are not met, but can be upgraded with minimal effort; and one requires extensive modification and funding. The timeframe to resolve communications requirements that do not meet standards is approximately three to six months.

#### **2.4.2 Alternative 1: Peterson AFB, CO**

At Peterson AFB, Facility 1470 would be used for IOC and an interim FOC (see Figure 1-5). A Military Construction (MILCON) effort would be necessary for permanent FOC.

**IOC.** Facility 1470 is currently occupied and is slated for demolition. Additional space may become available within this building for interim FOC in the event Air Force Global Strike Command (AFGSC) stands up. Currently, personnel performing duties related to the management of intercontinental ballistic missiles assigned to AFSPC occupy office space in Facility 1470. In the event AFGSC stands up, many of those billets would be transferred, providing available office space within the building. Facility 1470 currently has certified SCIF space. Approximately 100 personnel could be accommodated in this facility for IOC without displacing current occupants. Approximately 360 building occupants would have to be displaced to accommodate 24 AF manpower during interim FOC.

**IOC Communications.** For Facility 1470 during IOC, three communications requirements meet or exceed requirements; one requirement would not be met, but can be upgraded with minimal effort; and 10 items do not meet requirements and require extensive modification. The communications upgrades following completion of facility infrastructure renovations would take 3 to 6 months in order to resolve communications requirements that do not meet standards.

**FOC.** The final 24 AF location would involve a MILCON project within the Peterson AFB Community Center Area. A MILCON in the Peterson AFB Community Center Area is consistent with the base's master development plan, 2050 Blueprint, and would co-locate the 24 AF Headquarters and OC in the same facility (Peterson AFB, 2006a). Prior to initiating construction of the 24 AF FOC, Peterson AFB intends to demolish a number of existing facilities within the 52-acre Peterson AFB Community Center Area. Demolition of six existing structures totaling approximately 189,750 square feet as well as existing vehicle parking areas would occur in furtherance of future redevelopment of the Peterson AFB Community Center Area. Because demolition activities are associated with the planned future redevelopment of the Peterson AFB Community Center Area and are independent of proposed 24 AF actions, demolition of the existing structures is not considered part of the proposed 24 AF beddown actions.

Approximately 5 acres of land within the Peterson AFB Community Center Area would be disturbed for construction of the 24 AF FOC (building and vehicle parking). Construction would occur over a 1-year period and would be completed in calendar year 2014 based on the base's demolition schedule. During construction of the new 24 AF FOC, the contractor would be responsible for transporting and disposing any construction debris and hazardous waste (including non-regulated waste such as used oil) off site at

approved or permitted facilities for that type of waste in accordance with federal, state, and local regulations. If a spill occurs during construction, it would be cleaned up by the contractor.

**FOC Communications.** FOC communications requirements would be included in the MILCON funding program. Therefore, the cost and timeframe are inclusive to the MILCON cost and schedule.

### **2.4.3 No-Action Alternative**

Under the No-Action Alternative, the proposed 24 AF beddown would not occur. The current organizations performing the functional cyber warfare activities would continue to operate at their present locations. The Air Force would not establish a new command structure specifically organized, equipped, and trained to execute missions in cyberspace, and the Air Force would continue to conduct the cyberspace mission through multiple Major Commands (MAJCOMs) and Field Operating Agencies.

## **2.5 REASONABLY FORESEEABLE FUTURE ACTIONS**

Cumulative impacts result from “the incremental impact of actions when added to other past, present, and reasonably foreseeable future actions regardless of what agency undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (Council on Environmental Quality, 1978).

Other future actions at Lackland AFB and Peterson AFB were evaluated to determine whether cumulative environmental impacts could result due to the implementation of the proposed beddown of the 24 AF in conjunction with other past, present, or reasonably foreseeable future actions. The installation General Plan EAs were reviewed to identify future actions in the vicinity of proposed 24 AF beddown locations (Lackland AFB, 2006b and Peterson AFB, 2006a). Other actions at Lackland AFB and Peterson AFB that could contribute to cumulative impacts are discussed briefly below.

### Lackland AFB

The only future project in the vicinity of proposed 24 AF beddown activities at Lackland AFB involves the movement of several Air Force and DOD agencies into Facility 171, the FOC for 24 AF. At full occupancy, Facility 171 is anticipated to have approximately 2,700 personnel operating within the building. The Port of San Antonio has provided 2,500 vehicle parking spaces for personnel assigned to Facility 171; however, due to DOD force protection requirements, a number of parking spaces will not be available as they are situated within the required set-back area. The Port of San Antonio is working with the Air Force to set aside additional land that could be used for vehicle parking.

### Peterson AFB

At Peterson AFB, numerous missions have requested existing building space on the base as well as in the vicinity of the proposed 24 AF beddown. These missions include:

- AFGSC has requested building space at Peterson AFB for approximately 90 personnel; approximately 65 would be within Facility 1470 from July 2009 to December 2010.
- AFSPC currently has personnel working within Facility 1470.
- U.S. Northern Command currently has personnel working within Facility 1470.

- 302d Airlift Wing is currently bedding down approximately 180 personnel on Peterson AFB in temporary facilities until a more permanent arrangement can be established.
- The National Security Space Institute (NSSI) will be constructing a new campus facility northeast of the Peterson AFB Community Center Area (where recreational ballfields are currently situated). NSSI will be the DOD's single focal point for space education and training. Approximately 500 students and teachers would attend/teach classes daily at the NSSI.

## **2.6 COMPARISON OF ENVIRONMENTAL IMPACTS**

Table 2.6-1 presents a comparative analysis of the 24 AF alternatives for each resource (i.e., socioeconomics, transportation, utilities, land use/aesthetics, hazardous materials management, hazardous waste management, ERP sites, storage tanks, ACM, LBP, geology and soils, air quality, biological resources, and cultural resources) evaluated in this EA. A detailed discussion of potential effects is presented in Chapter 4.0, Environmental Consequences. Neither the Preferred Alternative nor the alternatives are anticipated to have a significant impact on the environment.

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**Table 2.6-1. Summary of Influencing Factors and Environmental Impacts**

Page 1 of 9

Resource	Preferred Alternative (Lackland AFB)	Alternative 1 (Peterson AFB)	No-Action Alternative
Socioeconomics	<p>Impacts</p> <ul style="list-style-type: none"> <li>460 personnel associated with 24 AF</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>460 personnel associated with 24 AF</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>No new personnel associated with 24 AF</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>None</li> </ul>
Land Use/Aesthetics	<p>Impacts</p> <ul style="list-style-type: none"> <li>Facilities 171, 178, 179, 2011, and 2058 would be renovated as appropriate to meet 24 AF requirements</li> <li>24 AF use of the property would be compatible with adjacent land uses</li> <li>No change in appearance of the property would occur</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>Facility 1470 would be renovated as appropriate to meet 24 AF requirements</li> <li>MILCON in the Peterson AFB Community Center Area is consistent with the base master development plan</li> <li>24 AF use of the property would be compatible with adjacent land uses</li> <li>Long-term effect of constructing new facilities in the Peterson AFB Community Center Area would result in a positive aesthetic effect</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>No renovation or construction activities would occur</li> <li>No change in the use or appearance of facilities would occur</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>None</li> </ul>

24 AF = 24<sup>th</sup> Air Force  
 AFB = Air Force Base  
 MILCON = Military Construction

**Table 2.6-1. Summary of Influencing Factors and Environmental Impacts**

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Resource	Preferred Alternative (Lackland AFB)	Alternative 1 (Peterson AFB)	No-Action Alternative
Transportation	<b>Impacts</b> <ul style="list-style-type: none"> <li>Daily vehicle trips to and from the property would be approximately 1,200</li> <li>24 AF represents a small percentage of traffic generation</li> <li>LOS of the base road network would continue to operate at acceptable levels</li> </ul>	<b>Impacts</b> <ul style="list-style-type: none"> <li>Potential impacts would be the same as those described under the Preferred Alternative</li> </ul>	<b>Impacts</b> <ul style="list-style-type: none"> <li>No new vehicle trips associated with 24 AF</li> <li>LOS of the base road network would continue to operate at acceptable levels</li> </ul>
	<b>Mitigation Measures</b> <ul style="list-style-type: none"> <li>None</li> </ul>	<b>Mitigation Measures</b> <ul style="list-style-type: none"> <li>None</li> </ul>	<b>Mitigation Measures</b> <ul style="list-style-type: none"> <li>None</li> </ul>
Utilities	<b>Impacts</b> <ul style="list-style-type: none"> <li>Electrical usage 5,500 KWH/day</li> <li>Natural gas usage 100 therms/day</li> <li>Water usage 70,000 gpd</li> <li>Wastewater generation 60,000 gpd</li> <li>Solid waste generation 800 pounds/day</li> <li>24 AF utility usage would not affect utility purveyors' ability to provide service to the base</li> </ul>	<b>Impacts</b> <ul style="list-style-type: none"> <li>Electrical usage 5,500 KWH/day</li> <li>Natural gas usage 100 therms/day</li> <li>Water usage 70,000 gpd</li> <li>Wastewater generation 60,000 gpd</li> <li>Solid waste generation 800 pounds/day</li> <li>24 AF utility usage would not affect utility purveyors' ability to provide service to the base</li> </ul>	<b>Impacts</b> <ul style="list-style-type: none"> <li>No new utility requirements associated with 24 AF</li> </ul>
	<b>Mitigation Measures</b> <ul style="list-style-type: none"> <li>None</li> </ul>	<b>Mitigation Measures</b> <ul style="list-style-type: none"> <li>None</li> </ul>	<b>Mitigation Measures</b> <ul style="list-style-type: none"> <li>None</li> </ul>

24 AF = 24<sup>th</sup> Air Force  
 AFB = Air Force Base  
 gpd = gallons per day  
 KWH = kilowatt hour  
 LOS = Level of Service

**Table 2.6-1. Summary of Influencing Factors and Environmental Impacts**

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Resource	Preferred Alternative (Lackland AFB)	Alternative 1 (Peterson AFB)	No-Action Alternative
Hazardous Materials/Hazardous Waste Management	<p>Impacts</p> <ul style="list-style-type: none"> <li>• Small quantities of household chemicals and batteries would be stored and used in accordance with applicable regulations</li> <li>• Small quantities of hazardous waste may be generated during renovation and housekeeping activities</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>• Potential impacts of hazardous materials and hazardous waste management activities would be the same as those described under the Preferred Alternative</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>• Small quantities of household chemicals would continue to be stored and used by the Air Force in accordance with applicable regulations</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>
Environmental Restoration Program Sites	<p>Impacts</p> <ul style="list-style-type: none"> <li>• No ERP sites are situated near Facilities 178, 179, 2011, or 2058</li> <li>• ERP Site SS040, situated at the southern end of Facility 171, is undergoing soil excavation with parking lot restoration occurring after soil excavation activities are completed. Monitoring wells would be installed or replaced and annual groundwater monitoring would be conducted</li> <li>• Access to monitoring well would be required</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>• No ERP sites are situated within the proposed 24 AF beddown area</li> <li>• No land use restrictions are required</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>• No impacts from ERP sites</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>

24 AF = 24<sup>th</sup> Air Force

AFB = Air Force Base

ERP = Environmental Restoration Program



**Table 2.6-1. Summary of Influencing Factors and Environmental Impacts**

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Resource	Preferred Alternative (Lackland AFB)	Alternative 1 (Peterson AFB)	No-Action Alternative
Storage Tanks	<p>Impacts</p> <ul style="list-style-type: none"> <li>• Proper management of any new storage tanks servicing the 24 AF (i.e., emergency generators) would minimize the potential for impacts</li> <li>• New storage tanks would be accounted for in the base SPCCP to ensure contingency plans are in place in the event a release occurs</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>• Potential impacts from storage tanks would be the same as those described under the Preferred Alternative</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>• The Air Force would continue management of storage tanks in accordance with applicable regulations</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>

24 AF = 24<sup>th</sup> Air Force  
 AFB = Air Force Base  
 SPCCP = Spill Prevention, Control, and Countermeasures Plan

**Table 2.6-1. Summary of Influencing Factors and Environmental Impacts**

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Resource	Preferred Alternative (Lackland AFB)	Alternative 1 (Peterson AFB)	No-Action Alternative
Asbestos-Containing Material	<p>Impacts</p> <ul style="list-style-type: none"> <li>Facilities 171, 178, 179, 2011, and 2058 have not been surveyed for ACM or survey results were not available</li> <li>ACM could be encountered during renovation activities</li> <li>ACM surveys would be performed prior to initiating renovation activities</li> <li>Renovation activities would be subject to applicable federal, state, and local regulations to minimize the potential risk to human health and the environment</li> <li>The construction contractor would be advised, to the extent known, of the type, condition, and amount of ACM present within buildings</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>Facility 1470 ACM survey results indicate that ACM is present</li> <li>Potential impacts to ACM management would be the same as those described under the Preferred Alternative</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>The Air Force would continue to manage ACM in accordance with its own policy and applicable regulations</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>None</li> </ul>

ACM = asbestos-containing material

AFB = Air Force Base

**Table 2.6-1. Summary of Influencing Factors and Environmental Impacts**

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Resource	Preferred Alternative (Lackland AFB)	Alternative 1 (Peterson AFB)	No-Action Alternative
Lead-Based Paint	<p>Impacts</p> <ul style="list-style-type: none"> <li>• A LBP survey has not been conducted for Facilities 171, 178, 179, 2011, and 2058</li> <li>• Based on year of construction, LBP could be encountered during renovation activities at Facilities 171 and 2011</li> <li>• LBP surveys would be performed in Facilities 171 and 2011 prior to initiating renovation activities</li> <li>• Renovation activities would be subject to applicable federal, state, and local regulations to minimize the potential risk to human health and the environment</li> <li>• The construction contractor would be advised, to the extent known, of the type, condition, and amount of LBP present within buildings</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>• A LBP survey has not been conducted for Facility 1470</li> <li>• Based on year of construction, LBP could be encountered during renovation activities at Facility 1470</li> <li>• LBP surveys would be performed prior to initiating renovation activities</li> <li>• Renovation activities would be subject to applicable federal, state, and local regulations to minimize the potential risk to human health and the environment</li> <li>• The construction contractor would be advised, to the extent known, of the type, condition, and amount of LBP present within the building</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>• The Air Force would continue to manage LBP in accordance with its own policy and applicable regulations</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>

AFB = Air Force Base  
LBP = lead-based paint

**Table 2.6-1. Summary of Influencing Factors and Environmental Impacts**

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Resource	Preferred Alternative (Lackland AFB)	Alternative 1 (Peterson AFB)	No-Action Alternative
Geology and Soils	<b>Impacts</b> <ul style="list-style-type: none"> <li>No ground disturbance is anticipated, only interior renovation of existing facilities</li> </ul>	<b>Impacts</b> <ul style="list-style-type: none"> <li>Short-term impacts would occur as a result of ground disturbance associated with construction activities</li> <li>Compliance with Construction Site Storm Water NPDES permit and SWPPP and implementation of standard construction practices would reduce the potential for erosion and storm water effects</li> <li>Once construction activities are complete, disturbed areas would be covered with pavement or landscaped to reduce erosion potential</li> </ul>	<b>Impacts</b> <ul style="list-style-type: none"> <li>Renovation and construction activities would not occur</li> </ul>
	<b>Mitigation Measures</b> <ul style="list-style-type: none"> <li>None</li> </ul>	<b>Mitigation Measures</b> <ul style="list-style-type: none"> <li>None</li> </ul>	<b>Mitigation Measures</b> <ul style="list-style-type: none"> <li>None</li> </ul>

AFB = Air Force Base  
 NPDES = National Pollutant Discharge Elimination System  
 SWPPP = Storm Water Pollution Prevention Plan

**Table 2.6-1. Summary of Influencing Factors and Environmental Impacts**

Page 8 of 9

Resource	Preferred Alternative (Lackland AFB)	Alternative 1 (Peterson AFB)	No-Action Alternative
Air Quality	<p>Impacts</p> <ul style="list-style-type: none"> <li>• Renovation activities would result in short-term air quality impacts</li> <li>• Emissions associated with the Preferred Alternative would not hinder maintenance of the NAAQS</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>• Renovation and construction activities would result in short-term air quality impacts</li> <li>• BMPs would be used to reduce emissions of dust and particulate matter</li> <li>• Emissions associated with Alternative 1 would not hinder maintenance of the NAAQS or CAAQS</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>• Renovation and construction activities would not occur</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>
Biological Resources	<p>Impacts</p> <ul style="list-style-type: none"> <li>• Renovation activities would not impact wildlife</li> <li>• Species at the site are common and are disturbance-tolerant</li> <li>• No threatened and endangered species or sensitive habitats have been identified in the proposed 24 AF beddown area</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>• Short-term, insignificant impacts to wildlife such as birds and rabbits in the area would occur during renovation and construction activities</li> <li>• Species at the site are common and are disturbance-tolerant</li> <li>• No threatened and endangered species or sensitive habitats have been identified in the proposed 24 AF beddown area</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>	<p>Impacts</p> <ul style="list-style-type: none"> <li>• Renovation and construction activities would not occur</li> </ul> <p>Mitigation Measures</p> <ul style="list-style-type: none"> <li>• None</li> </ul>

AFB = Air Force Base  
 BMP = best management practice  
 CAAQS = Colorado Ambient Air Quality Standards  
 NAAQS = National Ambient Air Quality Standards

**Table 2.6-1. Summary of Influencing Factors and Environmental Impacts**

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Resource	Preferred Alternative (Lackland AFB)	Alternative 1 (Peterson AFB)	No-Action Alternative
Cultural Resources	<p data-bbox="596 318 684 342">Impacts</p> <ul data-bbox="596 350 978 545" style="list-style-type: none"> <li data-bbox="596 350 978 431">• No ground disturbance is anticipated, only interior renovation of existing facilities</li> <li data-bbox="596 440 978 545">• No historic resources, sacred areas, or traditional use areas have been identified in the proposed 24 AF beddown area</li> </ul> <p data-bbox="596 659 814 683">Mitigation Measures</p> <ul data-bbox="596 691 705 716" style="list-style-type: none"> <li data-bbox="596 691 705 716">• None</li> </ul>	<p data-bbox="1041 318 1129 342">Impacts</p> <ul data-bbox="1041 350 1478 651" style="list-style-type: none"> <li data-bbox="1041 350 1478 537">• Because of the severe ground disturbance that occurred during construction of existing facilities, the potential for discovery of in-tact archaeological resources during construction activities is considered very low</li> <li data-bbox="1041 545 1478 651">• No historic resources, sacred areas, or traditional use areas have been identified in the proposed 24 AF beddown area</li> </ul> <p data-bbox="1041 659 1260 683">Mitigation Measures</p> <ul data-bbox="1041 691 1150 716" style="list-style-type: none"> <li data-bbox="1041 691 1150 716">• None</li> </ul>	<p data-bbox="1499 318 1587 342">Impacts</p> <ul data-bbox="1499 350 1860 399" style="list-style-type: none"> <li data-bbox="1499 350 1860 399">• Renovation and construction activities would not occur</li> </ul> <p data-bbox="1499 659 1717 683">Mitigation Measures</p> <ul data-bbox="1499 691 1608 716" style="list-style-type: none"> <li data-bbox="1499 691 1608 716">• None</li> </ul>

24 AF = 24<sup>th</sup> Air Force  
 AFB = Air Force Base

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## 3.0 AFFECTED ENVIRONMENT

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### 3.1 INTRODUCTION

This chapter describes the existing environmental conditions at Lackland AFB (and former Kelly AFB) and Peterson AFB. It provides information to serve as a baseline from which to identify and evaluate environmental changes associated with the proposed beddown of the 24 AF at either of the installations. The environmental components addressed include relevant natural or human environments likely to be affected by the alternatives.

