



# Final Environmental Assessment for the Proposed Construction and Operation of a Live Fire-Fighting Training Area at Buckley Air Force Base, Colorado



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## Report Documentation Page

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The purpose and the need for the proposed action is to meet the live fire-fighting training requirements for fire fighters according to the National Fire Protection Association (NFPA) Code 1500 (Standard on Fire Department Occupational Health and Safety Program), Air Force Instruction (AFI) 32- 2001 (Fire Protection Operations and Fire Prevention Programs), Department of Defense Instruction (DODI) 6055.6 (DOD Fire and Emergency Services Program), and DODI 6055.6M (DOD Fire and Emergency Services Certification Program). Currently, fire fighters for BAFB and Colorado Air National Guard (COANG) are undertaking live fire-fighting training for aircraft fire fighting (ARFF) at Peterson AFB in Colorado Springs, approximately 68 miles south of BAFB. Fire fighters are paid overtime wages and travel expenses to undertake training at Peterson AFB on their days off shift. Currently there are 44 BAFB fire fighters and 26 COANG fire-fighting personnel. Alternatives considered for this proposed action include (1) the no action alternative, which includes the continuation of fire-fighting training activities at Peterson AFB, Colorado and (2) live fire-fighting training at Denver International Airport. This EA has been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of constructing and operating a live fire-fighting training at on BAFB. Under the no action alternative, live fire-fighting training activities would continue at Peterson AFB. The environmental resources potentially affected by the proposed action and alternatives include surface water resources, stormwater, and 100-year floodplain; air quality; groundwater resources; wetlands; soils biological resources, including vegetation, wildlife, and threatened and/or endangered species; noise; social or economic resources, including environmental justice; historic or archeological resources; land use and transportation; visual resources; public utilities, including wastewater; Environmental Restoration Program (ERP); radon; and hazardous materials and substances. Based on the nature of the activities that would occur during the construction and operation of the live fire fighting training area, the U.S. Air Force has determined that minimal or no adverse impacts to the above resources are anticipated.

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**COVER SHEET**  
**ENVIRONMENTAL ASSESSMENT**  
**FOR THE PROPOSED CONSTRUCTION AND OPERATION OF A LIVE FIRE**  
**FIGHTING TRAINING AREA AT BUCKLEY AIR FORCE BASE, COLORADO**

Prepared by  
Headquarters Air Force Center for Environmental Excellence  
Brooks Air Force Base, Texas 78235-5122

- a. **Responsible Agency:** U.S. Air Force, 460th Air Base Wing
- b. **Proposed Action:** Construct and operate a live fire-fighting training area southeast of Silver Creek Street, southeast of Taxiway M, at Buckley Air Force Base (BAFB), Colorado.
- c. **Written comments and inquiries regarding this document should be directed to:** Elise Sherva, 460 CES/CEVP, 660 S. Aspen Street (Stop 86), Bldg. 1005, Room 254, Buckley AFB, Colorado 80011-9551; telephone (303) 677-9077; e-mail [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil).
- d. **Privacy Advisory:** Your comments on this Environmental Assessment (EA) were requested. Letters or other written or oral comments provided are published in this Final EA and are available to the public. Any personal information provided will be used only to identify your desire to make a statement during the public comment portion of any public meeting or hearings or to fulfill requests for copies of the Final EA or associated documents. Private addresses have been compiled to develop a mailing list for those requesting copies of the Final EA. However, only the name of individuals making comments and specific comments and specific comments will be disclosed. Personal home addresses and phone numbers have not been published in the Final EA.
- e. **Designation:** Environmental Assessment (EA)
- f. **Abstract:** The purpose and the need for the proposed action is to meet the live fire-fighting training requirements for fire fighters according to the National Fire Protection Association (NFPA) Code 1500 (*Standard on Fire Department Occupational Health and Safety Program*), Air Force Instruction (AFI) 32-2001 (*Fire Protection Operations and Fire Prevention Programs*), Department of Defense Instruction (DODI) 6055.6 (*DOD Fire and Emergency Services Program*), and DODI 6055.6M (*DOD Fire and Emergency Services Certification Program*). Currently, fire fighters for BAFB and Colorado Air National Guard (COANG) are undertaking live fire-fighting training for aircraft fire fighting (ARFF) at Peterson AFB in Colorado Springs, approximately 68 miles south of BAFB. Fire fighters are paid overtime wages and travel expenses to undertake training at Peterson AFB on their days off shift. Currently there are 44 BAFB fire fighters and 26 COANG fire-fighting personnel. Alternatives considered for this proposed action include (1) the no action alternative, which includes the continuation of fire-fighting training activities at Peterson AFB, Colorado and (2) live fire-fighting training at Denver International Airport.

This EA has been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of constructing and operating a live fire-fighting training at on BAFB. Under the no action alternative, live fire-fighting training activities would continue at Peterson AFB.

The environmental resources potentially affected by the proposed action and alternatives include surface water resources, stormwater, and 100-year floodplain; air quality; groundwater resources; wetlands; soils; biological resources, including vegetation, wildlife, and threatened and/or endangered species; noise; social or economic resources, including environmental justice; historic or archeological resources; land use and transportation; visual resources; public utilities, including wastewater; Environmental Restoration Program (ERP); radon; and hazardous materials and substances. Based on the nature of the activities that would occur during the construction and operation of the live fire fighting training area, the U.S. Air Force has determined that minimal or no adverse impacts to the above resources are anticipated.

- g. **Comments must be received by:** 08 March 2004



**FINDING OF NO SIGNIFICANT IMPACT FOR THE  
PROPOSED CONSTRUCTION AND OPERATION OF A LIVE FIRE  
FIGHTING TRAINING AREA AT BUCKLEY AIR FORCE BASE, COLORADO**

**Agency**

U.S. Air Force, 460th Air Base Wing

**Background**

The attached environmental assessment (EA) dated June 2004 and incorporated by reference, analyzes the potential for impacts to the environment as a result of construction and operation of a live fire fighting training area at Buckley Air Force Base (BAFB), Colorado. This EA was prepared in accordance to 32 Code of Federal Regulations (CFR) §989, which, in turn, implements Section 102 (2) of the National Environmental Policy Act (NEPA) and the regulations established by the Council on Environmental Quality (CEQ).

**Proposed Action**

The proposed action and alternatives include (1) construction and operation of a live fire training area southeast of Silver Creek Street, south of Taxiway M (Proposed Action); (2) semi-annual live fire fighting training at Denver International Airport; and (3) the no action alternative.

**Factors Considered in Determining That No Environmental Impact Statement is Required**

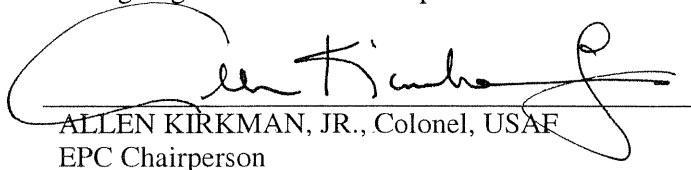
The EA, which is incorporated by reference, analyzed the environmental impacts of implementing the Proposed Action and the No Action Alternative taking into account all relevant environmental resource areas and conditions. The U.S. Air Force has examined the following resource areas and found that implementing the proposed action or the no action alternative, would not result in any significant impacts: surface water resources, stormwater, and 100-year floodplain; air quality; groundwater resources; wetlands; soils; biological resources, including vegetation, wildlife, and threatened and/or endangered species; noise; social or economic resources, including environmental justice; historic or archeological resources; land use and transportation; visual resources; public utilities, including wastewater; Environmental Restoration Program (ERP); radon; and hazardous materials and substances.

**Public Notice**

NEPA, 40 CFR §1500-1508 and 32 CFR §989 require public review of the EA before approval of the finding of no significant impact (FONSI) and implementation of the Proposed Action. The public review period ended on 8 Mar 04.

**Finding of No Significant Impact**

Based on the requirements of NEPA, 40 CFR §1500-1508 and 32 CFR §989, I conclude that the environmental effects of implementing the proposed action or alternatives are not significant and, therefore, an environmental impact statement will not be prepared. A notice of availability for public review was published in the Denver Post on 08 Feb 04 indicating a 30-day review period. Hard copies of the Draft EA and Draft FONSI were placed in the Denver and Aurora public libraries for dissemination. The signing of this FONSI completes the USAF Environmental Impact Analysis Process.

  
ALLEN KIRKMAN, JR., Colonel, USAF  
EPC Chairperson

22 JUN 2004  
\_\_\_\_\_  
Date



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

This environmental assessment (EA) was prepared in accordance with the U.S. Air Force (USAF) Environmental Impact Analysis Process (EIAP) (32 Code of Federal Regulations [CFR] Part 989). The EIAP complies with the regulations promulgated by the Council on Environmental Quality (CEQ) (40 CFR Parts 1500-1508), which, in turn, implements Section 102 (2) of the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] §4321 to §4370d). The principal objectives of NEPA are to ensure the careful consideration of environmental aspects of proposed actions in federal decision-making processes and to make environmental information available to decision-makers and the public, before decisions are made and actions are taken. This EA has been prepared by the USAF to satisfy the EIAP, which requires the assessment of environmental effects resulting from implementation of the proposed construction and operation of a live fire-fighting training area at Buckley Air Force Base (BAFB).

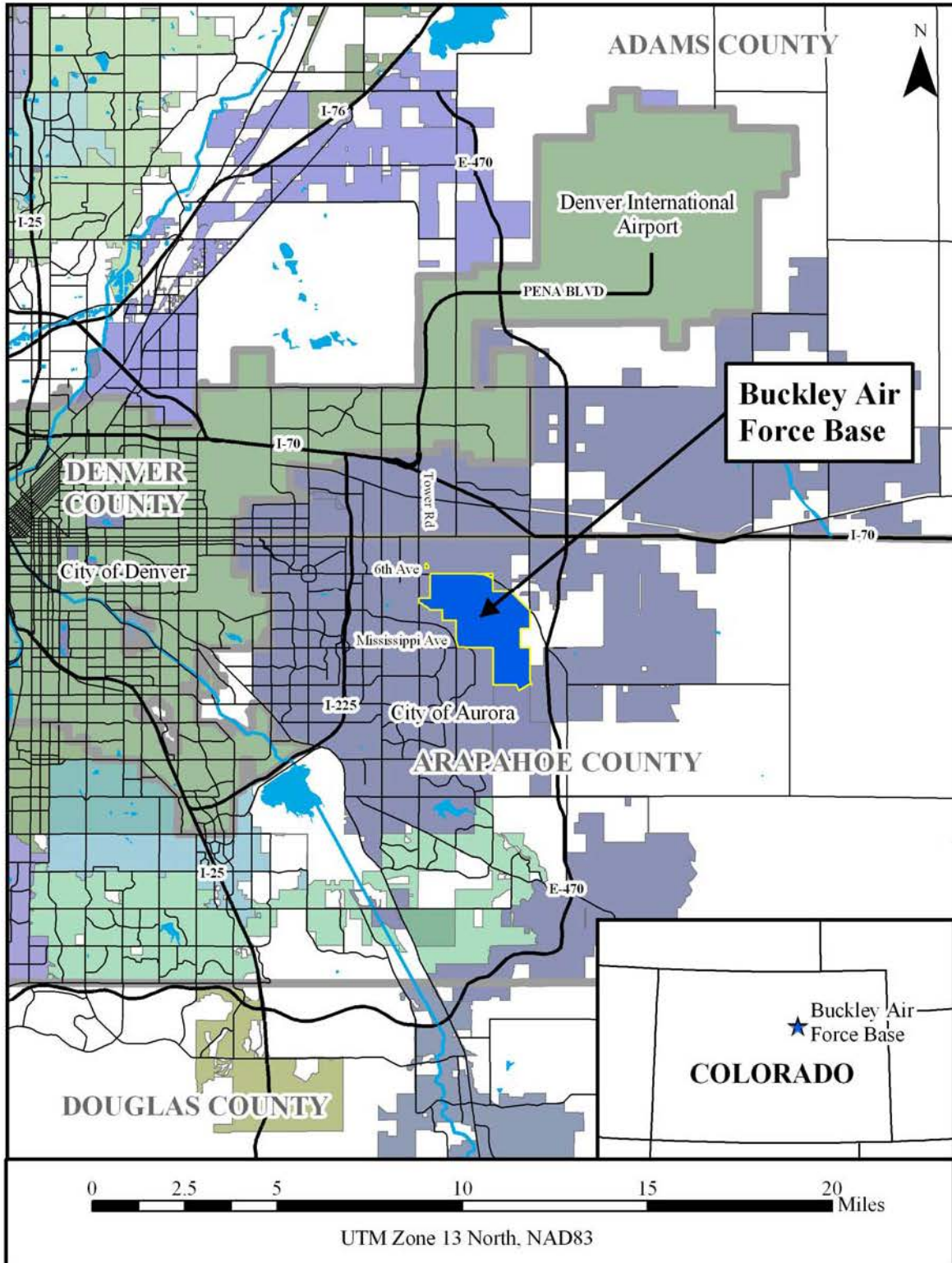
### **1.1 INTRODUCTION AND BACKGROUND**

BAFB lies within the Denver metropolitan area and encompasses approximately 3,283 acres adjacent to the City of Aurora, Arapahoe County, Colorado (Figure 1-1). The 460th Air Base Wing (460 ABW) is the current host of BAFB. The mission of the 460 ABW is to operate BAFB and provide superior support and services to the base operational mission, to the Front Range Area Defense community and their families, and to the retiree community within the Denver metropolitan area (BAFB 2002b). The current population of BAFB includes 3,600 active duty personnel, approximately 3,600 civilian employees, approximately 1,750 contract employees, approximately 22,000 retirees, and approximately 55,000 dependents and veterans. The tenant units at BAFB are listed in Table 1-1; however, this list is not inclusive since units tend to change periodically.

### **1.2 PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS AT BUCKLEY AIR FORCE BASE**

Approximately 50 activities/facilities have been identified as needed for successful operation of BAFB and to improve the quality of life for active, reserve, and retired members of the armed services living in the Denver area. The BAFB General Plan lists more than 1 million square feet (SF) of facilities/areas proposed for construction between Fiscal Year 2002 (FY 02) to FY 13 (BAFB 2002b). Within the past two years, construction has been completed on a new base exchange/commissary (185,000 SF) and a space-based infrared surveillance (SBIRS) antenna. Planned construction of approximately 883,000 SF is expected to occur within the next four years (FY 02-FY 05); however, time lines are subject to change and projects may be constructed at an earlier or

**SECTION 1.0  
PURPOSE OF AND NEED FOR THE ACTION**



**Figure 1-1. General Location of BAFB**

**Table 1-1**  
**Tenant Units at BAFB**

<ul style="list-style-type: none"> <li>• 1<sup>st</sup> Battalion, 89<sup>th</sup> Troop Command (Army)</li> <li>• 2<sup>nd</sup> Space Warning Squadron</li> <li>• 8<sup>th</sup> Space Warning Squadron</li> <li>• 120<sup>th</sup> Fighter Squadron</li> <li>• 140<sup>th</sup> Wing, COANG</li> <li>• 240<sup>th</sup> Civil Engineering Flight</li> <li>• 169<sup>th</sup> Field Artillery Brigade, COARNG</li> </ul>	<ul style="list-style-type: none"> <li>• 743<sup>rd</sup> Military Intelligence Battalion</li> <li>• Aerospace Data Facility</li> <li>• Air Force Accounting and Finance Office</li> <li>• Army/Air Force Exchange Service</li> <li>• Battery A, 1<sup>st</sup> Battalion, 14<sup>th</sup> Marines</li> <li>• Company A, Marine Support Battalion</li> <li>• COARNG</li> <li>• Civil Air Patrol Combined Task</li> </ul>	<ul style="list-style-type: none"> <li>• Defense Commissary Agency</li> <li>• Defense Contract Manager</li> <li>• Department of Military Affairs</li> <li>• Detachment 4, Air Force Operational Testing and Evaluations Center</li> <li>• Detachment 801, Air Force Office of Special Investigations</li> <li>• Detachment 45, Air Force Technical Applications Center</li> </ul>	<ul style="list-style-type: none"> <li>• Navy and Marine Corps Reserve Centers, Naval Air Reserve Center, Denver</li> <li>• U.S. Property and Fiscal Office for Colorado</li> <li>• U.S. Army Corps of Engineers</li> <li>• U.S. Military Entrance Processing Command</li> </ul>
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COANG = Colorado Air National Guard  
 COARNG = Colorado Army National Guard  
 Source: 460 ABW Directory 15 January 2003

later date. The live fire training area would include an approximately 2,100-SF steel fire-fighting training structure, a mobile aircraft fire-fighting trainer with a 1,300-SF fuel spill burn area, and additional ancillary services such as roads, containment areas, and concrete pads. Other planned construction activities on BAFB are listed in Table 1-2. Currently, BAFB has 156 buildings with approximately 2.2 million gross SF of occupiable floor space and approximately 2.0 million SF of parking (BAFB 2002b).

### 1.3 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose and need for the proposed action is to meet the live fire-fighting training requirements for fire fighters according to the National Fire Protection Association (NFPA) Code 1500 (*Standard on Fire Department Occupational Health and Safety Program*), Air Force Instruction (AFI) 32-2001 (*Fire Protection Operations and Fire Prevention Programs*), Department of Defense (DOD) Instruction (DODI) 6055.6 (*DOD Fire and Emergency Services Program*), and DODI 6055.6M (*DOD Fire and Emergency Services Certification Program*). Currently, fire fighters for BAFB and Colorado Air National Guard (COANG) are undertaking live fire-fighting training for aircraft fire fighting (ARFF) at Peterson AFB in Colorado Springs, approximately 68 miles south of BAFB. Fire fighters are paid overtime wages and travel expenses to undertake training at Peterson AFB on their days off shift. Currently there are 44 BAFB fire fighters and 26 COANG fire-fighting personnel.

**SECTION 1.0  
PURPOSE OF AND NEED FOR THE ACTION**

**Table 1-2  
Scheduled Facility Projects at BAFB**

<p style="text-align: center;"><b>FY 02</b></p> <ul style="list-style-type: none"> <li>• Physical Fitness Center<sup>1</sup></li> <li>• 2<sup>nd</sup> Dormitory (144)</li> <li>• Military Family Housing<sup>1</sup></li> <li>• Telluride/6<sup>th</sup> Avenue Entry Gate</li> </ul>	<p style="text-align: center;"><b>FY 05</b></p> <ul style="list-style-type: none"> <li>• Repair Taxiways A &amp; K</li> <li>• Chapel Center</li> <li>• Child Development Center</li> <li>• Athletic Fields</li> <li>• Outdoor Recreation Equipment Rental (NAF)</li> <li>• ADAL Medical Clinic</li> <li>• Hazardous Waste Storage Facility</li> <li>• Hazardous Materials Issue Facility</li> <li>• Army Aviation Support Facility (COARNG)</li> <li>• Permanent Alert Shelters &amp; Crew Quarters (COANG)</li> </ul>
<p style="text-align: center;"><b>FY 03</b></p> <ul style="list-style-type: none"> <li>• 460 ABW Headquarters</li> <li>• ADAL SBIRS Mission Control</li> <li>• Visitors' Quarters/Temporary Lodging Facility</li> <li>• Car Wash (AAFES)</li> <li>• Control Tower (COANG)</li> <li>• Fire Station Addition</li> <li>• Engine Shop Addition, Building 960 (COANG)</li> <li>• Repair Runway, Taxiways, Ramps (COANG)</li> <li>• Repair Fuel Cell/Corrosion Control, Building 800 (COANG)</li> <li>• Entomology</li> <li>• H-70 Fuel Storage Facility</li> <li>• Golf Driving Range (NAF)</li> <li>• Addition to Child Development Center</li> <li>• Civil Engineering Warehouse</li> </ul>	<p style="text-align: center;"><b>FY 06</b></p> <ul style="list-style-type: none"> <li>• Medical Pharmacy</li> <li>• Leadership Development Center</li> <li>• Consolidated Fuels, including Military Gas Station</li> <li>• Logistics Complex</li> <li>• Consolidated Services Facility</li> <li>• Security Forces Operations Facility</li> <li>• Education Center</li> <li>• Youth Center (NAF)</li> <li>• Ball Field Concession (NAF)</li> </ul>
<p style="text-align: center;"><b>FY 04</b></p> <ul style="list-style-type: none"> <li>• Upgrade BAFB Infrastructure, Phase III</li> <li>• Air National Guard Civil Engineering Complex</li> <li>• Approach Lighting (COANG)</li> <li>• Repair COANG Supply, Building 841 (COANG)</li> <li>• Repair COANG Parking Lots (COANG)</li> <li>• Maintain Maintenance Hangar 801 (COANG)</li> <li>• ADAL Airfield Access Roads (COANG)</li> </ul>	<p style="text-align: center;"><b>FY 07</b></p> <ul style="list-style-type: none"> <li>• ADAL Communications Center, Building 730</li> <li>• Outdoor Arms Range</li> <li>• Vehicle Maintenance Facility</li> </ul>
	<p style="text-align: center;"><b>FY 08</b></p> <ul style="list-style-type: none"> <li>• Third Dormitory</li> <li>• Widen 6<sup>th</sup> Avenue</li> <li>• Fire Training Facility</li> <li>• Consolidated Base Warehouse</li> </ul>
	<p style="text-align: center;"><b>FY 09</b></p> <ul style="list-style-type: none"> <li>• Upgrade Infrastructure – Phase IV</li> <li>• Fitness Center Addition</li> </ul>