Based on the nature of the activities that would occur under the alternatives, it was determined that the potential exists for the following resources to be affected or to create environmental effects: socioeconomics, land use/aesthetics, transportation, utilities, hazardous materials management, hazardous waste management, ERP sites, storage tanks, ACM, LBP, geology and soils, air quality, biological resources, and cultural resources.

The region of influence (ROI) to be studied will be defined for each resource area potentially affected by the proposed beddown of the 24 AF. The ROI determines the geographical area to be addressed as the Affected Environment. Although the base property may constitute the ROI limit for some resources, potential impacts associated with certain issues (e.g., air quality) transcend these limits.

### 3.2 COMMUNITY SETTING

#### Lackland AFB

Lackland AFB is an Air Education and Training Command (AETC) installation located in Bexar County approximately 8 miles southwest of downtown San Antonio, Texas (see Figure 1-1). The base is the home of the Air Force Basic Military Training School, AETC Non-Commissioned Officers Academy, Defense Language Institute, and Wilford Hall Medical Center. Lackland AFB is divided into three areas: the Main Base, the Lackland Training Annex, and the Kelly Field Annex. The Main Base houses the majority of the cantonment area and is bordered on the east by Kelly Field Annex and all other sides by the City of San Antonio. The Lackland Training Annex is located west of the Main Base across a one-mile corridor of civilian land that includes a portion of Interstate 410. It is mostly undeveloped land with a small cantonment area, storage bunkers, and designated firing ranges. The Kelly Field Annex is located east of the Main Base and is home to the 433rd Airlift Wing, 149th Fighter Wing, and Air Force Intelligence Agency Headquarters. The Kelly Field Annex also includes the runway area shared by the Air Force and Port San Antonio tenants (Lackland AFB, 2007).

#### Peterson AFB

Peterson AFB is an AFSPC installation located in El Paso County, Colorado approximately 7 miles east of downtown Colorado Springs, Colorado (see Figure 1-4). The greater metropolitan Colorado Springs area (including suburbs within 15 miles of downtown) hosts high technology businesses and several military installations. Other major military installations in the area include the United States Air Force Academy, Fort Carson, Schriever AFB, and Cheyenne Mountain Air Force Station. Peterson AFB is bordered on the north by U.S. Highway 24 and Colorado State Highway 94, on the east by Marksheffel Road, on the south and west by the Colorado Springs Municipal Airport, and on the northwest by private property. The City of Colorado Springs owns the airfield and runways, while Peterson AFB controls its immediate taxiways and aprons. Approximately 184 acres of the installation are Federally-owned, with the remaining 1,094 acres leased from the City. The Peterson AFB holdings are divided into two parcels,



Peterson and Peterson East, which are separated by the easternmost runway (17L/35R) of the Colorado Springs Municipal Airport (Peterson AFB, 2007).

### 3.2.1 Socioeconomics

The ROI for employment and population effects as a result of the proposed beddown of the 24 AF is the cities of San Antonio, TX and Colorado Springs, CO.

#### Lackland AFB

**Population.** Lackland AFB is on the southwest side of San Antonio, which had an estimated population of 1,296,682 in 2006. Population growth was approximately 11.8 percent in San Antonio between 2000 and 2006 (U.S. Bureau of the Census, 2009a). In 2008, the Lackland AFB population consisted of approximately 38,300 military personnel and dependents and trainees/cadets. Of this total, approximately 13,300 lived on base (Lackland AFB, 2009c, 2009d). The San Antonio area has a rental vacancy rate of approximately 10 percent and a 8.5-month supply of available homes in the housing market (Realty Times, 2009b; U.S. Department of Housing and Urban Development, 2008).

**Employment.** The City of San Antonio civilian labor force totaled approximately 818,000 in 2000 (U.S. Bureau of the Census, 2000a). In 2008, there were approximately 20,300 military personnel and trainees/cadets assigned to Lackland AFB. In addition to the military personnel, approximately 4,200 civilians were employed at the base (Lackland AFB, 2009c, 2009d).

#### Peterson AFB

**Population.** Peterson AFB is on the southeast side of the City of Colorado Springs which had an estimated population of 372,437 in 2006. Population growth was approximately 3.1 percent in Colorado Springs between 2000 and 2006 (U.S. Bureau of the Census, 2009b). In 2005, the population affiliated with Peterson AFB was approximately 24,000 persons, including Peterson AFB personnel, off-base personnel, civilians, and dependents (Peterson AFB, 2005). The Colorado Springs area has a rental vacancy rate of approximately 9 percent and a 5.3-month supply of available homes in the housing market (Realty Times, 2009a; U.S. Department of Housing and Urban Development, 2006).

**Employment.** The City of Colorado Springs civilian labor force totaled 265,267 in 2000 (U.S. Bureau of Census, 2000b). In 2005, there were approximately 7,500 military personnel assigned to Peterson AFB. In addition to the military personnel, approximately 2,700 civilians were employed at the base (Peterson AFB, 2005).

### 3.2.2 Land Use/Aesthetics

This section describes the land use and aesthetics for the installation property and surrounding areas where the 24 AF would be established. The ROI includes those areas of Lackland AFB (and former Kelly AFB) and Peterson AFB where the 24 AF would reside.

#### 3.2.2.1 Land Use.

#### Lackland AFB

Land use at Lackland AFB consists of 14 categories: administrative, aircraft maintenance, airfield open areas, airfield pavements, community-commercial, community-service, housing-accompanied, housing-unaccompanied, industrial, medical, open space, outdoor recreation, training-indoor, and training-outdoor.

The proposed beddown of the 24 AF would occur within the administrative land use area (i.e., on Security Hill and in administrative facilities of former Kelly AFB). Facilities 178, 179, and 2058 are administrative/office facilities, Facility 171 is a former warehouse that has been renovated to serve as a large administrative building, and Facility 2011 is a vacant dormitory.

#### Peterson AFB

Land use at Peterson AFB consists of 12 categories: housing (accompanied and unaccompanied), administrative, community service, community commercial, medical, industrial, airfield, airfield operations, parks and recreation, open space, water, and special space mission.

The proposed beddown of the 24 AF would occur within the community commercial land use area "Community Center Area" where the Base Exchange (BX) and Commissary were once situated. The BX and Commissary are two of the largest structures within this area and are currently vacant or occupied under a short-term lease. The Community Center Area covers approximately 52 acres with 16 facilities and 12 acres of vehicle parking. The entire area is developed with the exception of landscape areas between facilities situated along Peterson Boulevard. Peterson AFB has prepared a Triangle Area Development Plan that outlines proposed redevelopment (i.e., future demolition and construction) of the Community Center Area on the base (Peterson AFB, 2006c).

#### **3.2.2.2 Aesthetics.**

Visual resources include natural and man-made features that give a particular environment its aesthetic qualities. Criteria used in the analysis of these resources include visual sensitivity, which is the degree of interest in a visual resource and concern over adverse changes in its quality. Visual sensitivity is characterized in terms of high, medium, and low levels.

High visual sensitivity exists in areas where views are rare, unique, or in other ways special, such as in a remote pristine environment. High-sensitivity views would include landscapes that have landforms, vegetative patterns, water bodies, or rock formations of unusual or outstanding quality.

Medium visual sensitivity is characteristic of areas where human influence and modern civilization are evident and the presence of motorized vehicles is commonplace. These landscapes generally have features containing varieties in form, line, color, and texture, but tend to be more common than high visual sensitivity areas.

Low visual sensitivity areas tend to have minimal landscape features with little change in form, line, color, and texture.

#### Lackland AFB

The visual environment of Lackland AFB (and former Kelly AFB) is characteristic of an urban environment. These areas are mostly developed with buildings, roads, vehicle parking lots, and other structures. The present appearance of the areas the 24 AF would occupy at Lackland AFB includes large structures and associated vehicle parking areas. Based on the developed nature of Lackland AFB (and former Kelly AFB), the ROI is considered to have a medium visual sensitivity.

#### Peterson AFB

The visual environment of Peterson AFB is characteristic of an urban environment. The base is mostly developed with buildings, roads, vehicle parking lots, and other structures. The present appearance of

the area the 24 AF would occupy at Peterson AFB (Community Center Area) includes large structures and associated vehicle parking areas. The Community Center Area is in the central portion of the base and includes Facility 1470 and the vacant Commissary and the leased BX structures and associated parking lot. Based on the developed nature of the Community Center Area, the ROI is considered to have a medium visual sensitivity.

### 3.2.3 Transportation

The ROI for the transportation analysis includes the existing road network of Lackland AFB (and former Kelly AFB) and Peterson AFB where the 24 AF would reside. Within this area, the analysis focuses on the segments of the transportation network that serves as direct linkages to the specific facilities that the 24 AF would occupy.

The operation of roadway intersections is generally expressed in terms of level of service (LOS). The LOS is a qualitative description of traffic flow based on such factors as speed, travel time, delay, and freedom to maneuver. Six levels are defined from LOS A, as the best operating conditions, to LOS F, or the worst operating conditions. LOS E represents “at-capacity” operations. When traffic volumes exceed the intersection capacity, stop-and-go conditions result, and operations are designated as LOS F. The intersections on Lackland AFB and Peterson AFB that could potentially be affected by proposed 24 AF beddown activities operate at LOS C or better (Lackland AFB, 2006b; Peterson AFB, 2006b; Yocum, 2009). Table 3.2-1 presents the LOS designations and their associated control delay factors.

**Table 3.2-1. Road Transportation Level of Service**

LOS	Description	Average Control Delay per vehicle (seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths	≤10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop and individual cycle failures are noticeable	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high volume to capacity ratios. Individual cycle failures are frequent occurrences	55.1 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths	>80.0

Source: Transportation Research Board, 1994.

The local road network in the vicinity of proposed 24 AF beddown locations at Lackland AFB (and former Kelly AFB) and Peterson AFB is shown on Figures 3-1, 3-2, and 3-3, respectively.



#### Lackland AFB

The following streets provide local access to proposed 24 AF locations at Lackland AFB: Hall Street, Samoski Street, Quentin Roosevelt Road, South Crickett Drive, Johns Road, and Clarence Tinker Drive (see Figures 3-1 and 3-2). A brief description of these roadways is presented below.

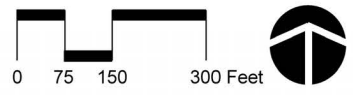


CYBERCOMMAND/009

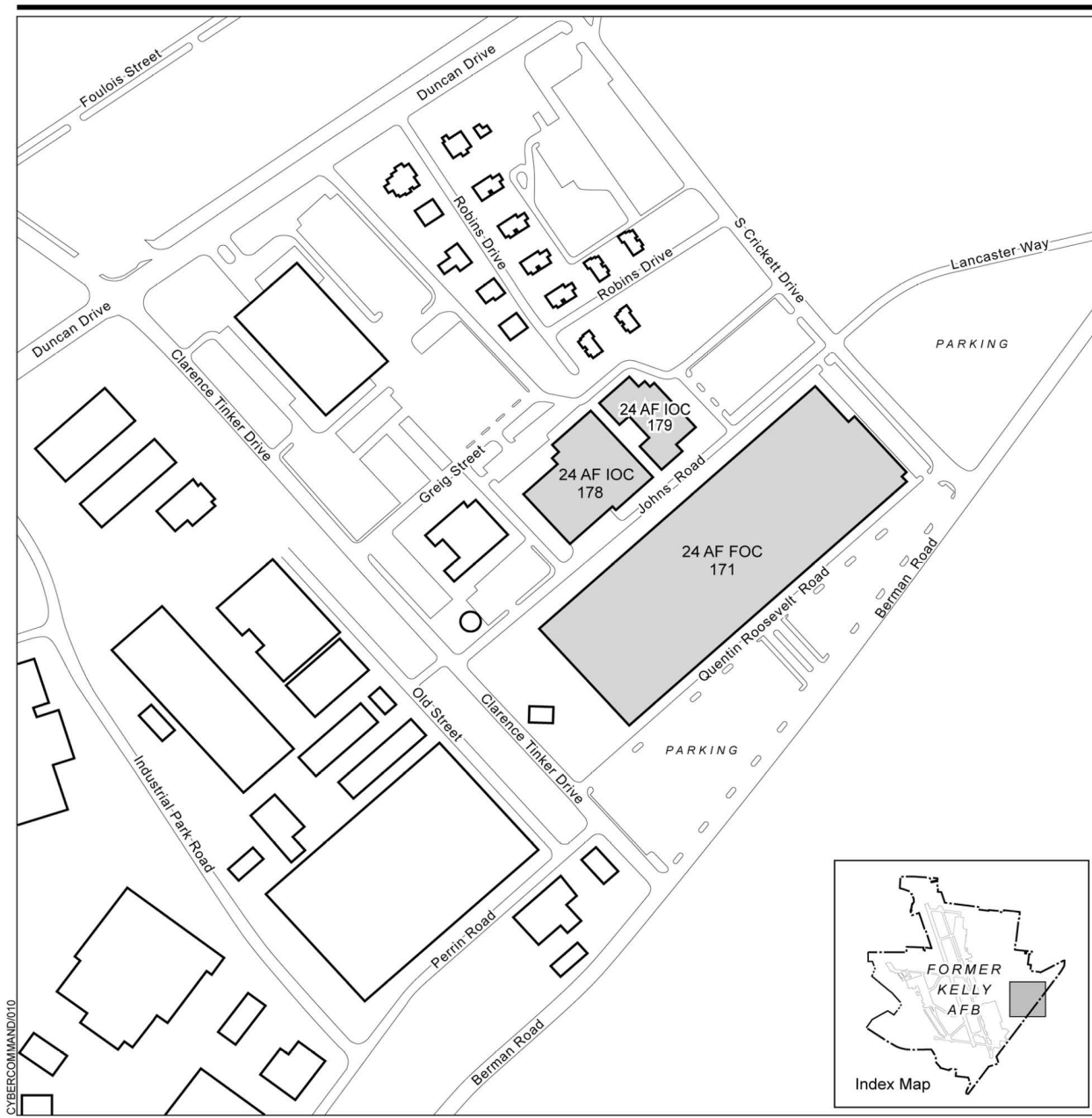
**EXPLANATION**

-  Facilities to Support 24 AF
- IOC Initial Operational Capability
-  Base Boundary

**Local Roadways  
Lackland AFB  
(Security Hill)**



**Figure 3-1**

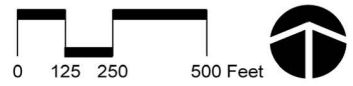


CYBERCOMMAND/010

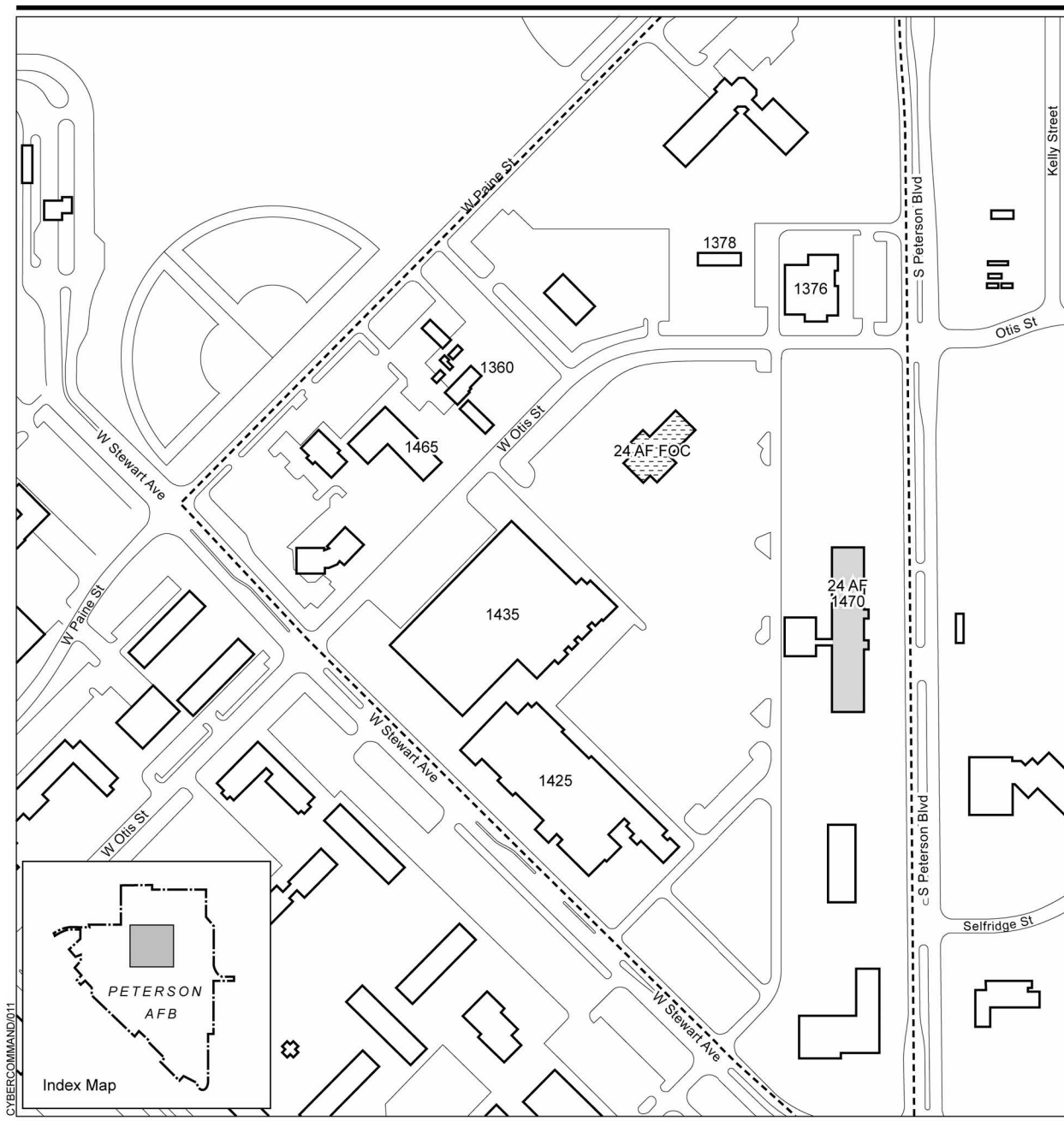
**EXPLANATION**

- Facility to Support 24 AF
- IOC Initial Operational Capability
- FOC Final Operational Capability

**Local Roadways  
Lackland AFB  
(Former Kelly AFB)**






**Figure 3-2**

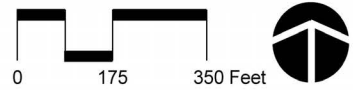


CYBERCOMMAND/011

**EXPLANATION**

-  Facility to Support 24 AF
-  Potential 24 AF Location
- FOC Final Operational Capability
-  Community Center Boundary

**Local Roadways  
Peterson AFB**



Source: Peterson AFB, 2006c.

**Figure 3-3**

**Hall Street** is a northeast-southwest, four-lane undivided roadway that provides access to facilities 2011 and 2058 on Security Hill.

**Samoski Street** is a one-way, northwest, one-lane roadway that provides access to facilities 2011 and 2058 on Security Hill.

**Quentin Roosevelt Road** is a northeast-southwest, two-lane undivided roadway that provides access to facilities 171, 178, and 179 on former Kelly AFB.

**South Crickett Drive** is a northwest-southeast, four-lane undivided roadway that provides access to facilities 171, 178, and 179 on former Kelly AFB.