<sup>1</sup> These projects were carried into FY 03.

AAFES = Army/Air Force Exchange Service

ADAL = Addition/Alteration

COARNG = Colorado Army National Guard

NAF = nonappropriated funds

Source: 2<sup>nd</sup> Quarter BAFB Facilities Board, 10 March 2003

#### 1.4 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

This EA addresses the potential impacts to surface water resources, stormwater, and 100-year floodplain; air quality; groundwater resources; wetlands; soils; biological resources, including vegetation, wildlife, and threatened and/or endangered species; noise; social or economic resources, including environmental justice; historic or archeological resources; land use and transportation; visual resources; public utilities, including wastewater; Environmental Restoration Program (ERP); radon; and hazardous materials and substances. The applicable regulatory requirements for each of the resource areas are also identified, as well as the existing conditions of each resource area on the installation.

The NEPA and CEQ regulations require that the environmental effects of proposed actions and alternatives be considered in the decision-making process. Preparation of an environmental document (this EA) must precede final decisions regarding the proposed action, and the document must be available to inform decision-makers and the public of potential environmental consequences/impacts. The development of this EA allows for public consideration and input concerning the implementation of the proposed military construction and operation of a live fire-fighting training facility at BAFB. This EA provides the decision-makers and the public with information required to understand the possible future environmental consequences/impacts of implementing the proposed action or alternatives. The decision to be made, after a review of the analysis presented in this EA, would be whether to issue a finding of no significant impact (FONSI) or to proceed with the implementation of an environmental impact statement (EIS) to further quantify and detail the potentially significant impacts resulting from implementation of the proposed action or alternatives. While this EA provides information with which to make better decisions about proposed actions, it does not imply project approval or authorization, which is obtained through the 460 ABW Facilities Board.

#### 1.5 ORGANIZATION OF THE ENVIRONMENTAL ASSESSMENT

This document follows the format established in 32 CFR §989 implementing the CEQ regulations (40 CFR §1502). The document consists of the following sections:

**Section 1.0 – Purpose of and Need for the Action:** presents a brief description of the background of the installation; the past, present, and reasonably foreseeable future actions on BAFB; the purpose and need for the proposed action; the scope of the environmental review; and a brief description of the EA organization.

**Section 2.0 – Alternatives Including the Proposed Action:** provides a detailed description of the selection criteria and descriptions of the proposed action and alternatives. Section 2.0 also contains an alternatives comparison matrix.

**Section 3.0 – Affected Environment:** presents the existing baseline environment or present condition of the area(s) potentially affected by the alternatives

**SECTION 1.0**  
**PURPOSE OF AND NEED FOR THE ACTION**

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identified to implement the proposed action. Each environmental resource potentially impacted by the implementation of the proposed action and alternatives is discussed, as well as the regulatory background, if applicable, for each impacted resource area.

**Section 4.0 – Environmental Consequences:** provides the scientific and/or analytical basis for comparing the alternatives and describes the probable consequences of each alternative on relevant environmental attributes.

**Section 5.0 – List of Preparers:** provides a list of the document preparers and contributors.

**Section 6.0 – Distribution List and Agencies and Individuals Contacted:** provides a list of persons/agencies contacted in the preparation of this EA. This section also contains a brief summary of comments received and responses to those comments.

**Section 7.0 – References:** provides a list of references used in the preparation of this EA.

**Section 8.0 – Acronyms and Abbreviations:** provides a list of applicable acronyms and abbreviations used throughout the text.

**Appendices:** provide background and supporting information to this EA, as necessary. Appendices included in this EA are Appendix A: USAF Form 813; Appendix B: Representative Photographs; Appendix C: Notice of Availability and Affidavit of Publication; Appendix D: Interagency Coordination Letters; and Appendix E: Comments and Responses to Comments.

## SECTION 2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

This section of the EA describes the proposed action and the alternatives developed by BAFB. This section also describes the process used to objectively identify the reasonable alternatives carried forward for detailed environmental analysis, as well as the reasoning for elimination of alternatives. A comparative summary of the proposed action, alternatives, and how they do or do not meet the selection criteria identified in Section 2.1 is also included.

### 2.1 IDENTIFICATION OF SELECTION CRITERIA

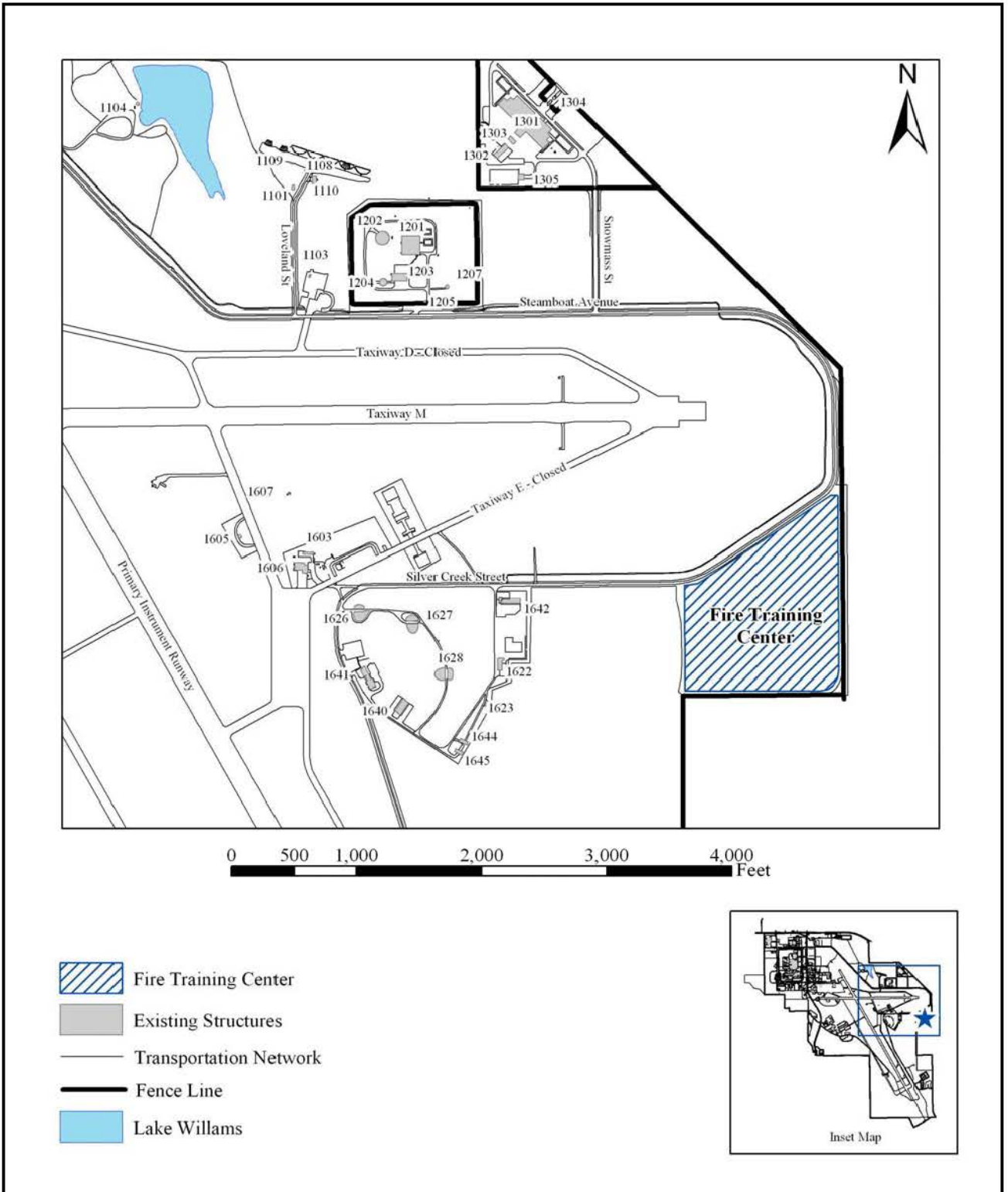
In an effort to satisfy the purpose and need for the proposed action, several selection criteria were developed to compare and contrast alternative ways of fulfilling the objectives of the proposed action in accordance with 32 CFR §989.8(c). Those specific criteria include:

1. **Provide on-installation access to fire fighting training activities.** BAFB would like to locate live fire-fighting training activities on base, in an area easily accessible to both USAF and COANG personnel who require fire and emergency services certification.
2. **Limit the amount of overtime hours expended on fire fighting training activities.** Overtime places a physical hardship on fire fighters currently working 72-hour workweeks. BAFB would like to limit overtime hours expenditures for fire fighting training activities.
3. **Provide live fire fighting training as often as needed due to new hires or recertification.** BAFB would like to offer the live fire fighting training certification as often as needed for new hires and recertifications, rather than waiting until another training facility has an opening or live fire-fighting training activity scheduled. Live fire-fighting training to meet all the minimum requirements could require as many as 12 to 14 separate training periods per year.

### 2.2 DESCRIPTION OF THE PROPOSED ACTION

Under the proposed action, BAFB would construct, equip, and operate a live fire-fighting training area on BAFB, south of Silver Creek Street, which is southeast of Taxiway M (Figure 2-1). This area would include the installation of a steel fire-fighting training structure (approximately 2,100 SF) and a mobile aircraft fire-fighting trainer with a full spill burn area (approximately 1,300 SF), as well as the construction of ancillary facilities (i.e., roads, propane holding tank, concrete pads, retention feature). Construction activities would include a 40,000-SF concrete pad, a 1,012-SF concrete pad, and a 100-

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**Figure 2-1. Location of the Proposed Live Fire-Fighting Training Area on BAFB**

SF concrete pad. Roads, with sufficient area for fire vehicle maneuverability, would be paved to avoid picking up dirt and other foreign objects and debris (FOD), which could be carried onto the airfield in the event of a fire response. Additionally, a water-holding feature would be constructed. This would either be a retention feature to hold no more than 300,000 gallons of surface flow or a tank of approximately 75,000 gallons. The proposed action would satisfy all of the purpose and need criteria. More specifically, the proposed action:

1. Would provide on-installation access to fire-fighting training activities. The proposed location of the live fire-fighting training activities would be southeast of Taxiway M, near airfield operations and easily accessible via the installation's road network.
2. Would limit the amount of overtime hours expended on fire-fighting training activities. USAF and COANG fire fighters stationed at BAFB would train during either normal duty hours or reduced overtime hours.
3. Would provide live fire-fighting training as often as needed for new hires or recertification.

### **2.2.1 Construction Activities**

Due to the high occurrence of montmorillonite/bentonite in soils within the eastern portion of Colorado, a geotechnical analysis of the potential for expansive soils at the proposed site would be conducted, prior to construction activities. This analysis would assess the potential capacity for clays adjacent to and at the site to shrink and swell during differential moisture regimes. If the analysis indicated the presence of highly expansive soils, proper engineering techniques would be utilized to stabilize the soils prior to construction of any of the concrete pad sites.

Construction and installation activities would begin in FY 04 or early FY 05 and would last approximately 180 days; however, the time line is subject to change, and the project may be constructed at an earlier or later date or in different years. On-site construction equipment would include the use of heavy trucks, cranes, and earthmoving equipment. Additional light-duty equipment (e.g., generators, compressors) would also be utilized throughout the duration of activities. All equipment would likely come from local sources and would be brought to the site via local roadways. Equipment maintenance would be conducted off site by the contractor and in accordance with all applicable laws and regulations. Construction activities would typically occur 8 hours per day, 6 days per week; however, the hours/days are subject to change, and the project may be constructed at earlier or later times or on different days. The majority of construction materials would likely come from local sources and would be stored at the site for the duration of activities. All construction materials purchased for this project shall be compliant with affirmative procurement requirements. This requires that all materials be purchased with the highest recyclable content possible to perform the job. No grading plan is currently

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**ALTERNATIVES INCLUDING THE PROPOSED ACTION**

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available; however, preliminary plans indicate that cut-and-fill materials would be balanced so that no new soils would be brought on site or existing soils removed. All construction debris would be recycled or disposed of at an approved landfill in accordance with all applicable federal, state, and local laws and regulations.

To reduce impacts to local and regional air quality, abatement measures, such as proper maintenance of construction vehicles to reduce combustive emissions, limiting the size of the disturbance area, and watering exposed soils at the beginning and end of daily construction activities, would be implemented to minimize or prevent fugitive dust emissions. BAFB is developing and would maintain in place stormwater construction permitting and best management practices (BMPs) to avoid or minimize potential impacts from stormwater runoff. In addition to BMPs, additional observations and maintenance would be undertaken when performing scheduled servicing of the catch basins and any other stormwater collection points. This would ensure containment of construction debris, displaced silt, and fuel, oil, grease, and coolants from construction equipment, thereby reducing nonpoint sources of pollutants in stormwater flows. The stormwater system would be upgraded, as necessary, to support the proposed action. Black-tailed prairie dogs (*Cynomys ludovicianus*) and burrowing owls (*Athene cunicularia*) would be managed in accordance with the Supplemental EA of the Proposed Prairie Dog Management Practices at BAFB, dated June 2001.

As mentioned previously, construction debris would be recycled or disposed of at an approved off-base landfill in accordance with all applicable federal, state, and local laws and regulations. Though not anticipated, any potentially hazardous materials or wastes would be handled and disposed of in accordance with all applicable federal, state, and local regulations.

**2.2.2 Permits and Notifications**

In accordance with the National Pollutant Discharge Elimination System (NPDES) requirements (construction sites greater than 5 acres [Phase I] and between 1 and 5 acres [Phase II]), a site-specific stormwater pollution prevention plan (SWPPP) would be developed and implemented for construction activities. The SWPPP would be maintained on site and would provide measures to eliminate or reduce any potential impacts to surface water quality near the project site (i.e., implementation of BMPs). Prior to the start of construction activities, a notice of intent (NOI) would be filed with the U.S. Environmental Protection Agency (USEPA) in accordance with the USEPA Stormwater Construction General Permit. No construction activities would proceed until the NOI has been posted on the USEPA website for seven days.

Operation of the live fire-fighting training area would produce smoke from the propane fires initiated for training activities. Fire-fighting training activities are categorically excluded from the Colorado Department of Public Health and Environment (CDPHE) Air Pollutant Emission Notice (APEN) and permitting requirements in Colorado.

Additionally, fire-fighting training facilities are exempt from the CDPHE Air Quality Control Commission (AQCC) Regulation 9, *Open Burning, Prescribed Fire, and Permitting*.

Due to the operating requirements of the facility, BAFB would also need to submit a NOI in accordance with BAFB's industrial pretreatment permit for submittal to the Metro Wastewater Reclamation District for release of any accumulated fire suppression water into the sanitary sewer located on the base.

### 2.2.3 Facilities Operations

The live fire-fighting training area would be operated at any time during the year, but mainly limited to the temperate 26 weeks of the year (spring through early fall) to avoid inclement weather conditions. If possible, live fire fighting training activities would not occur during summer O<sub>3</sub> Action Alert days or during winter Red Pollution Advisories. Average yearly use would consist of a minimum of 12 to 14 full days spread throughout the year, mainly during non-inclement periods. Use of the training area would consist of one structural and four different types of aircraft fires using water as the only suppressive agent. Additional training at the live fire fighting area would include apparatus driver operator training; petroleum, oil, and lubricant (POL) storage tank fire response; basement fire training; high-rise fire fighting; and high angle rescue. Structural fire-fighting training would occur monthly, ARFF training at least twice per year, POL storage tank response annually, and driver training on an as-needed on going basis. At least 50 USAF fire-fighting personnel and 26 COANG fire-fighting personnel would utilize the live fire fighting training area. Private fire departments could utilize the training area after appropriate clearances and scheduling have been conducted; however, these occurrences would be infrequent. An approximately 500-gallon propane holding tank would remain on site for use with the structural fire-fighting trainer. The mobile aircraft trainer would be equipped with a 200-gallon propane holding tank. Additionally, a 7-10 kilowatt generator would be installed on site for power requirements.

As mentioned previously, a water-holding feature would be constructed to catch surface flow from fire fighting training activities. This feature would be the final storage area for water used during fire fighting training activities. Prior to the construction of this feature, a grit chamber connected to a water vault would be installed/constructed. The grit chamber would be used to meet the requirements of post-construction stormwater pollution prevention. The grit chamber would trap the majority of debris carried in the surface flows. Water would then flow through the grit chamber to the water vault, which would store water for reuse. The lined water retention pond would be used to catch overflow from the water vault. Water for reuse in fire-fighting activities could be pumped from either the water vault or the lined retention feature. This retention feature would be either a lined pond of no more 300,000 gallons, where surface flow would be allowed to evaporate, or a 75,000-gallon storage tank.

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Water used during fire-fighting training activities would be brought on site via fire-fighting vehicles. Primarily, the water would be reused during the live fire fighting training exercises. The water conservation/retention pond would be used to store the water between exercises. The pond would be fenced, using standard security fencing, to avoid wildlife entrapment and death in the pond. Additionally, due to the relative closeness of Taxiway M and the airfield, the pond would be constructed with a steep slope to discourage use by migratory waterfowl and shore birds, which could become aircraft wildlife hazards.

The conservation/retention pond is being put in place to recycle and reuse water for fire-fighting training. Additional maintenance on the pond would include management of aquatic vegetation to discourage use by migratory birds. It is not anticipated that the water will be regularly discharged from the pond to the storm sewer system. The majority of water will either be reused or evaporate. The only probable discharges to the storm sewer system would be associated with some standard maintenance procedures, including liner repair and winterization or tank repair, which would require draining the conservation/retention pond. Prior to any discharge, the water would be tested to confirm that it was uncontaminated. During such procedures, water from the pond or storage tank would be handled, tested, and or treated per the applicable regulations prior to discharging to the storm sewer system. Fire-fighting training will be performed using propane as the fuel and water as the fire suppressant. Therefore, no water contamination is anticipated and treatment prior to discharge is not expected to be necessary. Discharges to the storm sewer system will need to comply with the Multi-Sector General Permit (which allows non-stormwater discharge from fire fighting activities and fire hydrant flushings). Because BAFB discharges into the City of Aurora's storm sewer system, coordination with the City of Aurora will also be required to insure compliance with BAFB's USEPA Municipal Separate Storm Sewer System (MS4) (compliance with BAFB's MS4 contributes to ensuring compliance of Aurora's Colorado MS4 permit).