**Johns Road** is a one way, northeast, one-lane roadway that runs between facilities 171, 178, and 179 on former Kelly AFB.

**Clarence Tinker Drive** is a northwest-southeast, four-lane undivided roadway that provides access to facilities 171, 178, and 179 on former Kelly AFB.

#### Peterson AFB

The following streets provide local access to proposed 24 AF locations at Peterson AFB: Peterson Boulevard, Stewart Street, Otis Street, and Paine Street (see Figure 3-3). A brief description of these roadways is presented below.

**Peterson Boulevard** is a north-south, four-lane divided roadway that borders the eastern side of the Community Center Area on Peterson AFB.

**Stewart Avenue** is a northwest-southeast, four-lane divided roadway that borders the southwest side of the Community Center Area on Peterson AFB.

**Otis Street** is a northeast-southwest, two-lane undivided roadway that runs through the Community Center Area on Peterson AFB.

**Paine Street** is a northeast-southwest, two-lane undivided roadway that borders the northwest side of the Community Center Area on Peterson AFB.

### **3.2.4 Utilities**

Utility systems discussed in this section include electricity, natural gas, water, wastewater, and solid waste. The ROI for utilities includes the service area for each provider that serves Lackland AFB (and former Kelly AFB) and Peterson AFB.

#### Lackland AFB

Existing utilities including water, wastewater, natural gas, electricity, and solid waste are provided to facilities 171, 178, 179, 2011, and 2058. A brief description of utility services is provided below.

**Electricity.** CPS Energy provides electrical service to Lackland AFB and former Kelly AFB. The capability analysis of the electrical system at Lackland AFB indicates sufficient headroom (40 percent

increase over current consumption) for moderate growth on Lackland AFB and former Kelly AFB. Annual electrical consumption is approximately 147,012 megawatt hours (Lackland AFB, 2006b).

**Natural Gas.** CPS Energy provides natural gas service to Lackland AFB and former Kelly AFB. The natural gas line capacity for Lackland AFB is 9.254 thousand cubic feet per day (MCF/day). The supply capability of the natural gas line serving the former Kelly AFB area is 2.4 MCF/day. The capability analysis of the natural gas system at Lackland AFB indicates sufficient headroom (33 percent over current consumption) for growth on Lackland AFB and former Kelly AFB. Annual natural gas consumption is approximately 977,273 MCF (Lackland AFB, 2006b).

**Water.** Potable water is supplied to Lackland AFB by six Edwards Aquifer wells that have a total designed withdrawal capacity of 13.22 million gallons per day (mgd); however, during historical peak withdrawal conditions, the wells operated at 36 percent of total design capacity (approximately 4.76 mgd). Potable water supplied to Kelly Field Annex (former Kelly AFB) is purchased from San Antonio Water System (SAWS). This water is not counted against the DOD-assigned withdrawal limit for Kelly AFB. Potable water obtained from the Edwards Aquifer is a limited resource subject to withdrawal regulation and drought restrictions. The calculated headroom for water consumption totals 1.45 mgd (Lackland AFB 2006b).

**Wastewater.** SAWS provides wastewater collection and treatment services to Lackland AFB and Kelly Field Annex (former Kelly AFB). The collection system discharges to the Leon Creek Wastewater Treatment Plant (WWTP). Although the designed daily average throughput capacity of the Leon Creek WWTP is 46 mgd, the permitted daily average flow is 36.5 mgd. The rated capacity of the Lackland AFB and former Kelly AFB sewer mains are 9.79 mgd and 2.32 mgd, respectively. The estimated daily wastewater discharge volume from Lackland AFB and former Kelly AFB is 1.5 mgd. The calculated headroom for wastewater totals 6.4 mgd (Lackland AFB, 2006b).

**Solid Waste.** Non-hazardous solid waste generated at Lackland AFB is collected by a private contractor and disposed off base at the Covel Gardens Landfill. Covel Gardens Landfill receives an average of 5,000 tons of solid waste per day and has a life expectancy of 17 years. The landfill is in the process of expanding, which would give the landfill an additional 24 years of life. Tessman Road Landfill, which receives 2,115 tons of waste per day, is also available for solid waste disposal and is scheduled for closure in 2052. In 2003, approximately 12,000 tons of solid waste from Lackland AFB were disposed in the Covel Gardens Landfill (Lackland AFB, 2006b). Government computer components (e.g., monitors) are turned in through the Defense Reutilization Marketing Office (DRMO) for proper disposal.

### Peterson AFB

Existing utilities including water, wastewater, natural gas, electricity, and solid waste are provided to Facility 1470 and the Community Center Area. A brief description of utility services is provided below.

**Electricity.** Colorado Springs Utilities provide electrical power to Peterson AFB. Peterson AFB is responsible for maintaining the on base electrical distribution system (Ward, 2009). Average monthly electrical consumption at Peterson AFB is approximately 8,788,000 KWH (Peterson AFB, 2009b), approximately 293,000 KWH per day.

**Natural Gas.** Colorado Springs Utilities provides natural gas to Peterson AFB. Peterson AFB is responsible for maintaining the on base natural gas distribution system (Ward, 2009). Average monthly natural gas consumption at Peterson AFB is approximately 25,100 MCF (Peterson AFB, 2009b), approximately 8,400 therms per day.



**Water.** Water is supplied to Peterson AFB by Colorado Springs Utilities. Peterson AFB is responsible for maintaining the on base water distribution system (Ward, 2009). Average monthly consumption is approximately 26,605,000 gallons (Peterson AFB, 2009b), 886,000 gpd.

**Wastewater.** Colorado Springs Utilities provides sanitary sewer service to Peterson AFB. Peterson AFB is responsible for maintaining the on base sewage collection system (Ward, 2009). Average monthly wastewater generation is approximately 8,405,000 gallons (Peterson AFB, 2009b), 280,000 gpd.

**Solid Waste.** The management of solid (non-hazardous) waste on Peterson AFB includes the collection and disposal of solid wastes and recyclable material by contract. Solid waste is taken by a contractor to the Colorado Springs Landfill (Peterson AFB, 2006a). The Colorado Springs landfill took in about 1.2 million cubic yards of trash in 2007, which works out to nearly 1,000 tons of garbage each day; however, the landfill has a current disposal rate of about 700 tons per day (Colorado Springs Independent, 2009). Government computer components (e.g., monitors) are turned in through the DRMO for proper disposal.

### **3.3 HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT**

Hazardous materials and hazardous waste management activities at Lackland AFB and Peterson AFB are governed by specific environmental regulations. For the purposes of analysis, the terms “hazardous materials” and “hazardous waste” will refer to those substances defined as hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. Section 9601, et seq., as amended, and the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Sections 6903-6992, as amended. In general, these include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present substantial danger to public health, welfare, or the environment when released into the environment.

The ROI for hazardous materials and hazardous waste encompasses those areas that could potentially be exposed to a release during renovation and construction activities. Hazardous materials management, hazardous waste management, ERP Sites, storage tanks, ACM, and LBP are discussed in this section.

#### **3.3.1 Hazardous Materials Management**

Management of hazardous materials at Lackland AFB and Peterson AFB is conducted in accordance with applicable Air Force requirements, including AFI 32-7086, *Hazardous Materials Management*; AFI 32-4002, *Hazardous Material Emergency Planning and Response Program*; U.S. EPA requirements for spill prevention, control, and countermeasures plans; Emergency Planning and Community Right-to-Know Act (EPCRA), 42 U.S.C. Chapter 116; and Occupational Safety and Health Administration (OSHA) requirements under 29 CFR, including Hazard Communication requirements under 29 CFR 1910.1200.

The appropriate installation hazardous material management plans promote the responsible, safe management of hazardous materials. The plans ensure compliance with Federal, State, local, and Air Force hazardous materials management regulations and instructions/directives. It includes procedures for operation of a hazardous materials pharmacy (HAZMAT Pharmacy), general guidelines for storing, tracking, handling, and using hazardous materials, as well as, calls out procedures to ensure a safe working environment and proper reporting procedures in the event of a release of a hazardous substance. The plans also identify training requirements for personnel routinely handling hazardous materials.

Lackland AFB and Peterson AFB maintain a HAZMAT Pharmacy in accordance with AFI 32-7080, *Pollution Prevention Program*. Most shops, offices, and work areas have a limited supply of the specific hazardous materials they are authorized to use in that work area. Office supplies which may constitute hazardous materials (e.g., correction fluid) are usually excluded from this requirement.

### **3.3.2 Hazardous Waste Management**

The federal government issued regulations for hazardous waste management under RCRA. In general, hazardous waste includes substances that, because of their quantity; concentration; or physical, chemical, or infectious characteristics, may present substantial danger to public health or the environment when released to the environment.

Procedures for management of hazardous waste generated at Lackland AFB and Peterson AFB are described in the installation hazardous material management plans. The plans do not directly address hazardous waste, but the management of hazardous materials and hazardous waste is often intertwined. These plans fulfill the requirements in Title 40, CFR Parts 260-270, which establishes procedures to achieve and maintain regulatory compliance regarding accumulation, transportation, and disposal of hazardous wastes.

Hazardous wastes generated at Lackland AFB and Peterson AFB are initially collected at satellite accumulation points (SAPs) before being transferred to a 90-day accumulation point. Prior to reaching the 90-day limit, the wastes are hauled off site to a permitted facility for disposal.

### **3.3.3 Environmental Restoration Program Sites**

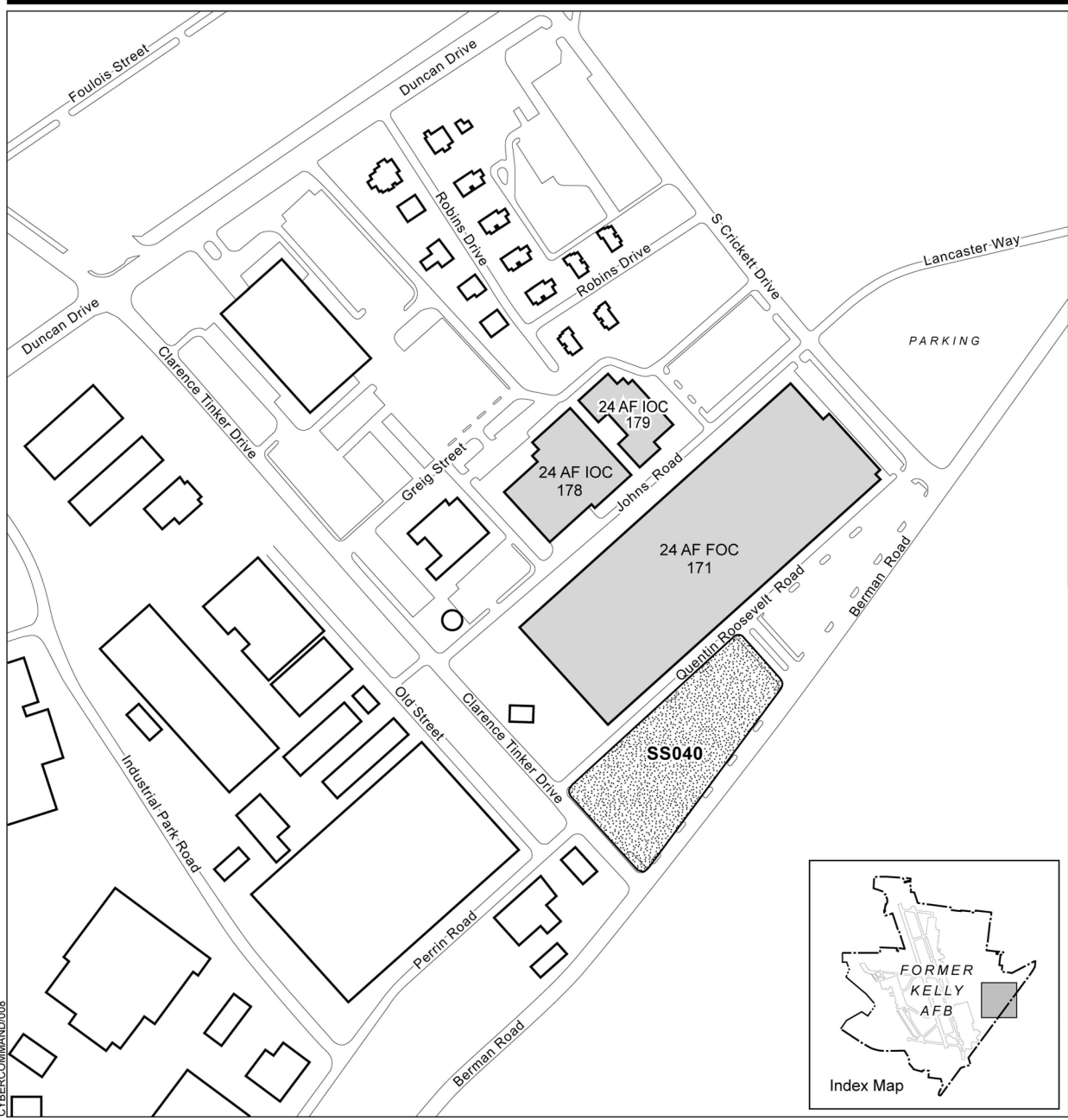
The ERP was established to identify, characterize, and remediate CERCLA related contamination on Air Force installations. The program is designed to evaluate past disposal sites, control the migration of contaminants, and control potential hazards to human health and the environment.

The ERP has been established as the mechanism for the CERCLA (42 U.S.C. Section 9601) process, incorporating applicable RCRA and state regulations, as well as meeting requirements of the National Oil and Hazardous Substance Pollution Contingency Plan (40 CFR Part 300). To ensure compliance with CERCLA regulations, the ERP was implemented to identify potentially contaminated sites, investigate those sites, and evaluate and select remedial actions.



#### Lackland AFB

There are no ERP sites situated near facilities 2011 or 2058 on Lackland AFB or near facilities 178 or 179 on former Kelly AFB.

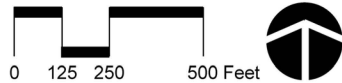
As a result of past installation operations at former Kelly AFB, one ERP site has been identified (ERP Site SS040) in the parking lot at the southern end of Facility 171 (Figure 3-4). ERP Site SS040 was originally the location of two automotive maintenance shop buildings known as Buildings 258 and 259. Both buildings were modified to support metal plating operations, and were then demolished in 1981. It was determined in 1998 that a pool of dense non-aqueous phase liquid (DNAPL) believed to have originated from ERP Site SS040 was contributing to groundwater contamination. In response, the Air Force installed an interim remedy in 1999 consisting of four groundwater recovery wells and a slurry wall. The objective of the system was to prevent off-site contaminant plume migration and to extract contaminated groundwater for treatment. Excavation of the soil to remove the DNAPL was proposed as the final remedy. ERP Site SS040 is scheduled to undergo soil excavation through the summer of 2009 with



**EXPLANATION**

-  Environmental Restoration Program (ERP) Site SS040
-  Facility to Support AF 24

**ERP Site SS040**



**Figure 3-4**

parking lot restoration occurring after soil excavation activities are completed. Monitoring wells will be installed or replaced and annual groundwater monitoring would be conducted.

#### Peterson AFB

There are no ERP sites situated near Facility 1470 or the Community Center Area at Peterson AFB.

#### **3.3.4 Storage Tanks**

The U.S. EPA has issued federal regulations related to underground storage tanks (USTs) in 40 CFR Part 280 and 40 CFR Part 112. Aboveground storage tanks (ASTs) are subject to regulation under the Clean Water Act (CWA) (33 U.S.C. Sections 1251-1578) and oil pollution provisions (specifically, 40 CFR Part 112). The operation and construction of ASTs are also subject to National Fire Protection Association fire codes and the Uniform Fire Code.

#### Lackland AFB

The state of Texas regulates both USTs and ASTs under Texas Administrative Code (TAC), Title 30, Chapter 334, et seq.; these regulations are enforced by the Texas Commission on Environmental Quality (TCEQ), although there is no waiver for sovereign authority for ASTs. The state manages ASTs having a capacity of 1,100 gallons and greater under 31 TAC 334 Subchapter F; this regulation is enforced by the TCEQ. Additionally, the TCEQ regulates storage tanks that are considered a stationary source of volatile organic compounds (VOCs). Daily tanks associated with back-up generators are not regulated.

Lackland AFB maintains a Spill Prevention Control and Countermeasures Plan (SPCCP) that establishes responsibilities and provides prevention guidelines, as well as contingency plans for use in the event a release occurs. No USTs are currently present at Facilities 171, 178, 179, 2011, or 2058. ASTs are present at facilities 171, 178/179, and 2058. The ASTs store diesel fuel and are associated with back-up generators that service the facilities.

#### Peterson AFB

The Colorado Department of Health and Department of Labor jointly administer the UST program under Colorado Code of Regulations (CCR) Title 6, Chapter 1007, Article 5 (Department of Health) and CCR Title 7, Chapter 1101, Article 14 (Department of Labor).

ASTs are regulated by the Colorado State Oil Inspector, which has adopted, by reference, the National Fire Protection Association standards for ASTs that contain flammable and combustible liquids. The Colorado Revised Statute 8-20-231 incorporates these standards

Peterson AFB maintains a SPCCP that establishes responsibilities and provides prevention guidelines, as well as contingency plans for use in the event a release occurs. No USTs are currently present at Facility 1470. ASTs are present at Facility 1470, the ASTs store diesel fuel and are associated with back-up generators that service the facility.

#### **3.3.5 Asbestos-Containing Material**

ACM and ACM abatement are regulated by the U.S. EPA and OSHA. Asbestos fiber emissions into the ambient air are regulated in accordance with Section 112 of the Clean Air Act (CAA), which established the National Emissions Standards for Hazardous Air Pollutants (NESHAP). Under NESHAP, the owner of

a structure must, prior to demolition or renovation of buildings with ACM, provide notice to the regulator with CAA authority (either the U.S. EPA or its state counterpart). The NESHAP regulations (40 CFR Part 61, Subpart M) address the demolition or renovation of buildings with ACM. The Asbestos Hazard Emergency Response Act (AHERA), (Public Law [P.L.] 99-519 and P.L. 101-637), addresses worker protection for employees who work around or remediate ACM.

Renovation of buildings with ACM has a potential for releasing asbestos fibers into the air. Asbestos fibers could be released due to disturbance or damage to various building materials, such as pipe insulation, acoustical ceilings, sprayed-on fire proofing, and other materials used for sound proofing or insulation. The current Air Force practice is to manage or abate ACM in active facilities and abate any ACM that has been identified as a hazard to human health, following regulatory requirements and prior to facility demolition or renovation. Removal of ACM occurs when there is a potential for asbestos fiber release that would affect human health or the environment.

There are two primary categories that describe ACM. Friable ACM is defined as any material containing more than 1 percent asbestos that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure (e.g., pipe or boiler insulation and acoustic ceilings). Non-friable ACM is material that contains more than 1 percent asbestos but does not meet the criteria for friable asbestos (e.g., floor tile).

Lackland AFB and Peterson AFB maintain an Asbestos Management Plan, which establishes specific procedures for identification, notification, maintenance/management, monitoring, and disposal of asbestos. The plan also provides organizational responsibilities, and personnel and record-keeping training requirements. The procedures and guidance outlined in the plan ensure that base personnel and residents are not exposed to excessive levels of airborne asbestos.

#### Lackland AFB

The state of Texas manages asbestos under the Texas Asbestos Health Protection Rules (Sections 295.31-295.71), which are administered by the Texas Department of Health.

Facilities 171, 178, 179, 2011, and 2058 have not been surveyed for asbestos or survey results were not available. Asbestos surveys would be required prior to initiating any renovation activities.