**2.3 ALTERNATIVES TO THE PROPOSED ACTION**

BAFB's General Plan (2002) established a comprehensive and systematic development plan for the base through the year 2020. This General Plan won an architectural and planning award from the American Planning Association. The siting of all construction projects under this EA are compatible with the General Plan. For this reason alternate sitings for these projects are not considered as alternate actions in this EA.

**2.3.1 No Action Alternative**

The no action alternative does not satisfy the purpose and need for the action; however, pursuant to NEPA, the no action alternative has been carried forward as the baseline to which potential impacts of the proposed action alternative can be measured. Under the no action alternative, the live fire-fighting training area would not be constructed. Fire-fighting training activities would continue at locations other than BAFB.

Under this alternative, the fire fighters from BAFB and COANG would be trained to the minimum requirements for ARFF at Peterson AFB. This alternative would not fully meet the purpose and need as described in Section 2.1. Training would be limited to existing training schedules at Peterson AFB, which could leave some BAFB and COANG fire fighters without training for as long as six months. Currently, fire-fighting staff from BAFB and COANG undertake as many as 12 trips per year for training at Peterson AFB. Additionally, BAFB and COANG expend substantial sums both for travel to Peterson AFB and for overtime wages for the fire fighters. Safety concerns associated with traveling on the busy thoroughfare between Denver and Colorado Springs would also be an issue given the distance of greater than 100 miles round-trip. Other safety concerns include deprivation of adequate rest due to the need to schedule fire-fighting training on a day off either after a 72-hour shift or before going onto another 24-hour shift.

### **2.3.2 Alternative 1 – Live Fire-Fighting Training at Denver International Airport**

Under this alternative, the fire fighters from BAFB and COANG would take their live fire fighting training certification courses at Denver International Airport. This alternative would not fully meet the purpose and need as described in Section 2.1. Training would be limited to scheduled trainings, which could leave some BAFB and COANG fire fighters without training for as long as six months. Additionally, BAFB and COANG expend substantial sums for overtime wages for the fire fighters. As mentioned previously, safety concerns with this alternative include deprivation of adequate rest due to the need to schedule fire-fighting training on either a day off after a 72-hour shift or before going onto another 24-hour shift. As such, this alternative has been eliminated from detailed study in this EA.

## **2.4 COMPARISON OF THE ALTERNATIVES**

Table 2-1 provides a summary comparison of the alternatives as they relate to the purpose and need criteria presented in Section 2.1. This table indicates that only the proposed action would meet the established purpose and need. Table 2-2 provides a summary of the environmental consequences to those resources analyzed in detail within this EA associated with implementing those alternatives carried forward for detailed analysis. As demonstrated in Table 2-2, none of the alternatives carried forward for detailed analysis should result in significant impacts to the environment based on set significance thresholds.

**SECTION 2.0**  
**ALTERNATIVES INCLUDING THE PROPOSED ACTION**

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**Table 2-1**  
**Summary Comparison of the Proposed Action and Alternatives**

<b>Purpose and Need Criteria</b>	<b>Proposed Action</b>	<b>No Action</b>	<b>Alternative 1</b>
Provide on-installation access to fire-fighting training activities	YES	NO	NO
Limit the amount of overtime pay expended on fire-fighting training activities	YES	NO	NO
Provide live fire-fighting training as often as needed due to new hires or recertification	YES	NO	NO

**Table 2-2  
Alternatives Comparison Matrix Summary -  
Resources Analyzed in Detail within This EA**

<b>Environmental Attributes (Threshold Criteria)</b>	<b>No Action</b>	<b>Proposed Action</b>
Soils <i>(presence of expansive soils)</i> <i>(cut-and-fill imbalance)</i>	No No	Potentially No
Surface Water Resources and Stormwater <i>(number of surface water features affected)</i> <i>(change in physical or biological water quality parameters)</i> <i>(substantial increase in stormwater flow)</i> <i>(substantial alteration of localized drainage patterns)</i>	0 No No No	0 No No No
Air Quality <i>(increase above de minimis standards)</i>	No	No
Biological Resources <i>(acres of vegetation communities affected)</i> <i>(number of threatened and/or endangered species affected)</i>	0 0	2-5 0
Noise <i>(unacceptable permanent increase above ambient conditions)</i>	No	No
Social or Economic Resources (Including Environmental Justice) <i>(unacceptable change in personal income or employment)</i> <i>(number of minority and/or low-income populations affected)</i>	No 0	No 0
Land Use and Transportation <i>(consistent with adjacent land uses [current and planned])</i> <i>(unacceptable change in level of service)</i>	Yes No	Yes No
Visual Resources <i>(unacceptable change in the general viewshed)</i>	No	No
Public Utilities <i>(unacceptable change in the level of service)</i> <i>(increase in the level of water used)</i>	No No	No Yes
Hazardous Materials and Substances <i>(existing solid/hazardous waste and debris removed, if present)</i>	No	Yes

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**ALTERNATIVES INCLUDING THE PROPOSED ACTION**

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## SECTION 3.0 AFFECTED ENVIRONMENT

This section of the EA provides a description of the existing environment of the proposed project area (see Figure 2-1). The area analyzed in the EA (34.5 acres) is much larger than the actual size required for the proposed action (2 to 5 acres). At this time, the live fire-fighting training area could be sited anywhere within the analyzed area. In accordance with CEQ regulations (§1502.20), this EA incorporates (where applicable) the description of the existing environment as described previously in the H-70 Fuel Storage/Medical Pharmacy EA, dated May 2003, by reference. Environmental resources or attributes excluded from detailed analysis include groundwater resources, wetlands, soils, historic or archeological resources, the ERP, and radon.

### **3.1 RESOURCES ELIMINATED FROM DETAILED ANALYSIS IN THIS ENVIRONMENTAL ASSESSMENT**

#### **3.1.1 Groundwater Resources**

The region of influence (ROI) for this resource would be the aquifers underlying BAFB. BAFB is underlain by aquifers of the Denver Basin aquifer system; specifically, the main underlying aquifers are the Denver aquifer and the Arapahoe aquifer (U.S. Geological Survey [USGS] 1995). The water-bearing layers of these two aquifers are approximately 150 to 175 feet thick (USGS 1995). BAFB has six non-tributary wells; BAFB receives potable water from the City of Aurora. Depth to groundwater is greater than 20 feet below ground surface; therefore, there are no anticipated impacts to this resource area due to implementation of the proposed action or alternative. Additionally, the capture and reuse of water in the water vault and lined conservation pond, would also minimize any potential impacts to groundwater. Since there would be no potential impacts to this resource area, it has been eliminated from detailed analysis in this EA.

#### **3.1.2 Wetlands**

An analysis of the wetlands ROI includes only those wetlands or special aquatic sites located on the installation. A basewide jurisdictional wetlands determination by the U.S. Army Corps of Engineers (USACE) has not been made for BAFB; however, there are no potentially jurisdictional waters of the United States within or adjacent to the proposed site. The nearest potentially jurisdictional special aquatic site (e.g., potentially jurisdictional wetland) is adjacent to Williams Lake, approximately 1.2 miles northeast of the proposed site. Since there are no wetlands located within or adjacent to the proposed site, this resource has been eliminated from detailed analysis in this EA.

**SECTION 3.0**  
**AFFECTED ENVIRONMENT**

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**3.1.3 Historic or Archeological Resources**

The area of potential effect for historic or archeological resources would be limited to the proposed site and immediately adjacent areas; however, there are no known archeological or historical resources on or adjacent to the proposed site. A complete description of installation cultural resources and cultural resources management is provided in the Draft Integrated Cultural Resources Management Plan (BANGB 2000). Additionally, a historic building survey is currently being conducted on BAFB to identify and described historic properties on the base. Since BAFB does not contain any historic or archeological resources within or adjacent to the proposed site, this resource has been eliminated from further study in this EA.

**3.1.4 Environmental Restoration Program**

The ROI for this issue area would be the installation since this is a basewide program. The installation currently has an ERP to handle contaminated soil and groundwater sites. Additionally, two environmental database radius map searches covering the entire installation were performed for the H-70 Fuel Storage Facility/Medical Pharmacy EA dated May 2003, incorporated by reference. The proposed site is located within a known ERP site, the alleged aircraft burial ground, which has been closed. As such, the ERP has been eliminated from detailed analysis in this EA.

**3.1.5 Radon**

The ROI for this issue would be a comparison of the existing radon levels within Arapahoe County and the potential levels at the proposed site. Arapahoe County is in USEPA Zone 1 for radon, which lists the average indoor radon level as greater than 4.0 pico-Curies per liter (pCi/l) (Environmental Data Resources, Inc. [EDR] 2002). Since no permanently staffed facilities would be constructed and the majority of activities would be conducted outdoors, there would not be the potential for prolonged radon exposure; as such, this issue has been eliminated from further study in this EA.

**3.2 SOILS**

Due to geographic variability and historic land uses, the ROI for this resource area is confined to similar soil associations/types on the installation. The soil type listed as occurring at the proposed site is rock outcrop. In the rock outcrops, soils have been stripped so that interbedded shale and sandstone are exposed at the surface. Shale is dominant; it varies in color and texture, is hard and platy, and resists water penetration. The sandstone is very hard and coarse grained. Soil adjacent to the proposed site is Fondis silt loam, 1 to 3 percent slopes, and Fondis silt loam, 3 to 5 percent slopes. Fondis silt loam (1 to 3 percent slopes) soils occur on uplands. The surface layer is approximately 7 inches thick and is abruptly delineated over the subsoil. The upper part

of the subsoil is dense clay approximately 20 inches thick, and the lower portion is layers of yellowish-brown clay loam. Depth to lime in this soil is approximately 14 to 20 inches. Fondis silt loam (3 to 5 percent slopes) is also located on uplands. The surface layer of this soil type is approximately 6 inches and rests abruptly on the subsoil, which is dense clay approximately 18 inches thick. Depth to lime is shallower than in Fondis silt loam, 1 to 3 percent slopes. Both Fondis silt loams contain high swelling clays and salts below a depth of 8 inches. These soil types are considered to have severe limitations for the foundations of small buildings and leaching fields.

### **3.3 SURFACE WATER RESOURCES AND STORMWATER QUALITY**

Primary activities to control surface water use and quality are normally undertaken at the sub-watershed to watershed level, making water quality a primarily local concern. As such, the ROI for this resource area is limited to the sub-watershed containing the proposed site and adjacent areas.

#### **3.3.1 Surface Water and Potentially Jurisdictional Waters**

The South Platte River, located approximately 15 miles northwest of BAFB, is the primary surface water drainage in the region. Several smaller intermittent tributaries within or adjacent to BAFB feed this drainage system. Toll Gate Creek and an old tributary of Murphy Creek are the only named tributaries present on the installation. These waterways are intermittent in the vicinity of, and on, BAFB. In general, drainage flows in a northwest direction. All drainage from the northern section of BAFB discharges into Murphy Creek and Sand Creek to the north and east of the base; drainage from the southern and western sections of the base discharges into Toll Gate Creek (BANGB 1999).

There are no surface water features within or adjacent to the project site. The nearest surface water feature to the proposed site is a tributary to Murphy Creek, which is located outside the base, 500 feet east of the proposed site. This waterway is fully supportive of agricultural and recreational activities and is not currently threatened or impaired (Table 3-1).

#### **3.3.2 Stormwater and Sanitary Sewer (Point Source Discharges)**

The northern 19 acres of the proposed site are in an area where surface water runoff drains into BAFB's engineered stormwater drainage system. Runoff is ultimately discharged into Murphy Creek at outfalls 2,000 feet north of the proposed site at the end of the east/west taxiway. The remainder of the proposed site (approximately 15.5 acres) is completely outside developed portions of the installation. The remaining acreage is not

**SECTION 3.0  
AFFECTED ENVIRONMENT**

**Table 3-1  
Water Quality Status and Designation of Murphy Creek and Tributaries**

<b>State Designated Use</b>	<b>Attainment Status</b>	<b>Description</b>	<b>Threatened</b>	<b>Percent Impaired</b>	<b>Date of Determination</b>
Agriculture	Fully Supporting	These surface waters are suitable or intended to become suitable for irrigation of crops usually grown in Colorado and are not hazardous as drinking water for livestock.	No	0	02 March 1999
Aquatic Life Warm-Water Class 2	Fully Supporting	These are waters that are capable of sustaining a wide variety of warm-water biota, including sensitive species, due to physical habitat, water flows or levels, or uncorrectable water-quality conditions that result in substantial impairment of the abundance and diversity of species.	No	0	02 March 1999
Recreation Secondary Contact	Fully Supporting	These surface waters are suitable or intended to become suitable for recreational uses on or about the water which are not included in the primary contact subcategory, including but not limited to fishing and other streamside or lakeside recreation.	No	0	02 March 1999

Source: USEPA 2002a

surrounded by any engineered street drainage systems, and little to no stormwater discharges are present. A breakdown of the estimated existing water transport from the proposed site is found in Table 3-2.

BAFB protects its watershed through compliance with a number of federal, state, local, and USAF environmental regulations that require the installation to have detailed spill control and response procedures and to implement stormwater pollution prevention BMPs. BAFB has developed and maintains in-place specific stormwater protection measures including a SWPPP, a spill response and countermeasures plan, and a hazardous materials management plan.

**Table 3-2**  
**Existing Water Transport Conditions (millions of gallons/year)**

	Area (acres)	Precipitation	Storm- water Flow	Evapo- transpiration	Runoff	Shallow Infiltration	Deep Infiltration
Impervious Surfaces In Stormwater Collection Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pervious Surfaces In Stormwater Collection Area	19.0	8.2	0.8	3.3	0.8	2.0	2.0
Pervious Surfaces Outside Stormwater Collection Area	15.5	6.7	0.0	2.7	0.7	1.7	1.7
<b>Total</b>		14.8	0.8	5.9	1.5	3.7	3.7

### 3.3.3 Surface Runoff and Groundwater (Nonpoint Source Discharges)

The primary nonpoint source discharge of concern is surface water runoff and subsurface transport of materials associated with landscaping management activities adjacent to the proposed site. Contaminants of concern include displaced soils, fertilizers, and pesticides. The proposed site is not included in BAFB landscaping activities; therefore, there are no anticipated contaminants of concern being discharged at this location. Any water from the proposed site not introduced to the stormwater system would discharge in the form of surface water runoff and groundwater into Murphy Creek. BAFB has in-place integrated pest management and fertilizer reduction efforts to actively minimize these types of nonpoint source discharges.

### 3.3.4 100-Year Floodplain

The ROI for this resource area includes the sub-watersheds along the eastern portion of the installation near the proposed site. Williams Lake, which is more than 2,000 feet northwest of the proposed site, is the closest on-installation surface water feature. A tributary to Murphy Creek, which is located east of BAFB, is the closest surface water feature to the proposed site. No floodplain maps have been published for any surface water bodies on BAFB, including Murphy Creek (Federal Emergency Management Agency [FEMA] 2003).

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**3.4 AIR QUALITY**

Given the regional nature of air quality, the ROI for this resource area is the entire air quality control region (AQCR), that contains BAFB. BAFB is located in Arapahoe County, Colorado, within the Metropolitan Denver AQCR 36. The Denver metropolitan area was formerly designated by the USEPA as being in serious nonattainment for carbon monoxide (CO), nonattainment for the 1-hour ozone (O<sub>3</sub>) standard, and moderate nonattainment for particulate matter less than 10 microns (PM<sub>10</sub>); however, the region is currently redesignated as being in attainment/maintenance status for CO, O<sub>3</sub>, and PM<sub>10</sub> (Air Pollution Control Division [APCD] 2002). The Denver metropolitan area exceeded both the 1-hour and the 8-hour O<sub>3</sub> standards during the summer of 2003. The region has entered into an O<sub>3</sub> Early Action compact with the USEPA and has committed to an extensive ozone modeling effort and early implementation of control measures, as needed, to ensure attainment of the 8-hour O<sub>3</sub> standard by 2007.

BAFB has been identified as a major source of criteria pollutants because it has the potential to emit or has actual emissions of more than 100 tons of any single criteria pollutant. BAFB is currently identified by the APCD as a major Title V source of the PM<sub>10</sub> precursors oxides of nitrogen (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>) and is subject to Title V Operating Permit No. 950PAR118. This permit was originally issued on 28 August 1997, most recently reissued as of 01 July 2002, and expires 30 June 2007 (BAFB 2001). In July 2002, the CDPHE performed an inspection of stationary source emission units and determined that BAFB was in compliance with the Title V permit.

**3.5 BIOLOGICAL RESOURCES**

Biological resources present unique problems when trying to identify ROIs. Wildlife species are often migratory or transients and occupy varying locations throughout the year. While stable resources, such as vegetation communities, can normally be defined within a distinct area based on moisture regimes, soil types, and past activities, wildlife resources could be defined based on territorial ranges, which could be much broader. In this EA, the ROI is the entire installation due to the relatively large amount of acreage in comparison to other adjacent properties and its clearly defined boundaries separating areas from adjacent properties. Wildlife resources are also specifically identified for the proposed site and adjacent areas.

**3.5.1 Vegetation Communities**

In general, the mixed grass-blue grama/western wheatgrass prairies are the most diverse plant habitats and occur primarily on upland areas; the crested wheatgrass prairies are more uniform and have few other species associated with them (BAFB 2000). The seeded crested wheatgrass prairies vegetation type is the largest mapped vegetation type on BAFB and is the type mapped for the proposed site. Additionally, a single row of

windbreak trees has been planted adjacent to the eastern and southern boundaries of the proposed site.

### **3.5.2 Threatened and/or Endangered Species**

Federal and state-listed species, including candidate and species of concern, that have been observed at BAFB include bald eagle (*Haliaeetus leucocephalus*), western burrowing owl, and black-tailed prairie dog. Bald eagles would be considered transient, occasional visitors to BAFB, while BAFB maintains resident populations of both burrowing owls and black-tailed prairie dogs. Although these species have been observed within the borders of BAFB, there have been no observations of these species or their habitat at the proposed site. Black-tailed prairie dogs and burrowing owls could be located in areas adjacent to the proposed site and could migrate to this area. It is doubtful that any other protected species would occur on BAFB other than as migrants or transient visitors (BAFB 2000; Fayette et al. 2000).

## **3.6 NOISE**

Noise conditions at BAFB can be clearly defined within the noise contours based on the movement of sound waves. The ROI for this resource area is the noise contour containing the proposed site and immediately adjacent areas. Existing noise conditions on BAFB are predominantly influenced by the operational activities of aircraft and by the test run-ups of aircraft engines. Based on the Air Installation Compatible Use Zone (AICUZ) noise contours, the expected day-night sound level (DNL) for the proposed project and surrounding locations is approximately 65 A-weighted decibels (dBA). The proposed project site would fall within this general description, given the setting and environment. There are no residential areas, schools, churches, or hospitals adjacent to the proposed project site.

## **3.7 SOCIAL OR ECONOMIC RESOURCES (INCLUDING ENVIRONMENTAL JUSTICE)**

The socioeconomic conditions of the ROI are similar to those described in the H-70 Fuel Storage Facility/Medical Pharmacy EA, dated May 2003, incorporated by reference. The ROI for this issue area is defined as U.S. Census Bureau (USCB) 2000 Census Tract 71.02, Block Group 9, Arapahoe County, Colorado (USCB 2002). For comparison purposes, in the 1990 Census, BAFB was located in USCB Census Tract 71, Block Group 1 (USCB 1993).

### **3.8 LAND USE AND TRANSPORTATION**

The ROI for land use includes the current and planned land uses as described in the BAFB General Plan (BAFB 2002b) for the proposed site, as well as the adjacent areas. The ROI for transportation is the installation transportation networks.