#### Peterson AFB

The Colorado Department of Public Health and the Environment (CDPHE) Air Pollution Central Division administers Colorado's asbestos removal regulation (State Regulation No. 8, Part B). These regulations cover demolition and renovation activities and are more stringent than the federal NESHAP program.

An asbestos survey of Facility 1470 identified ACM in the form of pipe hanger supports, mudded insulation, smooth wall plaster, vinyl asbestos floor tile, floor tile mastic, and ACM debris (Peterson AFB, 1996). Asbestos surveys would be required prior to initiating any renovation activities.

### **3.3.6 Lead-Based Paint**

Human exposure to lead has been determined to pose an adverse health risk by agencies such as OSHA and the U.S. EPA. Sources of exposure to lead are dust, soils, and paint. In 1973, the Consumer Product Safety Commission (CPSC) established a maximum lead content in paint of 0.5 percent by weight in a dry film of newly applied paint.

The use of LBP declined after 1978 when the CPSC lowered the allowable lead content in paint to 0.06 percent by weight from its 1973 level of 0.5 percent by weight in a dry film of newly applied paint. This change was made under the Consumer Safety Act of 1977, P.L. 101-608, as implemented by 16 CFR Part 1303. DOD implemented a ban of LBP use in 1978; however, it is possible that facilities painted prior to or during 1978 may contain LBP. The Air Force does not actively pursue removal of LBP. Instead, it is managed in place and removed by the Air Force, as necessary.

#### Lackland AFB

A LBP survey has not been conducted for facilities 171, 178, 179, 2011, and 2058. Facilities 171 and 2011 were constructed prior to 1978; therefore, it is possible that LBP is present in these structures. Facilities 178, 179, and 2058 were constructed in 1989, 1995, and 1990 respectively; therefore, LBP is not anticipated to be present in these facilities. LBP surveys would be required in facilities 171 and 2011 prior to initiating any renovation activities.

#### Peterson AFB

A LBP survey has not been conducted for Facility 1470. This structure was constructed prior to 1978; therefore, it is possible that LBP is present. LBP surveys would be required prior to initiating any renovation activities.

### **3.4 NATURAL ENVIRONMENT**

This section describes the affected environment for natural resources: geology and soils, air quality, biological resources, and cultural resources.

#### **3.4.1 Geology and Soils**

The discussion of geology and soils covers features of the physical environment that may be affected by, or have an impact upon, the proposed activities. These include physiography, geology (surface and bedrock), mineral resources, seismicity, and soils (types and properties). Although the discussion of geology includes the regional discussion needed to understand this setting, the ROI is considered to be localized and limited to the development area at Peterson AFB. No ground disturbance is proposed at Lackland AFB.

##### **3.4.1.1 Geology.**

#### Lackland AFB

No ground disturbance would occur at Lackland AFB or former Kelly AFB in support of proposed 24 AF beddown activities; therefore, no discussion of regional geology is provided.

#### Peterson AFB

Peterson AFB is located on geologic formations predominantly comprised of Cretaceous and Tertiary rocks. These include Pierre Shale, Fox Hills Sandstone, the Laramie Formation, and the Dawson Arkose. These formations range from 125 to 211 million years old with a thickness between 610 feet and 4,000 feet. The Pierre Shale is present as bedrock beneath the base and, based on extrapolation from regional outcrops, the Fox Hills Sandstone and the Laramie Formation are likely to at least subcrop

beneath the northern portion of the base. These geologic formations are covered by Quaternary alluvium that ranges from about 50 to 100 feet deep at the installation (Peterson AFB, 2007).

The base is situated in Seismic Zone 1, which represents a low potential risk for large seismic events (International Conference of Building Officials, 1991).

Various mineral deposits on Peterson AFB include sandstone and shale. The exposed Laramie Formation, which consists of soft shale deposits to hard white sandstone, is perhaps the most significant layer of rock on the installation. A layer of sub-bituminous coal lies 0-200 feet below the surface of this formation. The mineral resources in the western half of Peterson AFB consists of exposed sand and fine aggregate. The eastern half is covered with poor quality gravel. In 1996, the El Paso County Commissioners approved a 1995 El Paso County Mineral Deposits Plan and Master Plan for the Extraction of Commercial Mineral Deposits prepared by the El Paso County Planning Department. For the most part, the county has concluded that mining for coal in El Paso County's urbanized areas, including Peterson AFB, is not commercially feasible (Peterson AFB, 2007).

#### **3.4.1.2 Soils.**

##### Lackland AFB

No ground disturbance would occur at Lackland AFB or former Kelly AFB in support of proposed 24 AF beddown activities; therefore, no discussion of soils is provided.

##### Peterson AFB

Soils in the Colorado Springs area formed on fans, terraces, and sideslopes of the Front Range and adjacent plains. They vary from shallow and rocky in mountainous areas to sandy loams on the plains. At Peterson AFB, soils may be characterized as sandy and originating from weathered feldspar-rich sedimentary units, with the result that they have a neutral pH and a moderate to high infiltration capability. There are no prime farmland soils on the installation, and the existing soils are generally unsuitable for cultivation. Soils in the Community Center Area are sand- and alluvium-based soils of the Blakeland Loamy Sand association consisting of deep to moderately steep, sandy soils that are very susceptible to wind or water erosion. This soil type is generally suitable for construction; however, limiting factors include high shrink-swell potential and high frost heaving potential (Peterson AFB, 2007; U.S. Department of Agriculture, 1981).

#### **3.4.2 Air Quality**

Air quality in a given location is described as the concentration of various pollutants in the atmosphere, generally expressed in units of parts per million (ppm) or micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). Air quality is determined by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. The significance of a pollutant concentration is determined by comparing it to federal and/or state ambient air quality standards. These standards represent the maximum allowable atmospheric concentrations that may occur and still protect public health and welfare with a reasonable margin of safety.

The U.S. EPA established the federal standards for the permissible levels of certain pollutants in the atmosphere. The National Ambient Air Quality Standards (NAAQS) have been established for six criteria pollutants to protect the public from exposure to harmful amounts of pollutants.

The six air pollutants are: ozone (O<sub>3</sub>), lead (pb), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>). The NAAQS include primary and secondary standards. The primary standards were established at levels sufficient to protect public health with an adequate margin of safety. The secondary standards were established to protect the public welfare from the adverse effects associated with pollutants in the ambient air.

Areas that meet the NAAQS standard for a criteria pollutant are designated as being “in attainment” while areas where criteria pollutant levels exceed the NAAQS are designated as “nonattainment”. The nonattainment classifications for CO and PM<sub>10</sub> are further divided into moderate and serious categories. Ozone nonattainment areas are further classified, based on the severity of the pollution problem, as either basic, marginal, moderate, serious, severe, or extreme. A maintenance area is an area that has recently been re-designated as an attainment area from a former nonattainment area. However, during the maintenance period, most of the CAA rules for a nonattainment area are still applicable to a maintenance area.

**State Air Quality Standards.** The applicable state ambient air quality standards are established by the TCEQ and the CDPHE, respectively. The TCEQ has adopted the NAAQS. The CDPHE has established state standards and are termed the Colorado Ambient Air Quality Standards (CAAQS). The NAAQS and CAAQS standards are summarized in Table 3.4-1.

**Existing Air Quality Conditions.** The existing air quality conditions at Lackland AFB and Peterson AFB are determined by the NAAQS attainment status for the county or region where the project is located. The 24 AF beddown activities would occur at Lackland AFB located in San Antonio, Texas or at Peterson AFB in Colorado Springs, Colorado.

The San Antonio (Bexar County) area is currently designated as attainment for all NAAQS, with the exception of 8-hour O<sub>3</sub>, while Colorado Springs is also currently designated as attainment of all NAAQS, with the exception of CO for which Colorado Springs is in a maintenance area.

**State Implementation Plan.** In areas where the NAAQS are exceeded, the CAA requires preparation of a State Implementation Plan (SIP), which details how a state would attain the standards within mandated time frames. The CAA's revised attainment planning process maintains requirements and compliance dates for reaching attainment that are based upon the severity of air quality standard violations.

**Clean Air Act Conformity.** In those areas where the NAAQS are exceeded, the preparation of a SIP detailing how the state would attain the standard within mandated time frames is required. Section 176(c) of the CAA instructs a federal agency to deny support for or implementing any federal action unless the federal agency can determine that the activity will conform to the SIP's purpose of attaining and maintaining the NAAQS.

The CAA, amended in 1990, expands the scope and content of the CAA's conformity provisions as they pertain to a SIP. Under Section 176(c) of the CAA, a project is in “conformity” if it corresponds to a SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards. Conformity further requires that such activities would not:

- (1) Cause or contribute to any new violations of any standards in any area;
- (2) Increase the frequency or severity of any existing violation of any standards in any area; or
- (3) Delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.



**Table 3.4-1. National, Texas, and Colorado Ambient Air Quality Standards**

Pollutant	Averaging Time	Colorado Standards <sup>(c)</sup>	National/Texas Standards	
			Primary <sup>(a,b,c,d)</sup>	Secondary <sup>(a,b,e)</sup>
Ozone	1-hour	0.12 ppm (235 µg/m <sup>3</sup> )	--	--
	8-hour <sup>(f)</sup>	0.085	0.075 ppm (147 µg/m <sup>3</sup> )	Same as primary standard
Carbon monoxide	8-hour	9 ppm (10 mg/m <sup>3</sup> )	9 ppm (10 mg/m <sup>3</sup> )	--
	1-hour	35 ppm (40 mg/m <sup>3</sup> )	35 ppm (40 mg/m <sup>3</sup> )	--
Nitrogen dioxide	Annual Arithmetic Mean	0.053 ppm (100 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )	Same as primary standard
Sulfur dioxide	Annual Arithmetic Mean	15 µg/m <sup>3</sup>	0.03 ppm (80 µg/m <sup>3</sup> )	--
	24-hour	0.04 ppm (100 µg/m <sup>3</sup> )	0.14 ppm (365 µg/m <sup>3</sup> )	--
PM <sub>10</sub>	3-hour	--	--	0.5 ppm (1,300 µg/m <sup>3</sup> )
	700 µg/m <sup>3</sup>	--	--	--
	Annual Arithmetic Mean	50 µg/m <sup>3</sup>	--	--
PM <sub>2.5</sub>	24-hour	150 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	Same as primary standard
	Annual Arithmetic Mean	15	15 µg/m <sup>3</sup>	Same as primary standard
Lead	24-hour	35	35 µg/m <sup>3</sup>	Same as primary standard
	Quarterly	1.5	1.5 µg/m <sup>3</sup>	Same as primary standard

- Notes: (a) Primary standards define levels of air quality necessary to protect public health with an adequate margin of safety. Secondary standards define levels of air quality necessary to protect public welfare (i.e., soils, vegetation, property, and wildlife) from any known or anticipated adverse effects.
- (b) The 8-hour primary and secondary ambient air quality standards are met at a monitoring site when the average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to 0.08 ppm.
- (c) The NAAQS and Colorado standards are based on standard temperature and pressure of 25 degrees Celsius and 760 millimeters of mercury.
- (d) National Primary Standards: The levels of air quality necessary to protect the public health with an adequate margin of safety. Each state must attain the primary standards no later than three years after the state implementation plan is approved by the U.S. EPA.
- (e) National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after the state implementation plan is approved by the U.S. EPA.

µg/m<sup>3</sup> = micrograms per cubic meter  
 mg/m<sup>3</sup> = milligrams per cubic meter  
 NAAQS = National Ambient Air Quality Standards  
 PM<sub>10</sub> = particulate matter equal to or less than 10 microns in diameter  
 PM<sub>2.5</sub> = particulate matter equal to or less than 2.5 microns in diameter  
 ppm = parts per million  
 SO<sub>2</sub> = sulfur dioxide

The U.S. EPA published final rules on general conformity (40 CFR Parts 51 and 93) in the Federal Register on November 30, 1993 that apply to federal actions in areas designated nonattainment for any of the criteria pollutants under the CAA. These rules specify de minimis emission levels by pollutant to determine the applicability of conformity requirements for a project. As defined in the general conformity rule, a formal conformity determination is required when the annual net total of direct and indirect emissions from a federal action, occurring in a nonattainment or maintenance area, equals or exceeds the annual de minimis levels for criteria pollutants.

In addition to meeting de minimis requirements, a federal action must not be considered a regionally significant action. A federal action is considered regionally significant when the total emissions from the action equal or exceed 10 percent of the air quality control area's emissions inventory for any criteria pollutant.

Since the proposed project location is either in an O<sub>3</sub> nonattainment area or a CO maintenance area, the general conformity rule applies to both alternatives. The subsequent general conformity rule analysis is discussed in Chapter 4.

**Stationary Emission Sources.** New or modified major stationary sources associated with the 24 AF would be subject to Prevention of Significant Deterioration (PSD) review and nonattainment pollutant New Source Review (NSR) to ensure that these sources are constructed without significant adverse deterioration of the air in the area. The U.S. EPA oversees programs for stationary source operating permits (Title V) and for new or modified major stationary source construction and operation.

Lackland AFB has a CAA Title V Operating Permit for stationary emissions sources, such as generators, internal combustion engines, abrasive cleaning, jet engine testing, fuel dispensing, welding, and surface coating. Mobile emission sources such as aircraft and on-road vehicles are not regulated by Title V of the CAA.

Peterson AFB has a CAA Title V Operating Permit from the Colorado Air Pollution Control Division. The base is subject to PSD/NSR review requirements of 40 CFR 52.21 and CCR, Title 5, Chapter 1001, Regulation 3, Part B, Section IV.D.3 because the actual or potential emission of nitrogen oxide (NO<sub>x</sub>) exceeds 250 tons per year at the base.

**Greenhouse Gas Emissions.** Greenhouse gases (GHGs) are compounds found naturally within the Earth's atmosphere. These compounds trap and convert sunlight into infrared heat. In this way, greenhouse gases act as insulation, and contribute to the maintenance of global temperatures. As the levels of greenhouse gases increase, the result is a greater overall temperature on Earth. The climate change associated with this global warming is predicted to produce negative economic and social consequences across the globe. However, the potential effects of proposed GHG emissions are by nature global and cumulative impacts, as individual sources of GHG emissions are not large enough to have an appreciable effect on climate change. Therefore, the impact of proposed GHG emissions to climate change is discussed in the context of cumulative impacts to the total amount of GHG emissions resulting from the U.S. as discussed in Chapter 4. Appendix A presents estimates of GHG emissions generated by 24 AF beddown activities.

The most common GHGs emitted from natural processes and human activities include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O). The primary greenhouse gas emitted by human activities in the U.S. was CO<sub>2</sub>, representing approximately 85 percent of total GHG emissions. The largest source of CO<sub>2</sub>, and of overall GHG emissions, was fossil fuel combustion. CH<sub>4</sub> emissions, which have declined from 1990 levels, resulted primarily from enteric fermentation associated with domestic livestock, decomposition of wastes in landfills, and natural gas systems. Agricultural soil management and mobile

source fuel combustion were the major sources of N<sub>2</sub>O emissions. Because CO<sub>2</sub> emissions comprise approximately 85 percent of GHGs and moreover CO<sub>2</sub> emission factors are readily available for many sources including construction equipment, this EA considers CO<sub>2</sub> the representative GHG emission.

### 3.4.3 Biological Resources

Biological resources include both native and non-native species of plants and animals in the project area. For discussion purposes, these are divided into vegetation, wildlife, threatened and endangered species, and sensitive habitats.

Threatened species include plant and wildlife species likely to become endangered in the foreseeable future. Endangered species include species that are threatened with extinction throughout all or a portion of its range.

Wetlands are defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (Federal Interagency Committee for Wetland Delineation, 1989). Wetlands are regulated under Section 404 of the Clean Water Act (CWA) and Executive Order (EO) 11990 (Protection of Wetlands).

Sensitive habitats include wetlands, plant communities that are unusual or of limited distribution, and important seasonal use areas for wildlife (e.g., migration routes, breeding areas, crucial summer/winter habitat).

Human activity has altered the natural environment at Lackland AFB (and former Kelly AFB) and Peterson AFB through grading, paving, and construction of buildings on the property. Data sources for biological resources include published literature, and information provided by the U.S. Fish and Wildlife Service (USFWS), Texas Parks and Wildlife Department, and Colorado Division of Wildlife.

The ROI used for discussion of biological resources includes the proposed 24 AF beddown areas at Lackland AFB (i.e., facilities 171, 178, 179, 2011, and 2058) and Peterson AFB (i.e., Facility 1470 and the Community Center Area), which consists of areas that have been altered or disturbed with existing facilities and vehicle parking lots. This ROI includes the area within which potential impacts could occur and provides a basis for evaluating the level of impact.

#### Lackland AFB

**Vegetation.** The ROI within Lackland AFB (and former Kelly AFB) is considered improved grounds and contains little to no vegetation. Those species present within the ROI are considered mowed non-native turf grasses, ornamental shrubs, and tree species commonly used for urban landscapes within the region. Adjacent open areas are paved. There are no native vegetation communities present within the ROI on Lackland AFB (or former Kelly AFB) where proposed 24 AF beddown activities would occur.

**Wildlife.** The ROI on Lackland AFB (and former Kelly AFB) provides very little habitat for even some of the more common wildlife that could be found in the region. Wildlife species observed within urban environments on base include opossum (*Didelphis marsupialis*), striped skunk (*Mephitis mephitis*), and mice (*Peromyscus* sp.). Because trees and shrubs are used within the landscaping on the property, there is potential for the occurrence of various bird species adapted to human activity.

**Threatened and Endangered Species.** There are no federally listed threatened or endangered species known to be present within the ROI on Lackland AFB (or former Kelly AFB) (where proposed 24 AF beddown activities would occur (Lackland AFB, 2007).

There are no officially classified wetlands or known critical habitats within the ROI on Lackland AFB (or former Kelly AFB) where proposed 24 AF beddown activities would occur (Lackland AFB, 2007).

#### Peterson AFB

**Vegetation.** The ROI within Peterson AFB is considered improved grounds and contains turf grass and rock and plant beds. Grass seed specifications for improved turf and landscaped grounds include different varieties of Kentucky bluegrass (*Poa pratensis*). Other vegetation species present are considered ornamental shrubs and trees commonly used for urban landscapes within the region. Predominant tree and shrub species on the installation include a mix of evergreen trees, juniper shrubs, deciduous trees, and deciduous shrubs. Most of the adjacent open areas are paved or contain loose gravel. There are no native vegetation communities present within the ROI.

**Wildlife.** The ROI on Peterson AFB provides very little habitat for even some of the more common wildlife that could be found in the region. Because trees are used within the landscaping on the property, there is potential for the occurrence of various bird species adapted to human activity.

**Threatened and Endangered Species.** According to the Peterson AFB Integrated Natural Resource Management Plan (INRMP), there are no known federal or state threatened or endangered plant or animal species currently on base (Peterson AFB, 2007).

**Sensitive Habitats.** According to the Peterson AFB INRMP, there are no officially classified wetlands or known critical habitats on Peterson AFB (Peterson AFB, 2007).

#### **3.4.4 Cultural Resources**

Cultural resources are defined as prehistoric or historic archaeological sites, buildings, structures, districts, artifacts, or other physical evidence of human activity. For ease of discussion, cultural resources have been divided into prehistoric and historic archaeological resources, historic buildings and structures, and traditional cultural resources (e.g., sacred or ceremonial sites).

For the purposes of this analysis, the term ROI is synonymous with the “area of potential effect” as defined under cultural resources legislation. The ROI for the analysis of cultural resources within this EA includes any structures and areas that may be affected during the proposed beddown of the 24 AF. This would entail facilities 171, 178, 179, 2011, and 2058 at Lackland AFB and Facility 1470 and the Community Center Area at Peterson AFB.