#### **3.8.1 Land Use**

Current and planned land uses are similar to those described in the H-70 Fuel Storage Facility/Medical Pharmacy EA, dated May 2003, incorporated by reference. Current land uses near the proposed site include airfield, airfield pavement, and open space. Planned installation land uses near the proposed site include airfield, airfield pavement, and industrial. The proposed site is outside the airfield safety zone and the explosive safety zones for Buildings 1621, 1624, 1622, 1623, 1629, 1628, 1627, and 1626. BAFB is surrounded by residential areas to the southwest, the Plains Conservation Center (Figure 3-1) to the south, agricultural and industrial areas to the east, and commercial/retail areas to the north and northwest. Adjacent land uses outside the proposed site are currently zoned A-1 (agricultural) by Arapahoe County (2001). Since the proposed site is near an out-parcel that is surrounded on three sides by BAFB, adjacent land uses are considered. The out-parcel and adjacent lands are located within the jurisdiction of Arapahoe County; however, plans with the City of Aurora show this portion as part of the planned E-470 mixed-use development, E-470 Buckley Research & Development Area (City of Aurora 2003). Planned land uses for the area include employment centers as part of the City of Aurora E-470 plan or as a potential conservation area (Arapahoe County 2001).

#### **3.8.2 Transportation**

The transportation system is similar to that previously described in the H-70 Fuel Storage Facility/Medical Pharmacy EA, dated May 2003, incorporated by reference. Access to BAFB is available via gates at the intersections of Aspen Avenue and Sixth Avenue (North Gate) and Aspen Avenue and Mississippi Avenue (South Gate). Of the traffic entering and departing the installation, 67 percent uses the North Gate (BAFB 2002b). Aspen Avenue is a 4-lane, divided street running north and south from the North Gate to A-Basin Street, from this intersection southward, Aspen Avenue becomes a 2-lane divided roadway to the South Gate. All vehicles entering and departing the installation must use Aspen Avenue. Breckenridge and Steamboat avenues distribute traffic from Aspen Avenue to the major industrial and flightline areas (BAFB 2002b). Access to the proposed site would be Silver Creek Street via Steamboat Avenue.

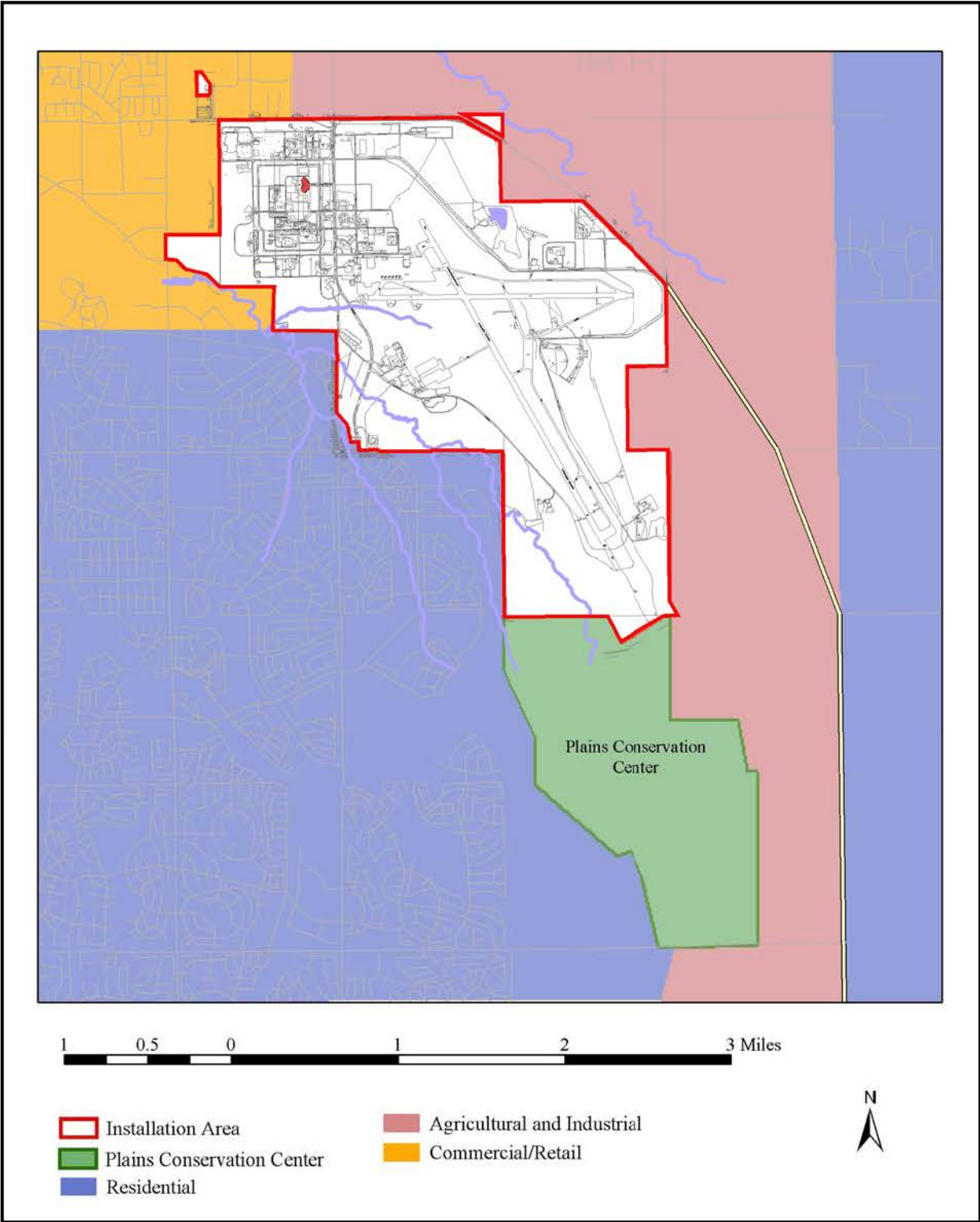


Figure 3-1. Broad-scale Land Uses Adjacent to BAFB

### **3.9 VISUAL RESOURCES**

#### **3.9.1 Regulatory Requirements**

Visual resources are often defined as the visible features on a landscape, such as land, water, vegetation, animals, structures, and other unique or special features. The viewshed of many visual resource areas include the natural scenic lands within a defined visual boundary as viewed from public corridors, such as public roadways, public parks, and wilderness areas. Visual resources can be classified into two distinct areas, natural settings (i.e. national park) and man-made features (i.e., National Historic Landmark District). Regulatory authority to protect visual resources on federal lands is found in the Federal Land Policy and Management Act of 1975 (43 USC §1701) which states that, "...the public lands be managed in a manner that will protect the quality of the ... scenic ... values..." Additional visual resources protection can be found in the USEPA Regional Haze Rule that protects the scenic vistas of 156 national parks and wilderness areas from haze-producing activities, which may impair the scenic views of these areas. The ROI for this resource area is the proposed site and the immediately adjacent land uses.

#### **3.9.2 Existing Conditions**

There are no public roadways adjacent to the proposed site, thereby limiting the potential viewshed of the proposed site and adjacent areas. The closest public roadway is an extension of Picadilly Road, which stops a short distance south of the intersection of State Highway 30 and Picadilly Road. Land uses adjacent to the proposed site include a farmstead with residence and associated agricultural lands (Figure 3-2). The proposed site is currently an undeveloped crested wheatgrass prairie with wind row plantings along the installation boundary to the south of the proposed site. Agricultural fields and open space dominate the surrounding areas. Directly adjacent to BAFB's southern boundary is the Plains Conservation Center, which is a locally designated open space area; however, it is not a nationally designated Class I wilderness management area.

Colorado currently has 12 Class I national parks and wilderness areas, as defined in the USEPA Regional Haze Rule; seven national parks and wilderness areas are within 150 miles of the proposed site (Figure 3-3).

### **3.10 PUBLIC UTILITIES**

Public utilities are similar to those described in the H-70 Fuel Storage Facility/Medical Pharmacy EA, dated May 2003, incorporated by reference. The ROI for this issue area includes the installation utility infrastructure and the adjoining public utility systems.