Numerous laws and regulations require federal agencies to consider the effects of a proposed action on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the federal agency proposing the action, and prescribe the relationships among other involved agencies (e.g., the State Historic Preservation Officer [SHPO] and the Advisory Council on Historic Preservation [ACHP]). The primary law governing the treatment of cultural resources is the National Historic Preservation Act (NHPA), which requires a federal agency to consider potential impacts on historic properties from any proposed undertaking.

Historic properties, are defined under 36 CFR Part 800 as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places

(National Register). For the purposes of these regulations, the term includes artifacts, records, and remains that are related to, and located within, such properties. The term “eligible for inclusion in the National Register” includes properties formally determined as such by the Secretary of the Interior and all other properties that meet National Register listing criteria. Therefore, sites that meet the criteria, but are not yet evaluated, may be considered potentially eligible to the National Register and, as such, are afforded the same regulatory consideration as nominated historic properties. As a federal agency, the Air Force is responsible for identifying any historic properties associated with its property.

#### Lackland AFB

**Prehistoric and Historic Archaeological Resources.** Archeological surveys conducted to date on Lackland AFB have identified 76 archeological (prehistoric, historic, and multi-component) sites. Of those sites, 62 have been determined as ineligible for inclusion in the National Register. The Texas SHPO indicated that three of the sites have sufficient significance to qualify these sites as National Register-eligible. Additional archaeological investigation is required to make a determination on the remaining 11 sites. No known archaeological resources are situated near facilities 171, 178, 179, 2011, or 2058. Because of the severe ground disturbance that occurred during construction of the buildings and associated vehicle parking areas, the potential for discovery of in-tact archaeological resources is considered very low. No archaeological resource concerns have been identified for the proposed 24 AF beddown locations at Lackland AFB.

**Historic Buildings and Structures.** Historic resources at Lackland AFB have been inventoried and evaluated for their National Register eligibility. Facilities 171, 178, 179, 2011, and 2058 have not been identified as eligible for inclusion in the National Register (Lackland AFB, 2002).

**Traditional Cultural Resources.** No traditional cultural resource concerns have been identified at Lackland AFB. According to the Lackland AFB Integrated Cultural Resources Management Plan (ICRMP), all known indigenous tribes relative to the Lackland AFB area have been identified, and none have indicated an interest in the area.

#### Peterson AFB

**Prehistoric and Historic Archaeological Resources.** Known archeological and historic resources identified at Peterson AFB include a few isolated artifacts of prehistoric origin that were determined not eligible for inclusion in the National Register (Peterson AFB, 2004). No known archaeological resources are situated near Facility 1470 or the Community Center Area, the recommended location for the FOC. Because of the severe ground disturbance that occurred during construction of the buildings and associated vehicle parking areas, the potential for discovery of in-tact archaeological resources is considered very low. No archaeological resource concerns have been identified for the proposed 24 AF beddown locations at Peterson AFB.

**Historic Buildings and Structures.** Historic resources at Peterson AFB have been inventoried, including resources from World War II (WWII) and the Cold War era, and evaluated for their National Register eligibility. Facility 1470 was not identified as eligible for inclusion in the National Register (Peterson AFB, 2004).

**Traditional Cultural Resources.** No traditional cultural resource concerns have been identified at Peterson AFB. According to the Peterson AFB ICRMP, all known indigenous tribes relative to the Peterson AFB area have been identified, and none have indicated an interest in the area.

## 4.0 ENVIRONMENTAL CONSEQUENCES

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### 4.1 INTRODUCTION

This chapter presents the results of the analysis of potential environmental effects associated with the proposed beddown of the 24 AF. The Preferred Alternative: Lackland AFB, TX, Alternative 1: Peterson AFB, CO, and the No-Action Alternative, are analyzed. Changes to the natural and human environments that may result from the alternatives were evaluated relative to the existing environment as described in Chapter 3.0. The potential for significant environmental consequences was evaluated utilizing the context and intensity considerations as defined in CEQ regulations for implementing the procedural provisions of NEPA (40 CFR Part 1508.27).

### 4.2 COMMUNITY SETTING

This section describes the potential effects of the alternatives on socioeconomics, land use/aesthetics, transportation, and utilities.

#### 4.2.1 Socioeconomics

Potential socioeconomic effects are addressed only to the extent that they are interrelated with the biophysical environment. Thus, the discussion includes key employment and population effects of the alternatives.

##### 4.2.1.1 Preferred Alternative: Lackland AFB, TX.

**Employment.** Under the Preferred Alternative, existing buildings would be renovated to allow occupancy by 24 AF personnel. During IOC, the 24 AF would operate with a staff of 100 personnel. During FOC, the 24 AF would be staffed with 460 personnel.

Work associated with facility renovation activities would result in a temporary increase in local construction-related jobs during the renovation period (2009 to 2010). Construction workers are expected to come from the local area. The 460 personnel assigned to the 24 AF would result in a less than 1 percent increase from the year 2000 estimated workforce in the City of San Antonio.

**Population.** Of the 460 personnel assigned to the 24 AF, military members would be eligible to reside on base if military family housing is available. Military personnel not housed on base and non-military personnel would reside in the San Antonio area. The regional housing market has adequate inventory to service the needs of personnel assigned to the 24 AF.

No significant impacts to socioeconomics are anticipated from implementation of the Preferred Alternative.

##### 4.2.1.2 Alternative 1: Peterson AFB, CO.

**Employment.** Under this alternative, Facility 1470 would be renovated to allow occupancy by 24 AF personnel during IOC and interim FOC. For FOC, a new facility would be constructed to accommodate the 24 AF mission. During IOC, the 24 AF would operate with a staff of 100 personnel. During FOC, the 24 AF would be staffed with 460 personnel.

Work associated with facility renovation and construction activities would result in a temporary increase in local construction-related jobs during the construction period (2009 to 2014). Construction workers are expected to come from the local area. The 460 personnel assigned to the 24 AF would result in a less than 1 percent increase from the year 2000 estimated workforce in the City of Colorado Springs.

**Population.** Of the 460 personnel assigned to the 24 AF, military members would be eligible to reside on base if military family housing is available. Military personnel not housed on base and non-military personnel would reside in the Colorado Springs area. The regional housing market has adequate inventory to service the needs of personnel assigned to the 24 AF.

No significant impacts to socioeconomics are anticipated from implementation of Alternative 1.

#### **4.2.1.3 No-Action Alternative.**

Under the No-Action Alternative, the proposed 24 AF beddown would not occur. No increase in work force would occur. No temporary increase in employment associated with facility renovation and construction would occur. No significant impacts to socioeconomics are anticipated from implementation of the No-Action Alternative.

**Mitigation Measures.** No mitigation measures would be required.

#### **4.2.2 Land Use/Aesthetic**

The potential effects of the alternatives on land use and aesthetics within the ROI are presented in this section.

##### **4.2.2.1 Preferred Alternative: Lackland AFB, TX.**

**Land Use.** The proposed beddown of the 24 AF would occur within the administrative land use area (i.e., on Security Hill and in administrative facilities of former Kelly AFB). Facilities 178, 179, and 2058 are administrative/office facilities, Facility 171 is a former warehouse that has been renovated to serve as a large administrative building, and Facility 2011 is a vacant dormitory that would be renovated for administrative use. The 24 AF mission would be compatible with existing land uses surrounding the facilities to be utilized. No significant impacts to land use are anticipated.

**Aesthetics.** The appearance of the areas the 24 AF would occupy at Lackland AFB and former Kelly AFB (i.e., large structures and associated vehicle parking areas) would not change from current conditions. Only interior renovations would occur at facilities that the 24 AF would occupy. Plans are in place, independent of proposed 24 AF beddown actions, to install a fence to create a secured compound. The security fence would surround Facility 171 and neighboring Facilities 178 and 179. No significant impacts to aesthetics are anticipated.

##### **4.2.2.2 Alternative 1: Peterson AFB, CO.**

**Land Use.** The proposed beddown of the 24 AF at Peterson AFB would occur within the Community Center Area where the former BX and Commissary are situated. The use of Facility 1470 during IOC and interim FOC is consistent with current use of the facility. During construction of the FOC, approximately 5 acres of land would be disturbed within the Community Center Area for construction of the 24 AF building, associated vehicle parking, and connection to local utility systems. For FOC, the construction of

a new facility to accommodate the 24 AF within the Community Center Area is consistent with the General Plan and the Peterson AFB Triangle Area Development Plan, which identify “administrative” uses on the property as one of the top three desirable land uses for the area. The 24 AF mission would also be compatible with existing land uses surrounding the Community Center Area. No significant impacts to land use are anticipated.

**Aesthetics.** The appearance of Facility 1470 (i.e., large administrative facility) would not change from current conditions. Only interior renovations would occur at Facility 1470. The construction of a new 24 AF headquarters facility within the Community Center Area would result in a noticeable change in the appearance of the property as a result of demolishing the existing structures (e.g., former BX and Commissary structures) and constructing a new headquarters facility. Demolition of existing structures within the Community Center Area would occur independent of proposed 24 AF activities in furtherance of future redevelopment of the area. The construction of the new facility would include a multi-story structure and would be consistent with the existing urban visual character of the area. The use of landscaping would enhance the aesthetic quality of the property. Modern building designs would be developed with the intent of creating an attractive appearance. The long-term effect of removing older buildings and constructing new modern structures (new 24 AF headquarters and other proposed redevelopment of the Community Center Area) would result in a positive aesthetic effect on the area. No significant impacts to aesthetics are anticipated.

#### **4.2.2.3 No-Action Alternative.**

Under the No-Action Alternative, the proposed 24 AF beddown would not occur. No renovation or construction activities would occur. The current use and appearance of the buildings that the 24 AF would have utilized would not change; therefore, no significant impacts to aesthetics are anticipated.

**Mitigation Measures.** No mitigation measures would be required.

### **4.2.3 Transportation**

The potential effects of the alternatives on traffic on roads within the ROI are presented in this section.

**Trip Generation.** 24 AF-related effects on roadway traffic were assessed by estimating the number of trips generated considering employees, visitors, and delivery vehicles, as well as duty hours for employees. With 460 personnel assigned to the 24 AF, approximately 1,200 total daily trips would result. Morning peak hour traffic would be approximately 300 trips.

#### **4.2.3.1 Preferred Alternative: Lackland AFB, TX.**

Lackland AFB conducted an analysis of base land use and future development to determine the installation maximum sustainable population. The analysis determined that the base could accommodate an additional 6,484 working personnel (military and civilian), 4,020 students, and 1,211 resident dependents (Lackland AFB, 2006b). The 1,200 total daily trips associated with the 24 AF represents a small percentage of traffic generation on Lackland AFB and the 460 personnel assigned to the 24 AF would be well within the maximum sustainable population for the base; therefore, traffic associated with these personnel is not anticipated to significantly impact the LOS of key intersections or traffic flow at Lackland AFB.



Because the 24 AF mission would operate 24 hours a day, 7 days a week, the 460 personnel assigned to the 24 AF would be present on Peterson AFB during multiple shifts (e.g., three 8-hour shifts); this would further reduce the potential impacts to LOS at key intersections. Staggering the time that 24 AF personnel start and end their day (e.g., work day begins between 0630 and 0830) would also help ease any potential traffic impacts.

Additional traffic from contractor vehicles during renovation activities would occur; however, any traffic congestion from the addition of contractor vehicles would be short-term and would cease upon completion of renovation activities.

In the area of facilities 2011 and 2058, limited parking is currently available for current operations in the area (Security Hill). During IOC, 55 personnel would be assigned to Facility 2011 and 20 personnel would be assigned to Facility 2058. No additional land area is available to construct additional vehicle parking spaces. Vehicle parking would continue to be limited with the additional personnel assigned to the area; however, these personnel would only be assigned to the area through October 2010 when they would be transitioned to Facility 171 during FOC. Therefore, the 24 AF contribution to vehicle parking impacts at Security Hill are considered minor and short-term, and would cease once the personnel are moved to Facility 171.

No significant impacts to transportation are anticipated.

#### **4.2.3.2 Alternative 1: Peterson AFB, CO.**

The 1,200 total daily trips associated with the 24 AF represents a small percentage of traffic generation on Peterson AFB and would result in an approximate 5 percent reduction in the LOS at key intersection in the vicinity of the Community Center Area (Yocum, 2009). This small increase in traffic associated with the 460 personnel assigned to the 24 AF is not anticipated to significantly impact the LOS of key intersections or traffic flow on Peterson AFB. Key roadway intersections in the vicinity of the Community Center Area would continue to operate at LOS B and C.

Because the 24 AF mission would operate 24 hours a day, 7 days a week, the 460 personnel assigned to the 24 AF would be present on Peterson AFB during multiple shifts (e.g., three 8-hour shifts); this would further reduce the potential impacts to LOS at key intersections. Staggering the time that 24 AF personnel start and end their day (e.g., work day begins between 0630 and 0830) would also help ease any potential traffic impacts.

Additional traffic from contractor vehicles during renovation and construction activities would occur; however, any traffic congestion from the addition of contractor vehicles would be short-term and would cease upon completion of construction activities.

Peterson AFB parking requirements requires spaces for at least 60 percent of building occupants. With 460 personnel assigned to the 24 AF, approximately 280 parking spaces would be required. During construction of the FOC, approximately 5 acres of land would be disturbed within the Community Center Area, which includes disturbance for construction of access roads and vehicle parking areas. Vehicle access roads and parking for 24 AF personnel would be designed into the future development of the Community Center Area to ensure adequate access and vehicle parking is available.

No significant impacts to transportation are anticipated.

#### **4.2.3.3 No-Action Alternative.**

Under the No-Action Alternative, the proposed 24 AF beddown would not occur. No increase in traffic would occur. No temporary increase in traffic associated with facility renovation and construction would occur. No significant impacts to transportation are anticipated from implementation of the No-Action Alternative.

**Mitigation Measures.** No mitigation measures would be required.

#### **4.2.4 Utilities**

The potential effects of the alternatives on utility providers within the ROI are presented in this section. Minor infrastructure improvements that could occur during renovation activities include upgrading/installing/moving electrical systems and outlets, retrofitting/installing plumbing, and installing new plumbing and electrical fixtures.

##### **4.2.4.1 Preferred Alternative: Lackland AFB, TX.**

**Electricity.** Based on the building square footage and number of personnel, electrical usage under the Preferred Alternative is estimated to be 5,500 KWH per day. Based on current system capacity, this electrical usage would not affect CPS Energy's ability to provide service. Any electrical infrastructure improvements or additions required would be constructed on-site during renovation activities. No significant impacts to electricity are anticipated.

**Natural Gas.** Based on the building square footage and number of personnel, natural gas usage under the Preferred Alternative is estimated to be 100 therms per day. Based on current system capacity, this natural gas usage would be within CPS Energy's ability to provide service. Any natural gas infrastructure improvements or additions required would be constructed on-site during renovation activities. No significant impacts to natural gas are anticipated.

**Water.** Based on the number of personnel, water usage under the Preferred Alternative is estimated to be 70,000 gpd. Based on current system capacity, the estimated water usage is within the capacity of the water system and SAWS ability to provide service. Any water infrastructure improvements or additions required would be constructed on-site during renovation activities. No significant impacts to the water supply system are anticipated.

**Wastewater.** Based on the number of personnel, wastewater generation under the Preferred Alternative would be approximately 60,000 gpd. Based on current system capacity, this wastewater generation would not affect SAWS ability to provide service. Any sewage infrastructure improvements or additions required would be constructed on-site during renovation activities. No significant impacts to wastewater are anticipated.

**Solid Waste.** Based on the number of personnel, solid waste generation under the Preferred Alternative is estimated to be 800 pounds per day. Based on the current landfill capacity, this amount of solid waste would not adversely affect the service life of the Covell Gardens Landfill. Government computer components would be turned in through DRMO for proper disposal. Building renovation activities are expected to generate small quantities of solid waste, including wood, drywall, cardboard, metals, and concrete. Building materials would be separated and recycled to the extent possible. Based on the available landfill capacity, disposal of small quantities of renovation debris over the duration of renovation

activities (i.e., 15-month period) is not expected to significantly affect the service life of the Covell Gardens Landfill. No significant impacts from solid waste generation are anticipated.

Facilities with the potential to contain ACM and/or LBP would be sampled prior to renovation activities to ensure proper disposal and abatement of these materials. The contractor would be required to dispose ACM and LBP debris in accordance with applicable federal, state, and local regulations. No significant impacts from ACM or LBP wastes are anticipated.

#### **4.2.4.2 Alternative 1: Peterson AFB, CO.**

**Electricity.** Based on the building square footage and number of personnel, electrical usage under Alternative 1 is estimated to be 5,500 KWH per day. Based on current system capacity, this electrical usage would not affect Colorado Spring Utilities' ability to provide service. For FOC, the alignment of the existing electrical system would likely not be compatible with the new facility location; therefore, modifications would be required. Any electrical infrastructure improvements required would be constructed on-site as part of the new facility development. No significant impacts to electricity are anticipated.

**Natural Gas.** Based on the building square footage and number of personnel, natural gas usage under Alternative 1 is estimated to be 100 therms per day. Based on current system capacity, this natural gas usage would be within Colorado Spring Utilities' ability to provide service. For FOC, the alignment of the existing natural gas system would likely not be compatible with the new facility location; therefore, modifications would be required. Any natural gas infrastructure improvements required would be constructed on-site as part of the new facility development. No significant impacts to natural gas are anticipated.

**Water.** Based on the number of personnel, water usage under Alternative 1 is estimated to be 70,000 gpd. Based on current system capacity, the estimated water usage is within the capacity of Colorado Spring Utilities' ability to provide service. For FOC, the alignment of the existing water distribution system would likely not be compatible with the new facility location; therefore, modifications would be required. Any water infrastructure improvements required would be constructed on-site as part of the new facility development. No significant impacts to the water supply system are anticipated.

**Wastewater.** Based on the number of personnel, wastewater generation under Alternative 1 is estimated to be 60,000 gpd. Based on current system capacity, this wastewater generation would not affect Colorado Spring Utilities' ability to provide service. For FOC, the alignment of the existing sewage system would likely not be compatible with the new facility location; therefore, modifications would be required. Any sewage infrastructure improvements required would be constructed on-site as part of the new facility development. No significant impacts to wastewater are anticipated.

**Solid Waste.** Based on the number of personnel, solid waste generation under Alternative 1 is estimated to be 800 pounds per day. Based on the current landfill capacity, this amount of solid waste would not adversely affect the service life of the Colorado Springs Landfill. Government computer components would be turned in through DRMO for proper disposal. There would be a short-term increase in solid waste generation during renovation and construction activities. Renovation activities are expected to generate small quantities of solid waste, including wood, drywall, cardboard, metals, and concrete. Construction activities are expected to generate approximately 197,000 pounds (98 tons) of construction debris during the 12-month construction period. Construction debris would include wood, drywall, cardboard, metals, concrete, and roofing material. Building materials would be separated and recycled to the extent possible; however, it would be impractical to accomplish complete source separation, and

approximately 50 percent, or 98,500 pounds (49 tons), of building materials is expected to require disposal in a landfill. Based on the available landfill capacity, disposal of construction debris over the duration of the construction activities is not expected to significantly affect the service life of the Colorado Springs Landfill. No significant impacts from solid waste generation are anticipated.

Facility 1470 has the potential to contain ACM and/or LBP. Building materials within Facility 1470 would be sampled prior to renovation activities to ensure proper disposal and abatement of these materials. The contractor would be required to dispose ACM and LBP debris in accordance with applicable federal, state, and local regulations. No significant impacts from ACM or LBP wastes are anticipated.

During construction of the FOC, approximately 5 acres of land would be disturbed within the Community Center Area, which includes disturbance for connection to existing utility systems in the area. Because the proposed development area is a built-up area with existing infrastructure, efforts to connect the new facility to existing utility systems is not anticipated to result in significant impacts.

#### **4.2.4.3 No-Action Alternative.**

Under the No-Action Alternative, the proposed 24 AF beddown would not occur. No increase in utilities or solid waste generation would occur; therefore, no significant impacts are anticipated.

### **4.3 HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT**

This section describes the potential effects of the alternatives on hazardous materials management, hazardous waste management, ERP sites, storage tanks, ACM, and LBP.

#### **4.3.1 Hazardous Materials Management**

The potential effects of the alternatives on hazardous materials management within the ROI are presented in this section.

##### **4.3.1.1 Preferred Alternative: Lackland AFB, TX.**

Under the Preferred Alternative, small amounts of hazardous materials are expected to be utilized during renovation activities, and the potential for spills would exist. Any spills or releases of hazardous materials would be cleaned up by the construction contractor. Best management practices include the use of pouring devices (funnels), spill/drip trays, absorbent material, and booms, as necessary, to prevent or quickly control and cleanup spills. Hazardous materials likely to be utilized during renovation activities include adhesives; motor fuels; paints; thinners; solvents; petroleum, oil, lubricant (POL); and household products.

24 AF operations would primarily involve the use of batteries, and household cleaning products. Storage, handling, and transportation of hazardous materials associated with renovation and 24 AF operations would be conducted in accordance with applicable regulations and established procedures. Because hazardous materials would be managed in accordance with applicable regulations, no significant impacts are anticipated.

##### **4.3.1.2 Alternative 1: Peterson AFB, CO.**

Management of hazardous materials would be similar to that described under the Preferred Alternative. The types and quantities of hazardous materials expected to be used during construction activities are

anticipated to be greater than that discussed under the Preferred Alternative as new facility construction is proposed at Peterson AFB. 24 AF operations would primarily involve the use of batteries and commercial cleaning products. The specific chemical composition and exact use rates associated with these substances are not known. Storage, handling, and transportation of hazardous materials associated with renovation, construction, and 24 AF operations would be conducted in accordance with applicable regulations and established procedures. Because hazardous materials would be managed in accordance with applicable regulations, no significant impacts are anticipated.

#### **4.3.1.3 No-Action Alternative.**

Under the No-Action Alternative, the proposed 24 AF beddown would not occur. Small quantities of hazardous materials (commercial cleaning products) would continue to be stored and utilized by occupants of the existing facilities that the 24 AF would have occupied. Management of hazardous materials would continue in accordance with applicable regulations. No significant impacts are anticipated.

**Mitigation Measures.** No mitigation measures would be required.

#### **4.3.2 Hazardous Waste Management**

The potential effects of the alternatives on hazardous waste management within the ROI are presented in this section.

##### **4.3.2.1 Preferred Alternative: Lackland AFB, TX.**

Small quantities of hazardous waste may be generated during renovation activities. The construction contractor would be responsible for following applicable regulations for management of any hazardous waste generated. Any spills or releases of fuel or oil from equipment would be cleaned up by the contractor. Best management practices include the use of pouring devices (funnels), spill/drip trays, absorbent material, and booms, as necessary, to prevent or quickly control and cleanup spills. The contractor would be responsible for the off-site disposal of any hazardous waste (including renovation debris) generated on the property in accordance with applicable regulations.

24 AF operations would primarily involve the use of batteries and commercial cleaning products. Most of the hazardous materials used would be consumed during use; as a result, only small amounts of waste and used batteries would likely be generated. Hazardous waste would be handled and disposed in accordance with applicable regulations. Because hazardous waste would be managed in accordance with applicable regulations, no significant impacts are anticipated.

##### **4.3.2.2 Alternative 1: Peterson AFB, CO.**

Management of hazardous waste would be similar to that described under the Preferred Alternative. Small quantities of hazardous waste may be generated during renovation and construction activities. The quantity of hazardous waste generated during construction activities is anticipated to be greater than that discussed under the Preferred Alternative as new facility construction is proposed at Peterson AFB. The construction contractor would be responsible for following applicable regulations for management of any hazardous waste generated. Any spills or releases of fuel or oil from equipment would be cleaned up by the contractor. Best management practices include the use of pouring devices (funnels), spill/drip trays, absorbent material, and booms, as necessary, to prevent or quickly control and cleanup spills. The

contractor would be responsible for the off-site disposal of any hazardous waste (including construction debris) generated on the property in accordance with applicable regulations.

24 AF operations would primarily involve the use of batteries and commercial cleaning products. Most of the hazardous materials utilized would be consumed during use or recycled; as a result, only small amounts of waste and used batteries would likely be generated. Hazardous waste would be handled and disposed in accordance with applicable regulations. Because hazardous waste would be managed in accordance with applicable regulations, no significant impacts are anticipated.

#### **4.3.2.3 No-Action Alternative.**

Under the No-Action Alternative, the proposed 24 AF beddown would not occur. Small quantities of household hazardous waste (not subject to regulations) would continue to be generated by building occupants. Management of any hazardous wastes generated during janitorial maintenance activities would continue in accordance with applicable regulations. No significant impacts are anticipated.

**Mitigation Measures.** No mitigation measures would be required.

### **4.3.3 Environmental Restoration Program Sites**

The potential effects of the alternatives on ERP sites are presented in this section.

#### **4.3.3.1 Preferred Alternative: Lackland AFB, TX.**

There are no ERP sites situated near facilities 2011 or 2058 on Lackland AFB or near facilities 178 or 179 on former Kelly AFB.

As a result of past installation operations at former Kelly AFB, one ERP site has been identified (ERP Site SS040) in the parking lot at the southern end of Facility 171 (see Figure 3-4). This site is scheduled to undergo soil excavation through the summer of 2009 with parking lot restoration occurring after soil excavation activities are completed. Monitoring wells will be installation or replaced and annual groundwater monitoring would be conducted. Access to monitoring wells to conduct inspections and annual monitoring would be required. Because the area affected by ERP Site S040 would be restored as a parking lot to service Facility 171 and appropriate access/protective measures would be in place for the monitoring wells, no significant impacts from ERP sites are anticipated.

#### **4.3.3.2 Alternative 1: Peterson AFB, CO.**

There are no ERP sites situated near Facility 1470 or the Community Center Area at Peterson AFB. Therefore, no significant impacts to the 24 AF from ERP investigative/remedial activities are anticipated.

#### **4.3.3.3 No-Action Alternative.**

Under the No-Action Alternative, the proposed 24 AF beddown would not occur and the Air Force would continue ERP activities as currently planned. No significant impacts are anticipated.

**Mitigation Measures.** No mitigation measures would be required. Access rights to monitoring wells would be coordinated to allow inspections and annual monitoring.

#### **4.3.4 Storage Tanks**

The potential effects of the alternatives on the management of storage tanks within the ROI are presented in this section.

##### **4.3.4.1 Preferred Alternative: Lackland AFB, TX.**

Any new storage tanks (e.g., diesel fuel tank to support emergency generators) required by the 24 AF would be subject to applicable federal, state, and local regulations. These regulations include provisions for acceptable leak detection methodologies, spill and overfill protection, secondary containment, and liability insurance. Management of storage tanks in accordance with applicable regulations would minimize the potential for impacts; therefore, no significant impacts from storage tanks are anticipated.

##### **4.3.4.2 Alternative 1: Peterson AFB, CO.**

Any new storage tanks (e.g., diesel fuel tank to support emergency generator) required by the 24 AF would be subject to applicable federal, state, and local regulations. These regulations include provisions for acceptable leak detection methodologies, spill and overfill protection, secondary containment, and liability insurance. Management of storage tanks in accordance with applicable regulations would minimize the potential for impacts; therefore, no significant impacts from storage tanks are anticipated.

##### **4.3.4.3 No-Action Alternative.**

Under the No-Action Alternative, the proposed 24 AF beddown would not occur. The Air Force would continue to manage storage tanks at the existing facilities that the 24 AF would have occupied in conformance with appropriate federal, state, and local regulations. No significant impacts are anticipated.

**Mitigation Measures.** No mitigation measures would be required.

#### **4.3.5 Asbestos-Containing Material.**

The potential effects of the alternatives on the management of ACM within the ROI are presented in this section.

##### **4.3.5.1 Preferred Alternative: Lackland AFB, TX.**

Facilities 171, 178, 179, 2011, and 2058 have not been surveyed for asbestos or survey results were not available. Asbestos surveys would be required prior to initiating any renovation activities. In addition to ACM possibly being encountered in the structures, ACM could also be encountered within some utility systems during any work performed on piping within these facilities.

Renovation activities would be subject to applicable federal, state, and local regulations to minimize the potential risk to human health and the environment. Any ACM waste generated as a result of renovation activities would be disposed in accordance with applicable regulations at an off site landfill permitted to accept this type of material. The Air Force and Port of San Antonio would be responsible for ensuring the proper management of asbestos within the facilities and maintaining continued regulatory compliance. Management of ACM and ACM waste in accordance with applicable regulations would preclude any significant impacts.

#### **4.3.5.2 Alternative 1: Peterson AFB, CO.**

The Air Force would inform the contractor of the known presence of ACM in Facility 1470. Asbestos surveys would be required in specific areas prior to initiating renovation activities. In addition to encountering ACM within Facility 1470, ACM could also be encountered within some utility systems during any work performed on piping within the facility or during construction of the new 24 AF facility.

Renovation activities would be subject to applicable federal, state, and local regulations to minimize the potential risk to human health and the environment. ACM waste generated as a result of renovation activities would be disposed in accordance with applicable regulations at an off site landfill permitted to accept this type of material. The Air Force would be responsible for ensuring the proper management of asbestos within the facility and maintaining continued regulatory compliance. Management of ACM and ACM waste in accordance with applicable regulations would preclude any significant impacts.

#### **4.3.5.3 No-Action Alternative.**

Under the No-Action Alternative, the proposed 24 AF beddown would not occur. The Air Force would continue to be responsible for the management of structures containing ACM within the existing facilities that the 24 AF would have occupied. The Air Force would continue to manage ACM in accordance with current Air Force policy and applicable regulations. No significant impacts are anticipated.

**Mitigation Measures.** No mitigation measures would be required.

#### **4.3.6 Lead-Based Paint**

The potential effects of the alternatives on the management of LBP within the ROI are presented in this section.

##### **4.3.6.1 Preferred Alternative: Lackland AFB, TX.**

Under the Preferred Alternative, LBP could be encountered during renovation activities. Renovation of facilities 171 and 2011, which were constructed prior to 1978, would occur. Renovation activities would be conducted in accordance with applicable federal, state, and local regulations to minimize potential risks to human health and the environment.

Although LBP is not considered a hazardous waste, materials containing LBP would have to be disposed at a facility that will accept solid waste containing LBP. Waste is defined as hazardous under 40 CFR Part 261 if it contains levels of lead exceeding a maximum concentration of 5.0 milligrams per liter (mg/l), as determined using the U.S. EPA Toxic Characteristic Leaching Procedure (TCLP). The contractor would be required to perform a TCLP scan on renovation debris prior to disposal to ensure it is not hazardous. If a waste is classified as hazardous, disposal must take place in accordance with U.S. EPA and state hazardous waste rules. Management of LBP and LBP waste in accordance with applicable regulations would preclude any significant impacts.

##### **4.3.6.2 Alternative 1: Peterson AFB, CO.**

Potential impacts from LBP would be the same as those discussed under the Preferred Alternative. Renovation of Facility 1470, which was constructed prior to 1978, would occur. Renovation activities would be conducted in accordance with applicable federal, state, and local regulations to minimize potential risks to human health and the environment. No significant impacts are anticipated.



#### **4.3.6.3 No-Action Alternative.**

Under the No-Action Alternative, the proposed 24 AF beddown would not occur. The Air Force would continue to be responsible for the management of LBP within the existing facilities that the 24 AF would have occupied. The Air Force would continue to manage LBP in accordance with current Air Force policy and applicable regulations. No significant impacts are anticipated.

**Mitigation Measures.** No mitigation measures would be required.

### **4.4 NATURAL ENVIRONMENT**

This section describes the potential effects of the alternatives on the natural resources of geology and soils, air quality, biological resources, and cultural resources.

#### **4.4.1 Geology and Soils**

The potential effects of the alternatives on the local geology and soils have been analyzed based on a review of published literature. Geology and soils would be affected primarily during ground-disturbing activities (at Peterson AFB), when local soil profiles would be altered. Soils in these areas would remain relatively stable in the long-term because they would be overlain by buildings, pavement, or landscaping which would minimize erosion.

##### **4.4.1.1 Preferred Alternative: Lackland AFB, TX.**

Under the Preferred Alternative, no ground disturbance would occur, only interior renovation of existing facilities. Therefore, no significant impacts to geology and soils would be anticipated.

##### **4.4.1.2 Alternative 1: Peterson AFB, CO.**

**Geology.** Alternative 1 is unlikely to affect the local geology of the Peterson AFB property (Community Center Area). Sedimentation patterns would not be significantly altered, and no structural movements or changes in seismicity would result. No significant impacts are anticipated.

**Soils.** Potential impacts to soils within the Community Center Area from Alternative 1 would be minimal and would result primarily from ground disturbance associated with the construction of a new 24 AF facility, associated infrastructure, and vehicle parking areas. These activities could alter soil profiles and local topography, as grading is required for construction activities.

The construction contractor would be required to obtain a Construction Site Storm Water NPDES permit before initiating any construction activity. The contractor would also be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) for the construction activity. The Construction Site Storm Water NPDES permit, together with the required SWPPP, would outline specific construction site management practices designed to protect the quality of the surface water, groundwater, and natural environment through which they flow. The SWPPP would identify specific areas of existing and potential soil erosion, location of structural measures for sediment control, and management practices and controls. Use of these management practices and controls would reduce the potential for erosion of disturbed soils.

Issuance of a Construction Site Storm Water NPDES permit is contingent on the development of an SWPPP by the permittee, which would then be subject to approval by the regional water authority. SWPPP requirements under the Construction Site Storm Water NPDES permit include an outline of the

storm water drainage system for each discharge point, actual and potential pollutant contact, and surface water locations. The SWPPP would also incorporate storm water management controls and preventive maintenance for buildings.

Under Alternative 1, construction activities would disturb approximately 5 acres within the Community Center Area of Peterson AFB.

Short-term erosion impacts could occur during ground-disturbing activities, such as removal of vegetative cover or grading. Potential impacts would be minimized through proper management practices defined within the approved SWPPP. Standard construction practices that could be implemented to minimize soil erosion include:

- Use of protective cover, such as mulch, straw, plastic netting, or a combination of these protective coverings
- Implementation of site grading procedures to limit the time soils are exposed prior to being covered by impermeable surfaces or vegetation
- Implementation of storm water diversions to reduce water flow through exposed sites
- Incorporation of storm water infiltration design to decrease storm water runoff and increase infiltration rates (e.g., porous parking lot)
- Maintenance of a buffer strip of vegetation around ponds or drainages, where possible, to filter sediments
- Retention of as many trees and shrubs as possible adjacent to exposed ground areas for use as natural windbreaks.

Once disturbed areas have been covered with pavement, buildings, or vegetation, their susceptibility to erosion would be significantly reduced. Upon completion of the construction phase, maintenance of a vegetative cover or covering undeveloped areas with gravel would serve as effective, long-term erosion control strategies for areas not covered with impervious surfaces. Soils underlying facilities and pavements are not typically subject to erosion.

No significant impacts to soils are anticipated. Furthermore, the intensity of potential impacts would be managed appropriately through the use of best management practices as required by the contractor's Construction Site Storm Water NPDES permit and SWPPP that would be implemented during construction activities.

#### **4.4.1.3 No-Action Alternative.**

Under the No-Action Alternative, the proposed 24 AF beddown would not occur. No construction or ground disturbing activities would occur. Therefore, no significant impacts to geology or soils are anticipated.

**Mitigation Measures.** No mitigation measures would be required.

#### **4.4.2 Air Quality**

The potential effects of the alternatives on air quality within the ROI are presented in this section.

#### 4.4.2.1 Preferred Alternative: Lackland AFB, TX.

Activities associated with the proposed beddown of the 24 AF at Lackland AFB, would not result in significant air quality impacts.

#### Criteria Pollutants

Renovation activities associated with the proposed beddown of the 24 AF would result in short-term impacts to air quality from emissions generated by renovating facilities 171 and 2011.

In estimating construction-related emissions, the usage of equipment, the likely duration of each activity, and manpower estimates for the construction were made based on the data described in Chapter 2 and RSMMeans Facilities Construction Cost Data. These activity data were then used as the inputs to estimates of construction equipment criteria pollutant emissions and GHG emissions in terms of CO<sub>2</sub> in association with U.S. EPA-provided emission factors.

Emission factors for motor vehicles were calculated for both trucks and commuter vehicles using U.S. EPA Mobile 6.2 mobile source emission factor model associated with the national average modeling input parameters.

Emissions of CO, NO<sub>x</sub>, and VOCs would be produced in exhaust from both on-site construction equipment and workers' vehicles traveling to and from the work site.

Although the likely renovation activities would occur over a 15-month period, it is conservatively assumed in emissions estimate that the entire construction activity would last for one year in 2010. Table 4.4-1 presents the emissions calculated for the 24 AF beddown activities at Lackland AFB.

**Table 4.4-1. Preferred Alternative Renovation Emissions for Criteria Pollutants  
(tons per year)**

	PM <sub>10</sub> <sup>(a)</sup>	CO	NO <sub>x</sub>	VOC	SO <sub>2</sub>
Preferred Alternative	0.01	0.20	0.16	0.03	0.00
De minimis threshold	NA	NA	100	100	NA
10-percent of AQCR 217 Inventory	19,251	67,187	11,120	11,214	5,022

Note: (a) PM<sub>10</sub> emissions include combustion and fugitive emissions.

AQCR = Air Quality Control Region

CO = carbon monoxide

NA = not applicable

NO<sub>x</sub> = nitrogen oxides

PM<sub>10</sub> = particulate matter equal to or less than 10 microns in diameter

SO<sub>2</sub> = sulfur dioxide

VOC = volatile organic compound

Source: Lackland AFB, 2006b.

Because Lackland AFB is in a nonattainment area of the NAAQS for ozone, an air conformity applicability analysis was conducted for 24 AF beddown activities and described in detail in Appendix A. Based on the nonattainment-deferred status for ozone, the de minimis threshold for applicable nonattainment pollutants is 100 tons per year for each of the ozone precursors NO<sub>x</sub> and VOCs. As shown in Table 4.4-1, emissions generated by 24 AF beddown activities are well below these thresholds and a formal conformity determination is not required. Furthermore, these emissions also do not exceed 10 percent of the emission inventory applicable for Air Quality Control Region (AQCR) 217 where the project is located; therefore, these emissions would not be considered regionally significant.

## Greenhouse Gas Emissions.

The potential effects of proposed GHG emissions are by nature global and cumulative impacts, as individual sources of GHG emissions are not large enough to have an appreciable effect on climate change. Therefore, an appreciable impact on global climate change would only occur when proposed GHG emissions combine with GHG emissions from other human activities on a global scale. The potential renovation activity-related annual CO<sub>2</sub> emissions are predicted to be 18 tons during the construction year.

Detailed estimates are presented in Appendix A. In comparison with the 7,879 million tons of CO<sub>2</sub> emissions estimated for the year of 2007 in the U.S., the CO<sub>2</sub> emissions from 24 AF beddown activities during the year of renovation would result in a roughly 0.0000002 percent increase over the U.S. 2007 CO<sub>2</sub> emissions. This cumulative impact to global climate change would be negligible.

It should be noted, currently, there are no standards to determine the significance of the cumulative impacts from these emissions. In the absence of any standards to the contrary, the amount of emissions associated with this project is not anticipated to have a significant impact on stratospheric ozone depletion or on global warming.

### 4.4.2.2 Alternative 1: Peterson AFB, CO.

Activities associated with the proposed beddown of the 24 AF at Peterson AFB, would not result in significant air quality impacts.

## Criteria Pollutants

The same methodologies used to predict Preferred Alternative annual emissions were used to predict emissions associated with renovation and construction activities at Peterson AFB under Alternative 1. Impacts are expected to be primarily from fugitive dust associated with clearing and grading of the land for new building construction, and construction vehicles traveling on unpaved surfaces at the site. Table 4.4-2 presents the emissions calculated for proposed 24 AF beddown activities at Peterson AFB. As compared to the Preferred Alternative, Alternative 1 would result in a slightly greater amount of air emissions due to construction activities.

**Table 4.4-2. Alternative 1 Construction Emissions for Criteria Pollutants  
(tons per year)**

	PM <sub>10</sub> <sup>(a)</sup>	CO	NO <sub>x</sub>	VOC	SO <sub>2</sub>
Alternative 1	0.03	1.25	0.43	0.05	0.00
De minimis threshold	NA	100	NA	NA	NA
10-percent of El Paso County Inventory	2,104	16,258	2,264	3,990	721

Note: (a) PM<sub>10</sub> emissions include combustion and fugitive emissions.

- CO = carbon monoxide
- NA = not applicable
- NO<sub>x</sub> = nitrogen oxides
- PM<sub>10</sub> = particulate matter equal to or less than 10 microns in diameter
- SO<sub>2</sub> = sulfur dioxide
- VOC = volatile organic compound

Source: Colorado Department of Public Health and the Environment, 2009.

Because Peterson AFB is in a maintenance area of the NAAQS for CO, an air conformity applicability analysis was conducted for proposed 24 AF beddown activities and described in detail in Appendix A. As

shown in Table 4.4-2, emissions generated by 24 AF beddown activities are well below the de minimis thresholds and a formal conformity determination is not required. Furthermore, these emissions also do not exceed 10 percent of the emission inventory applicable for the El Paso County, where Peterson AFB is located; therefore, these emissions would not be considered regionally significant.

#### **Greenhouse Gas Emissions.**

The potential renovation and construction-related annual CO<sub>2</sub> emissions are predicted to be 41 tons during the construction year. Detailed estimates are presented in Appendix A. In comparison with the 7,879 million tons of CO<sub>2</sub> emissions estimated for the year of 2007 in the U.S., the CO<sub>2</sub> emissions from 24 AF beddown activities during the year of renovation and construction activities would result in a roughly 0.0000005 percent increase over the U.S. 2007 CO<sub>2</sub> emissions. This cumulative impact to global climate change would be negligible.

It should be noted, currently, there are no standards to determine the significance of the cumulative impacts from these emissions. In the absence of any standards to the contrary, the amount of emissions associated with this project is not anticipated to have a significant impact on stratospheric ozone depletion or on global warming.

#### **4.4.2.3 No-Action Alternative.**

Under the No-Action Alternative, the proposed 24 AF beddown would not occur. No renovation or construction activities would occur at Lackland AFB or Peterson AFB in support of the proposed 24 AF beddown. Because no building renovation or ground disturbance would occur, no significant impacts to air quality would be anticipated.

**Mitigation Measures.** No mitigation measures would be required.

#### **4.4.3 Biological Resources**

##### **4.4.3.1 Preferred Alternative: Lackland AFB, TX.**

**Vegetation.** Under the Preferred Alternative, no ground disturbance is anticipated, only interior renovation of existing facilities. Therefore, no significant impacts to vegetation are anticipated.

**Wildlife.** Under the Preferred Alternative, no ground disturbance is anticipated, only interior renovation of existing facilities. Therefore, no significant impacts to wildlife such as opossum, mice, and skunks are anticipated.

**Threatened and Endangered Species.** There are no known threatened or endangered species known to occur on Lackland AFB. Under the Preferred Alternative, no ground disturbance is anticipated, only interior renovation of existing facilities. Therefore, no significant impacts to threatened and endangered species are anticipated.

**Sensitive Habitat.** There are no sensitive habitats within the ROI on Lackland AFB or former Kelly AFB. Under the Preferred Alternative, no ground disturbance is anticipated, only interior renovation of existing facilities. Therefore, no significant impacts to sensitive habitats are anticipated.

#### **4.4.3.2 Alternative 1: Peterson AFB, CO.**

**Vegetation.** Vegetation within the Peterson AFB Community Center Area consists of landscaped areas containing nonnative grasses, ornamental shrubs, and shade trees. Following the demolition of facilities within the Peterson AFB Community Center Area, if allowed to grow, vegetation would be disturbed during construction activities associated with 24 AF FOC (building and vehicle parking). If vegetation is allowed to grow within the footprint of the demolished building areas, it would likely be comprised of non-native annual grasses and forbs. Impacts to such highly disturbed, human-created habitats are considered to be insignificant. Existing landscaping would be retained during construction activities to the extent possible, and the property would be landscaped upon completion of construction activities. No significant impacts to vegetation are anticipated.

**Wildlife.** Because construction activities would occur within an area that is already heavily developed, the ROI is not considered to contain suitable wildlife habitat. The wildlife species known to inhabit the developed portion of Peterson AFB are common and/or disturbance tolerant. Potential impacts to wildlife include displacement of individuals to adjacent areas and direct mortality to burrowing species (e.g., mice, gophers, squirrels) or individuals that are less mobile. These impacts to common wildlife species are not expected to be significant.

If vegetation is allowed to grow within the footprint of demolished buildings, there is potential for bird species to use this vegetation community as nesting habitat. The construction activities associated with Alternative 1 could cause impacts to migratory bird species during nesting season. To ensure compliance with the Migratory Bird Treaty Act and to prevent potential impacts to nesting bird species, vegetation removal would be coordinated with the Peterson AFB Natural Resource Program Manager as directed in the INRMP. No significant impacts to bird species are anticipated.

**Threatened and Endangered Species.** There are no known threatened or endangered species known to occur on Peterson AFB. Therefore, no significant impacts to threatened and endangered species are anticipated.

**Sensitive Habitat.** There are no sensitive habitats within the Community Center Area on Peterson AFB; therefore, no significant impacts to sensitive habitats are anticipated.

#### **4.4.3.3 No-Action Alternative.**

**Vegetation.** Under the No-Action Alternative, the proposed 24 AF beddown would not occur. No ground disturbance would occur; therefore, no significant impacts to vegetation are anticipated.

**Wildlife.** Under the No-Action Alternative, the proposed 24 AF beddown would not occur. No ground disturbance would occur; therefore, no significant impacts to wildlife are anticipated.

**Threatened and Endangered Species.** Under the No-Action Alternative, the proposed 24 AF beddown would not occur. Therefore, no significant impacts to threatened and endangered species are anticipated.

**Sensitive Habitat.** Under the No-Action Alternative, the proposed 24 AF beddown would not occur. Therefore, no significant impacts to sensitive habitats are anticipated.

**Mitigation Measures.** No mitigation measures would be required.

#### 4.4.4 Cultural Resources

Potential impacts to cultural resources were assessed by (1) identifying possible locations of 24 AF activities that could directly or indirectly affect cultural resources, and (2) identifying the nature and significance of cultural resources within the ROI.

Historic properties, under 36 CFR Part 800 are defined as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register. For the purposes of these regulations, the term also includes artifacts, records, and remains that are related to, and located within, such properties. The term "eligible for inclusion in the National Register" includes properties formally determined as such by the Secretary of the Interior and all other properties that meet National Register listing criteria. Therefore, sites that meet the criteria, but are not yet evaluated, may be considered potentially eligible to the National Register and, as such, are afforded the same regulatory consideration as nominated historic properties.

As a federal agency, the Air Force is responsible for identifying any historic properties associated with the property. This identification process includes not only field surveys and recording of cultural resources but also evaluations to develop determinations of significance in terms of National Register criteria.

##### 4.4.4.1 Preferred Alternative: Lackland AFB, TX.

**Prehistoric and Historic Archaeological Resources.** No archaeological resources have been identified at the proposed 24 AF beddown locations at Lackland AFB or former Kelly AFB. Because of the severe ground disturbance that occurred during construction of buildings and vehicle parking areas, the potential for discovery of intact archaeological resources is considered very low. In the unlikely event that archaeological resources are encountered during renovation activities, the redevelopment contractor would suspend work in the immediate area, protect the site in place, and report the discovery to the Lackland AFB Cultural Resources Manager and appropriate actions would be taken in accordance with the procedures outlined in the *Lackland Air Force Base Integrated Cultural Resources Management Plan*. In the event further investigation is required, any data recovery would be performed in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (48 FR 44734-37) and take into account the ACHP's publication, *Treatment of Archaeological Properties*. Due to the developed nature of the property and the urban setting of the proposed 24 AF beddown area at Lackland AFB and former Kelly AFB, no significant impacts to archaeological resource are anticipated.

**Historic Buildings and Structures.** Based on the historic building inventory and evaluation for Lackland AFB, none of the facilities that would support the proposed 24 AF beddown (i.e., facilities 171, 178, 179, 2011, and 2058) have been recommended as eligible for inclusion in the National Register. No significant impacts to historic buildings and structures are anticipated.

**Traditional Resources.** Based on past consultation with representatives of Native American groups, no traditional cultural resources, sacred areas, or traditional use areas have been identified within the ROI. No significant impacts to traditional resources are anticipated.

##### 4.4.4.2 Alternative 1: Peterson AFB, CO.

**Prehistoric and Historic Archaeological Resources.** No archaeological resource concerns have been identified for the proposed 24 AF beddown locations at Peterson AFB. Because of the severe ground disturbance that occurred during construction of buildings and vehicle parking areas, the potential for discovery of intact archaeological resources is considered very low. In the unlikely event that

archaeological resources are encountered during renovation and construction activities, the redevelopment contractor would suspend work in the immediate area, protect the site in place, and report the discovery to the Peterson AFB Cultural Resources Manager and appropriate actions would be taken in accordance with the procedures outlined in the *Peterson Air Force Base Integrated Cultural Resources Management Plan*. In the event further investigation is required, any data recovery would be performed in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (48 FR 44734-37) and take into account the ACHP's publication, Treatment of Archaeological Properties. Due to the developed nature of the property and the urban setting of the proposed 24 AF beddown area at Peterson AFB, no significant impacts to archaeological resource are anticipated.

**Historic Buildings and Structures.** Based on the historic building inventory and evaluation for Peterson AFB, the facility that would support the proposed 24 AF beddown during IOC (i.e., Facility 1470) has not been recommended as eligible for inclusion in the National Register. Therefore, no significant impacts to historic buildings and structures are anticipated.

**Traditional Resources.** Based on past consultation with representatives of Native American groups, no traditional cultural resources, sacred areas, or traditional use areas have been identified on Peterson AFB. No significant impacts to traditional resources are anticipated.

#### **4.4.4.3 No-Action Alternative.**

Under the No-Action Alternative, the proposed 24 AF beddown would not occur. No renovation or construction activities would occur at Lackland AFB or Peterson AFB in support of the proposed 24 AF beddown. Because no building renovation or ground disturbance would occur, no significant impacts to cultural resources would be anticipated.

**Mitigation Measures.** No mitigation measures would be required.

## **4.5 COMPATIBILITY OF THE PROPOSED ACTION WITH OBJECTIVES OF FEDERAL, STATE, REGIONAL, AND LOCAL LAND USE PLANS AND POLICIES**

Establishing the 24 AF as a new warfighting organization to ensure cyberspace superiority supports the national strategy to secure cyberspace. The alternatives would be consistent with installation General Plan guidelines, would be consistent with adjacent land uses, and would not adversely affect federal, state, regional, or local land use plans and policies. In addition, the alternatives incorporate appropriate measures to ensure a safe, secure environment in which to operate.

## **4.6 RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY**

The alternatives would not affect the long-term productivity of the environment because no significant environmental impacts are anticipated. Furthermore, the intensity of potential impacts would be managed appropriately through the use of best management practices identified in this EA. Natural resources would not be depleted from implementation of proposed 24 AF beddown activities.



#### **4.7 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

Irreversible and irretrievable resource commitment refers to the use of nonrenewable sources and the effects these resources would have on future generations. Irreversible effects would result primarily from the consumption or destruction of a resource that could not be reversed. Irretrievable resource commitments would involve a loss or gain in the value of an affected resource that could not be reversed. Because the 24 AF mission would move into existing structures or into a newly constructed facility, the only irreversible or irretrievable commitment of resources that would result would be in the form of labor, fuel usage, and building materials. Implementation of the alternatives would not result in significant irreversible or irretrievable commitment of resources.

#### **4.8 CUMULATIVE ENVIRONMENTAL CONSEQUENCES**

Cumulative impacts result from “the incremental impact of actions when added to other past, present, and reasonably foreseeable future actions, regardless of what agency undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (Council on Environmental Quality, 1978).

Other future actions at Lackland AFB (and former Kelly AFB) and Peterson AFB were evaluated to determine whether significant cumulative environmental impacts could result due to the implementation of the proposed beddown of the 24 AF in conjunction with other past, present, or reasonably foreseeable future actions.

##### Lackland AFB

The only future project in the vicinity of proposed 24 AF beddown activities at Lackland AFB involves the movement of several Air Force and DOD agencies into Facility 171, the proposed FOC for 24 AF. At full occupancy, Facility 171 is anticipated to have approximately 2,700 personnel operating within the building. The Port of San Antonio has provided 2,500 vehicle parking spaces for personnel assigned to Facility 171; however, due to DOD force protection requirements, a number of parking spaces will not be available as they are situated within the required set-back area. The Port of San Antonio is working with the Air Force to set aside additional land that could be used for vehicle parking. No significant cumulative impacts from the movement of numerous Air Force and DOD agencies into Facility 171 are anticipated.

##### Peterson AFB

At Peterson AFB, numerous missions have requested existing building space on the base as well as in the vicinity of the proposed 24 AF beddown. These missions include:

- AFGSC has requested building space within Facility 1470 for 225 personnel from July 2009 to December 2010.
- AFSPC currently has personnel working within Facility 1470.
- U.S. North Command currently has personnel working within Facility 1470.
- 302nd Air Reserve Wing is currently bedding down approximately 180 personnel on Peterson AFB in temporary facilities until a more permanent arrangement can be established.

- The National Security Space Institute (NSSI) will be constructing a new campus facility northeast of the Peterson AFB Community Center Area (where recreational ballfields are currently situated). NSSI will be the DOD's single focal point for space education and training. Approximately 500 students and teachers would attend/teach classes daily at the NSSI.

Peterson AFB currently has limited growth potential due to its geographic location adjacent to the Colorado Springs Airport as well as limits on allowable (sustainable) building square footage for the base. Accommodating requests from organizations for building space has been a standing issue of concern at Peterson AFB and currently has a shortfall of approximately 250,000 square feet of administrative space (Peterson AFB, 2006c). The future redevelopment of the Community Center Area on Peterson AFB would alleviate some of the growth limitations of the base. The *Triangle Area Development Plan* indicates that the 52 acres of land is equal to 4 percent of the base area and represents a substantial opportunity for fulfilling the current and future needs of the base. Future development of the Community Center Area would take into consideration current and future parking and traffic requirements of the base to ensure an adequate number of vehicle parking spaces are provided and that roadway LOS is maintained at acceptable levels.

However, until the Community Center Area is redeveloped, the base will continue to experience growth limitations. The current conflicts regarding requests for building space on base and specifically within Facility 1470 will continue. If vacant building space is not available on base, organizations would be denied their request for building occupation and would be required to seek other accommodations (either off-base lease possibilities or at a different military installation).

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## **5.0 AGENCIES, ORGANIZATIONS, AND PERSONS CONTACTED**

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The federal, state, DOD, and other agencies/organizations/individuals contacted during the preparation of this EA are listed below:

### **Federal**

U.S. EPA, Region 6  
U.S. EPA, Region 8  
U.S. Fish and Wildlife Service

### **State**

Colorado Department of Natural Resources  
Colorado Division of Wildlife  
Colorado State Historic Preservation Officer  
Texas State Historic Preservation Officer  
Texas Parks and Wildlife Department

### **Department of Defense**

Air Force Real Property Agency (AFRPA)  
Headquarters Air Force Center for Engineering and the Environment (HQ AFCEE)  
Headquarters Air Force Space Command (HQ AFSPC)  
Lackland AFB, 37 CES/CEAOP  
Peterson AFB, 21 CES/CEANQ  
Peterson AFB, 21 CES/CEAOP

### **Other**

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## **APPENDIX A**

### **General Conformity Applicability Analysis**





## **A.1 Introduction**

The 1990 amendments to the CAA require federal agencies to ensure that their actions conform to the appropriate State Implementation Plan (SIP) in a nonattainment area. The SIP is a plan that provides for implementation, maintenance, and enforcement of the NAAQS, and it includes emission limitations and control measures to attain and maintain the NAAQS. Conformity to a SIP, as defined in the CAA, means conformity to a SIP's purpose of reducing the severity and number of violations of the NAAQS to achieve attainment of such standards. The federal agency responsible for an action is required to determine if its action conforms to the applicable SIP.

The U.S. EPA has developed two sets of conformity regulations, and federal actions are appropriately differentiated into transportation projects and non-transportation-related projects:

- Transportation projects are governed by the "transportation conformity" regulations (40 CFR Parts 51 and 93), which became effective on December 27, 1993 and were revised on August 15, 1997.
- Non-transportation projects are governed by the "general conformity" regulations (40 CFR Parts 6, 51 and 93) described in the final rule for Determining Conformity of General Federal Actions to State or Federal Implementation Plans that was published in the Federal Register on November 30, 1993. The General Conformity Rule (GCR) became effective January 31, 1994 and has not been updated since then.

Since the proposed action is a non-transportation project, only the general conformity rule applies if the proposed action occurs in a nonattainment area. Since proposed 24 AF beddown activities would occur at Lackland AFB, Texas, which is currently in an ozone nonattainment area, or at Peterson AFB, Colorado, which is currently in a CO maintenance area, a general conformity rule analysis was conducted and is described in this appendix.

## **A.2 Methodology**

### **De Minimis Emissions Levels**

According to the GCR, threshold (de minimis) rates of emissions were established for those federal actions with the potential to have significant air quality impacts. Table A-1 summarizes these thresholds. The existing air quality conditions at Lackland AFB and Peterson AFB meet the de minimis requirements and are not considered a regionally significant action and are exempt from further conformity analyses pursuant to 40 CFR Part 93.153. However, if modifications to the proposed action occur in the future, or if attainment counties are reclassified based on new NAAQS or monitoring data, a revision to the conformity analysis may be required for those areas.

### **Regional Significance**

A federal action that does not exceed the threshold emission rates of criteria pollutants may still be subject to a general conformity determination if the direct and indirect emissions from the action exceed 10 percent of the total emissions inventory for a particular criteria pollutant in a nonattainment or maintenance area. If the emissions exceed this 10 percent threshold, the federal action is considered to be a "regionally significant" activity.

**Table A-1**  
**De Minimis Emission Levels for Criteria Air Pollutants**

<b>Pollutant</b>	<b>Nonattainment Designation</b>	<b>Tons/Year</b>
Ozone*	Serious	50
	Severe	25
	Extreme	10
	Other nonattainment or maintenance areas outside ozone transport region	100
	Marginal and moderate nonattainment areas inside ozone transport region	50/100**
Carbon Monoxide	All	100
Sulfur Dioxide	All	100
Lead	All	25
Nitrogen Dioxide	All	100
Particulate Matter ≤ 10 microns	Moderate	100
	Serious	70
Particulate Matter ≤ 2.5 microns***	All	100
Notes: * Applies to ozone precursors – volatile organic compounds (VOCs) and nitrogen oxides (NO <sub>x</sub> ). ** VOCs/NO <sub>x</sub> *** Applies to PM <sub>2.5</sub> and its precursors.		

## Analysis

Pursuant to the GCR, all reasonably foreseeable emissions (both direct and indirect) associated with proposed renovation and construction activities, under the proposed action were quantified and compared to the annual de minimis levels to determine potential emissions impacts.

The analysis examines the impacts of the direct and indirect net emissions from mobile and stationary sources. Direct emissions are emissions of a criteria pollutant or its precursors that are caused or initiated by a federal action and occur at the same time and place as the action. Indirect emissions, occurring later in time and/or further removed in distance from the action itself, must be included in the determination if both of the following apply:

- The federal agency can practicably control the emissions and has continuing program responsibility to maintain control.
- The emissions caused by the federal action are reasonably foreseeable.

Increased direct and indirect emissions from the demolition and construction would result from the following potential activities:

- Use of diesel and gas-powered construction equipment.
- Movement of trucks containing construction and removal materials.
- Commuting of construction workers.

In estimating emissions, the usage of equipment and the duration of construction activities first were determined based on the size of the facility to be constructed. The increased emissions were then calculated using the U.S. EPA guidance and emission factors.

### **A.3 Construction Emissions**

The Air Force would build or occupy approximately 25,000 square feet of administrative space to serve as the 24 AF headquarters for 240 personnel. The Air Force would also require 19,000 square-feet of building space to serve as the Operations Center (OC) for 220 personnel. All 24 AF building space would be constructed in accordance with Sensitive Compartment Information Facility (SCIF) requirements. As part of the proposed action, communications infrastructure is required to support the Initial Operational capability (IOC) and Final Operational Capability (FOC) missions, including Non-Secure Internet Protocol Router/Secure Internet Protocol Router (NIPR/SIPR) drops; telephony with specific security levels in the NAF and OC; and room for special technical operations (STO) equipment.

#### **Activity Data**

In estimating construction-related emissions, the usage of equipment, the likely duration of each activity, and manpower estimates for the construction were based on the data described in the Draft Description of Proposed Action and Alternatives (DOPAA) dated June 2008 for the future project-associated activities. The weekly duration given for each activity was assumed to be eight hours per day and five days per week. Estimates as to construction crew and equipment requirements and productivity are based on data presented in

- “2003 RSMeans Facilities Construction Cost Data”, R.S. Means Co., Inc., 2002.

The assumptions and calculations presented below are based on the DOPAA, which provides a planning-level description of the proposed action and the available information, and engineering judgment.

The Preferred Alternative and Alternative 1 actions include basic types of renovation and construction, for which an estimate was made of each construction activity:

#### **Preferred Alternative: Lackland AFB, TX**

Lackland AFB is the preferred alternative site for the permanent beddown of the 24 AF. The construction work necessary to implement the preferred alternative requires minor upgrades to buildings 178, 179, 2011 and 2058 for temporary use by the 24 AF, while renovations to building 171 (the units’ permanent facility) are underway. The required upgrades for the temporary facilities would be “primarily upgrades to finishes” for Facility 178 and “minor interior work” for Facility 2011. No work is required in facilities 179 or 2058 to prepare them for occupancy by the 24 AF.

For the purposes of this estimate, given the nature of the 24 AF’s mission and the specific reference to “communications improvement requirements”, it was assumed that communications deficiencies relate to insufficient connectivity to external communications networks (e.g., requiring the installation of additional fiber optic lines into the facilities) and the installation of multiple portable air conditioning units for temporary installations that do not require ductwork or hardwire electrical connections, and are therefore require minimal installation effort with the likely following equipment:

- Compressors
- Crane

- Generator
- Hydraulic excavator.

### **Alternative 1: Peterson AFB, CO**

The alternative would involve construction of a new 45,000 square foot facility. Demolition of existing structures at the site is currently programmed under other actions, and is not considered for the purpose of this estimate. For the purpose of this estimate, an office building prototype of 20,000 square feet was used. Quantities were scaled up to reflect the 45,000 square foot facility to be used by the 24 AF. Also, similar to the preferred alternative, the DOPAA makes reference to the need to address communications deficiencies; a total of 3,000 linear feet of buried fiber optic cable is included in the prototype.

All equipment was assumed to be diesel powered unless otherwise noted. Each piece of equipment was assumed to be operated continuously for six hours during each working day. Pieces of equipment to be used for the construction and demolition activities include, but are not limited to:

- Compressors
- Concrete Pump
- Cranes
- Dozer
- Front end loader
- Gas engine vibrator
- Gas welding machine
- Generator
- Grader
- Hydraulic excavator
- Roller.

### **Equipment Emission Estimate**

Estimates of construction equipment criteria pollutant emissions were based on the estimated hours of usage and emission factors for each motorized source. Emission factors related to heavy-duty diesel equipment were obtained from U.S. EPA (December 31, 2008).

Emission factors (in grams of pollutant per hour per horsepower) were multiplied by the estimated running time and equipment associated average horsepower to calculate the total grams of pollutant from each piece of equipment. Average horsepower values were obtained from *Nonroad Engine and Vehicle Emission Study – Report* (U.S. EPA, 1991). Finally, the total grams of pollutant were converted to tons of pollutant.

The U.S. EPA recommends the following formula to calculate hourly emissions from nonroad engine sources including cranes, backhoes, etc.:

$$M_i = N \times HP \times LF \times EF_i$$

where:

$M_i$  = mass of emissions of  $i$ th pollutants during inventory period;

$N$  = source population (units);

$HP$  = average rated horsepower;

$LF$  = typical load factor; and

$EF_i$  = average emissions of  $i$ th pollutant per unit of use (e.g., grams per horsepower-hour).

Typical load factor values were obtained from U.S. EPA (December 31, 2008). Equipment running times were estimated based on a 6 hour per day schedule. Samples of estimated emissions from operation of on-site construction equipment are presented in Table A-2 for the Proposed Action.

### Vehicle Emission Estimate

Truck and commuting vehicle operations would result in indirect emissions. However, the only activities that can be reasonably quantified are vehicle operations within the project site. Motor vehicle operations associated with 24 AF beddown activities are assumed and summarized as follows:

- Pickup, dump and other construction-related trucks would travel at an average speed of 25 miles per hour (mph) on site, for a total estimated on-base run time of two hours per working day; and
- Each worker's commuter vehicle would take a 20-minute round trip to commute at an average speed of 25 mph.

Emission factors for motor vehicles were calculated for both trucks (including dump, delivery, tractor, and tractor trucks that were modeled as heavy-duty diesel vehicles) and commuter vehicles (modeled as light-duty gasoline vehicles) using Mobile 6.2 mobile source emission factor model associated with the national average modeling input parameters defined in Mobile 6.2. The modeled emission factors were then multiplied by the vehicle operational hours to determine motor vehicle emissions. Table A-3 shows a sample worksheet for estimating 2010 truck emissions associated with renovation and construction activities.

### A.4 Compliance Analysis

Based on the results of this analysis of  $NO_x$ , VOC, and CO emissions performed in accordance with the final rule for *Determining Conformity of Federal Actions to State or Federal Implementation Plans*, (U.S. EPA, 1993), 24 AF beddown activities would not require a formal conformity determination. The results of this analysis, as presented in Tables A-4 and A-5, show no exceedance of the *de minimis* criteria of 100 tons per year (tpy) for  $NO_x$ , VOC, or CO on an annual basis. Therefore, 24 AF beddown activities would have no significant air quality impacts.

## **A.5 Other Criteria Pollutants and Greenhouse Gas**

In addition to the nonattainment pollutant general conformity analysis, the level of other criteria pollutants and greenhouse gas emissions with potential to result from 24 AF beddown activities were also estimated for disclosure purposes (Tables A-6 and A-7). The CO<sub>2</sub> emissions during renovation and construction periods were predicted to be 18.0 and 41.1 tpy for the Preferred Alternative and Alternative 1, respectively.

Table A-2

Annual Construction Equipment Emissions Worksheet for Preferred Alternative

Preferred Alternative																			
Equipment Type/Activity	Number of Units	Weeks	Hours	Horse power (hp)	Load Factor (%)	Emission Factor (grams/hp-hour)							Emission Rate (tons)						
						VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>
Construction																			
Compressor, 600 cfm	1	7.8	234	83	43	0.54	5.42	2.40	0.44	0.43	0.12	573.27	0.01	0.05	0.02	0.00	0.00	0.00	5.26
Crane, SP, 12 ton	1	0.4	12	231	43	0.35	5.14	1.30	0.25	0.24	0.11	532.78	0.00	0.01	0.00	0.00	0.00	0.00	0.70
Generator	1	0.6	18	50	43	0.80	6.14	3.02	0.56	0.54	0.12	567.43	0.00	0.00	0.00	0.00	0.00	0.00	0.24
Hydraulic excavator, 3.5 cy	1	7.6	228	62	43	0.56	5.41	2.43	0.45	0.44	0.12	576.01	0.00	0.04	0.02	0.00	0.00	0.00	3.86
Total Construction													0.01	0.10	0.04	0.01	0.01	0.00	10.06



Table A-3

## Annual Construction Equipment Emissions Worksheet for Alternative 1

Alternative 1																			
Equipment Type/Activity	Number of Units	Weeks	Hours	Horse power (hp)	Load Factor (%)	Emission Factor (grams/hp-hour)							Emission Rate (tons)						
						VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>
Construction																			
Compressor, 250 cfm	1	11.8	354	83	43	0.54	5.42	2.40	0.44	0.43	0.12	573.27	0.01	0.08	0.03	0.01	0.01	0.00	7.96
Concrete pump, small	1	2.0	60	53	43	0.75	6.18	3.03	0.57	0.56	0.12	567.14	0.00	0.01	0.00	0.00	0.00	0.00	0.85
Crane, 90-ton	1	1.0	30	231	43	0.35	5.14	1.30	0.25	0.24	0.11	532.78	0.00	0.02	0.00	0.00	0.00	0.00	1.75
Crane, hydraulic, 33 ton	1	0.6	18	231	43	0.35	5.14	1.30	0.25	0.24	0.11	532.78	0.00	0.01	0.00	0.00	0.00	0.00	1.05
Dozer, 300 HP	1	0.4	12	300	59	0.33	4.72	1.93	0.3	0.29	0.12	539.34	0.00	0.01	0.00	0.00	0.00	0.00	1.26
Front end loader, 1.5 cy, cfl	1	0.4	12	93	21	1.47	6.80	6.42	1.01	0.98	0.14	662.28	0.00	0.00	0.00	0.00	0.00	0.00	0.17
Gas engine vibrator	1	4.0	120	6	55	26.08	2.78	696.11	0.18	0.17	0.22	1093.0	0.01	0.00	0.30	0.00	0.00	0.00	0.44
Gas welding machine	1	1.8	54	17	68	11.35	3.24	642.74	0.11	0.1	0.21	996.2	0.01	0.00	0.44	0.00	0.00	0.00	0.70
Grader, 30,000 lb	1	0.4	12	204	59	0.32	4.26	1.45	0.28	0.27	0.12	537.25	0.00	0.01	0.00	0.00	0.00	0.00	0.86
Hydraulic excavator, 3.5 cy	1	12.6	378	62	43	0.56	5.41	2.43	0.45	0.44	0.12	576.01	0.01	0.06	0.03	0.01	0.00	0.00	6.39
Roller, vibratory	1	0.4	12	92	59	0.42	4.77	2.49	0.41	0.4	0.12	558.97	0.00	0.00	0.00	0.00	0.00	0.00	0.40
Total Construction													0.04	0.20	0.83	0.02	0.01	0.00	21.84

Table A-4

## Vehicle Emissions for Preferred Alternative

Preferred Alternative																		
Trucks (HDDV)					Emission Factor (lb/hr)							Emissions (tpy)						
Stage	No. of days	Trucks/ Day	Minutes/ Day/ Truck	Hours	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>
2010																		
<i>Construction</i>	15	10	120	300	0.03	0.32	0.11	0.01	0.01	0.00	78.10	0.004	0.048	0.017	0.002	0.001	0.000	0.001
Total truck emissions for Preferred Action												0.00	0.05	0.02	0.00	0.00	0.00	0.00
Cars (LDGV)					Emission Factor (lb/hr)							Emissions (tpy)						
Stage	No. of days	Cars/ Day	Minutes/ Day/ Car	Hours	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>
2010																		
<i>Construction</i>	67	25	20	558	0.05	0.04	0.51	0.00	0.00	0.00	28.32	0.01	0.01	0.14	0.00	0.00	0.00	7.91
Total car emissions per year for Preferred Action												0.01	0.01	0.14	0.00	0.00	0.00	7.91
Total Construction Emissions for 2010												0.02	0.06	0.16	0.00	0.00	0.00	7.91

Table A-5

## Vehicle Emissions for Alternative 1

Alternative 1																			
Trucks (HDDV)					Emission Factor (lb/hr)							Emissions (tpy)							
Stage	No. of days	Trucks/ Day	Minutes/ Day/ Truck	Hours	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>	
2010																			
Construction	42	15	120	1260	0.03	0.32	0.11	0.01	0.01	0.00	78.10	0.016	0.203	0.070	0.007	0.006	0.000	0.001	
Total truck emissions for Preferred Action													0.02	0.20	0.07	0.01	0.01	0.00	0.00
Cars (LDGV)					Emission Factor (lb/hr)							Emissions (tpy)							
Stage	No. of days	Cars/ Day	Minutes/ Day/ Car	Hours	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>	
2010																			
Construction	163	25	20	1358	0.05	0.04	0.51	0.00	0.00	0.00	28.32	0.03	0.03	0.35	0.00	0.00	0.00	19.24	
Total car emissions per year for Preferred Action													0.03	0.03	0.35	0.00	0.00	0.00	19.24
Total Construction Emissions for 2010													0.05	0.23	0.42	0.01	0.01	0.00	19.24

Table A-6

Total Emissions for Preferred Alternate (tpy)

Construction							vehicles							Totals						
VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>
0.01	0.10	0.04	0.01	0.01	0.00	10.06	0.02	0.06	0.16	0.00	0.00	0.00	7.91	0.03	0.16	0.20	0.01	0.01	0.00	17.97

Table A-7

Total Emissions for Alternate 1 (tpy)

Construction							vehicles							Totals						
VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	CO <sub>2</sub>
0.04	0.20	0.83	0.02	0.01	0.00	21.84	0.05	0.23	0.42	0.01	0.01	0.00	19.24	0.05	0.43	1.25	0.03	0.02	0.00	41.07

## REFERENCES

- California Air Resources Board, 2007. *EMFAC2007 User's Guide*.
- R.S. Means Co., Inc., 2003. *Construction Cost Data*.
- U.S. Environmental Protection Agency, 1991. *Nonroad Engine and Vehicle Emission Study-Report*, November.
- U.S. Environmental Protection Agency, 1993. *40 CFR Parts 51, and 93. Air Quality: Transportation Plans, Programs, and Projects; Federal or State Implementation Plan Conformity; Rule.*, November 24.
- U.S. Environmental Protection Agency, 1993. *40 CFR Parts 6, 51, and 93. Determining Conformity of Federal Actions to State or Federal Implementation Plans, Federal Register*. November 30.
- U.S. Environmental Protection Agency, 2003. *Mobile6.2 User's Guide*, August.
- U.S. Environmental Protection Agency, 2008. *Nonroad Model Worksheet*, December 31.

## **APPENDIX B**

### **Public Comments**





OFFICE of ARCHAEOLOGY and HISTORIC PRESERVATION

July 13, 2009

Gary Maher  
Chief of Programs  
HQ AFSPC/A4/7PP  
150 Vandenberg Street, Suite 1105  
Peterson AFB CO 80914-4150

Re: Draft Environmental Assessment and Finding of No Significant Impact (FONSI) for  
Beddown of the 24<sup>th</sup> Air Force. (CHS #55238)

Dear Mr. Maher:

Thank you for your correspondence dated and received by our office on July 2, 2009 regarding the review of the above-mentioned project. We are not able to determine whether or not the Air Force has initiated Section 106 review of this project. The draft EA mentions an Area of Potential Effects (APE), however, it appears our office was not consulted under 36 CFR 800.4(a)(1). We recommend initiating Section 106 consultation with our office and other appropriate consulting parties.

We request being involved in the consultation process with the local government, which as stipulated in 36 CFR 800.3 is required to be notified of the undertaking, and with other consulting parties. Additional information provided by the local government or consulting parties might cause our office to re-evaluate our eligibility and potential effect findings.

Please note that our compliance letter does not end the 30-day review period provided to other consulting parties.

If we may be of further assistance, please contact Amy Pallante, our Section 106 Compliance Manager, at (303) 866-4678.

Sincerely,

Edward C. Nichols  
State Historic Preservation Officer





DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR FORCE SPACE COMMAND

22 July 2009

HQ AFSPC/A4/7PP  
150 Vandenberg Street  
Peterson AFB, CO 80914

Ms Amy Pallante  
Section 106 Compliance Manager  
Office of Archaeology and Historic Preservation  
1300 Broadway  
Denver, CO 80203

RE: Section 106 Consultation - Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for Beddown of 24<sup>th</sup> Air Force (CHS #55238)

Dear Ms Pallante,

We have received your letter dated 13 July 2009, (attached), requesting that we initiate Section 106 consultation with your office. Our proposed undertaking may involve the use of Building 1470 at Peterson AFB, CO as an interim facility for 24th Air Force. As described in the draft EA, only minor interior renovations would occur should we use Building 1470.

We have determined that there is no potential to cause effects under 36 CFR 800.3(a)(1); and that there are no historic properties present and, as a result, no historic properties would be affected by our proposed undertaking under 36 CFR 800.4(d)(1).

Building 1470 was built in 1972 as an administrative building to house support personnel. It is a plain, concrete structure with a simple rectangular floor plan. Throughout the years, more administrative functions were moved to this building, which received a \$1 million renovation in 1987. Currently, Air Force Space Command continues to use the building for administrative and support personnel.

Please contact me at 719-554-6406, should you require additional information. Thank you for your expedited review of our proposed undertaking.

A handwritten signature in blue ink, appearing to read "Lynne E. Neuman", is located above the typed name.

LYNNE E. NEUMAN  
Command Environmental Planner

1 Atch  
SHPO ltr, 13 July 2009

July 23, 2009

Lynne Neuman  
Command Environmental Planner  
HQ AFSPC/A4/7PP  
150 Vandenberg Street  
Peterson AFB, CO 80914

Re: Section 106 Consultation – Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for Beddow of 24<sup>th</sup> Air Force (CHS #55238)

Dear Ms. Neuman:

Thank you for your correspondence dated and received by email on July 22, 2009 regarding the review of the above-mentioned project under Section 106 of the National Historic Preservation Act (Section 106).

In our opinion, the nature of the proposed undertaking does have the potential to affect historic resources and should be evaluated under Section 106. As such, we concur with the recommended finding of *no historic properties affected* [36 CFR 800.4(d)(1)] under Section 106.

If we may be of further assistance, please contact Amy Pallante, our Section 106 Compliance Manager, at (303) 866-4678.

Sincerely,



Edward C. Nichols  
State Historic Preservation Officer