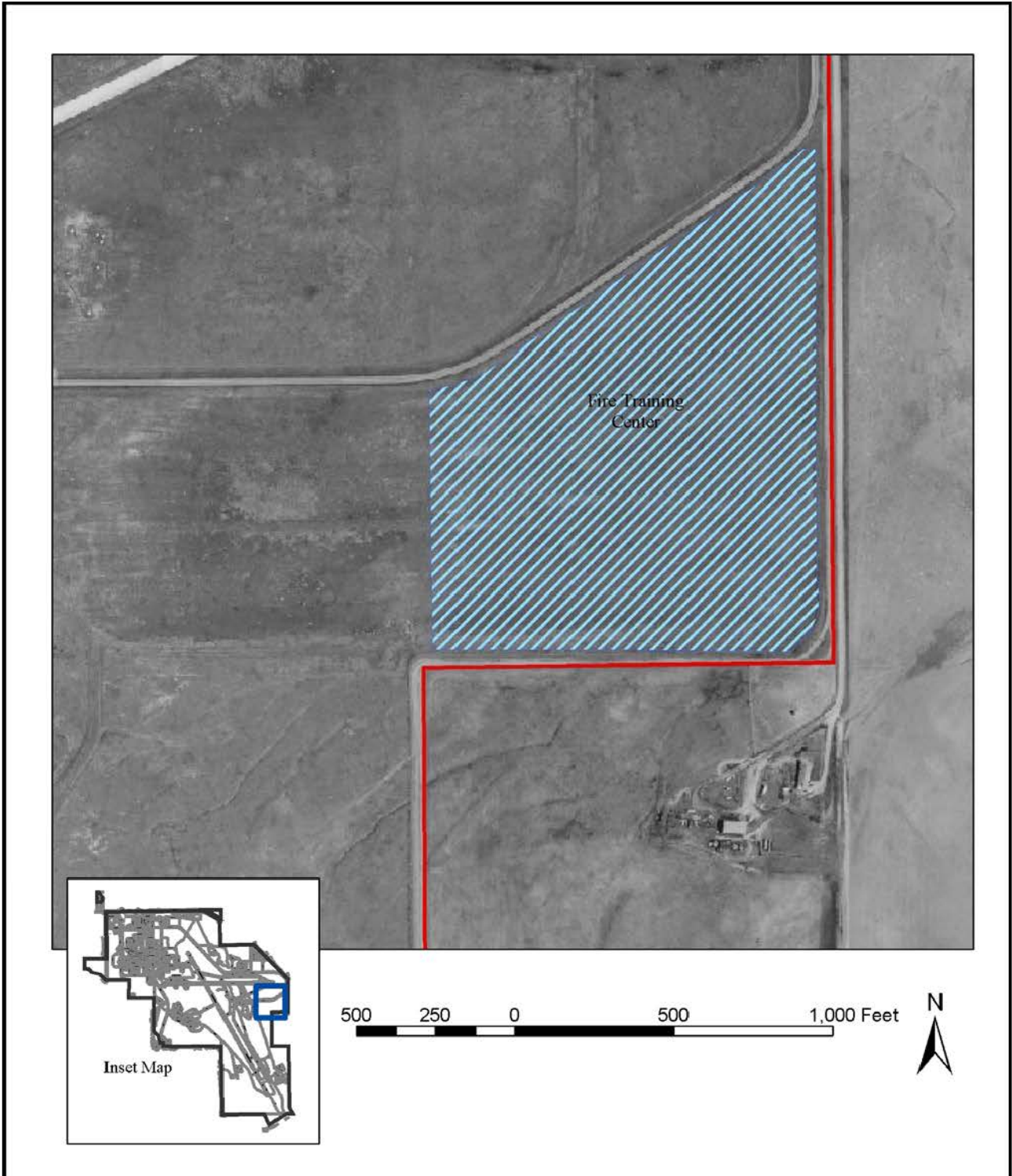
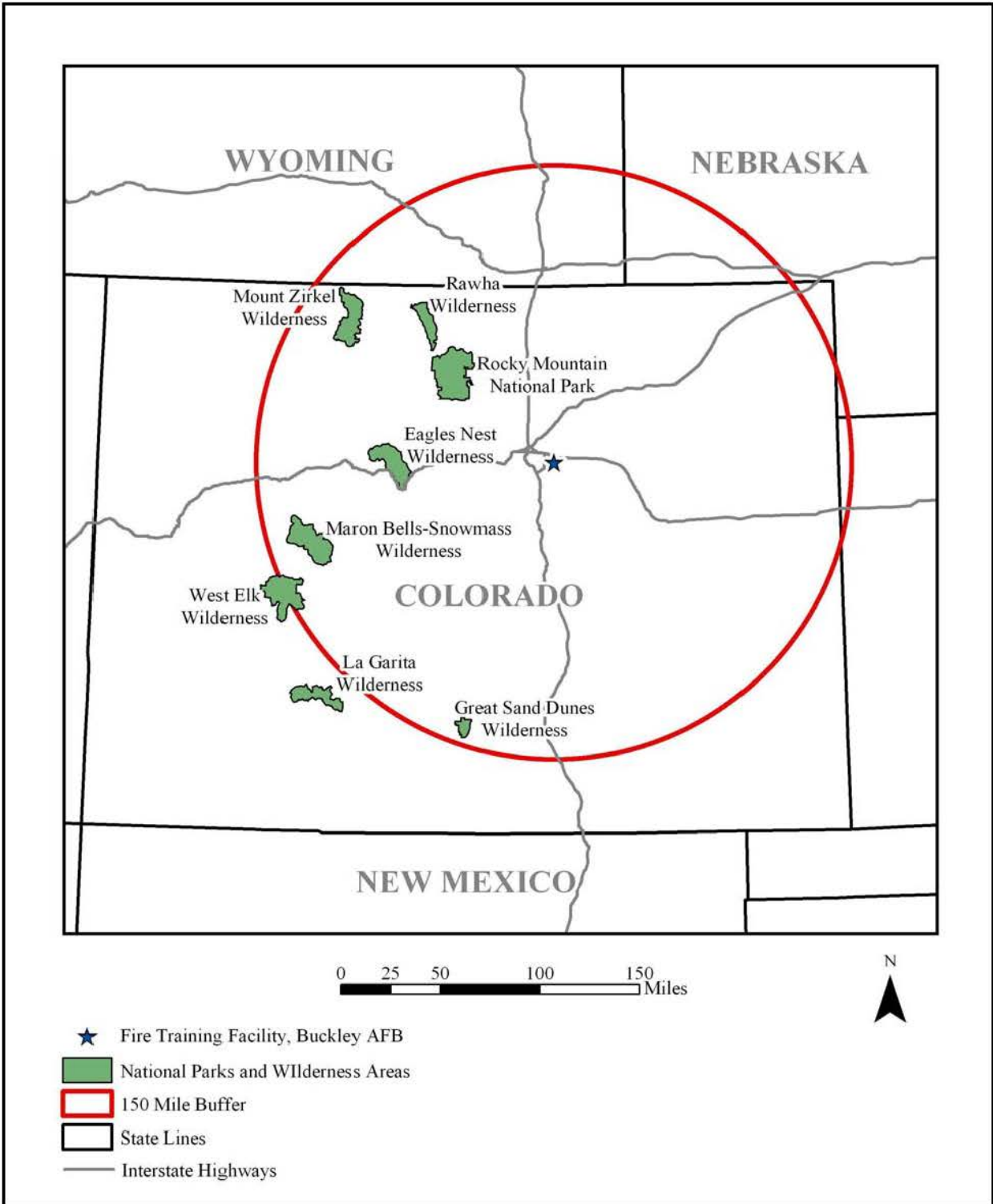


Figure 3-2. Adjacent Land Uses to the Proposed Live Fire-Fighting Training Area

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**Figure 3-3. Class I National Parks and Wilderness Areas within 150 Miles of BAFB**

BAFB wastewater is discharged into the Toll Gate Creek trunk sewer, which is a part of the City of Aurora wastewater collection system (USAF 1998). There are two wastewater outflows on BAFB, one servicing the northern portion of the installation and one servicing the southern portion of the installation. The proposed site would be within the northern service area; however, it is outside of the existing sanitary sewer system. The wastewater is treated at the Metro Wastewater Reclamation District wastewater treatment plant, which discharges treated effluent to the South Platte River (USAF 1998). Monitored wastewater discharge points revealed that wastewater discharge levels for BAFB range from 3.56 million gallons for months during the winter, spring, and fall to 9.8 million gallons for the summer months, such as July.

### **3.11 HAZARDOUS MATERIALS AND SUBSTANCES**

The ROI for this issue area contains the proposed site and immediately adjacent areas. There is a potential for asbestos within areas with known World War II-era development. The asbestos could be present as (1) insulation on abandoned buried steamlines, (2) abandoned buried transit water lines, and (3) debris in surface and/or near surface soils remnant from building demolition. However, the proposed site has not been disturbed by past construction or demolition activities associated with World War II-era facilities. Therefore, only a low probability exists that ACMs could be encountered during ground-disturbing activities.

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## SECTION 4.0 ENVIRONMENTAL CONSEQUENCES

This section of the EA forms the basis for the comparison of the alternatives identified in Section 2.0. As previously mentioned, the proposed site is located south of Silver Creek Street, southeast of Taxiway M. The discussion presented includes the potential environmental impacts from implementing the proposed action or alternative. Table 4-1 provides a summary of the environmental consequences associated with implementing the proposed action or alternative carried forward for detailed analysis. As demonstrated in Table 4-1, neither the proposed action nor the no action alternative would result in significant impacts to the natural and human environments.

Environmental effects within this EA are analyzed at short-term, long-term, and cumulative levels. According to the CEQ (1997b) in *Considering Cumulative Effects Under the National Environmental Policy Act*, "...Only by reevaluating and modifying alternatives in light of the project cumulative effects can adverse consequences be effectively avoided or minimized." Cumulative effects should be considered in the scoping process of proposed actions to avoid long-term damage to the natural and man-made environments.

Implementing the proposed action or alternative considered in this EA could potentially result in cumulative impacts. Cumulative impacts can become an important issue when the chosen activity (i.e., construction of a live fire-fighting training area) interacts either directly or indirectly with other unrelated actions (past, present, or reasonably foreseeable future). Construction activities scheduled through FY 05 would increase the amount of developed area by approximately 883,000 SF in new construction, depending on construction scheduling. Total developed areas on BAFB would equal approximately 5.1 million SF by the end of FY 05, if all projects were completed within this period (BAFB 2002b). If all projects are constructed according to current schedules, there would be a total increase of approximately 21 percent in developed surfaces on BAFB over the next four years. A full analysis of the cumulative impacts of all construction activities is currently being undertaken by BAFB as part of implementing the Capital Improvements EA, which analyzes all projects described within the General Plan, and therefore only cumulative impacts due to the proposed construction and operation activities of the live fire-fighting training area are identified here. The construction of the live fire-fighting training area would involve development of 2 to 5 acres or approximately less than 1.0 percent of the total planned development activities on BAFB. This construction activity would increase the amount of impervious and built surfaces within the installation; however, construction and operational BMPs would reduce or avoid any immediate adverse impacts to the natural and man-made environments at BAFB.

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**Table 4-1**  
**Alternatives Comparison Matrix Summary – All Resources Identified**

<b>Environmental Attributes (Threshold Criteria)</b>	<b>No Action</b>	<b>Proposed Action</b>
Groundwater Resources <i>(shallow groundwater resources)</i> <i>(depth to groundwater exceeds proposed excavation depth)</i>	No Yes	No Yes
Wetlands <i>(wetlands present)</i>	No	No
100-Year Floodplain <i>(within the 100-year floodplain)</i>	No	No
Historic or Archeological Resources <i>(number of eligible or potentially eligible sites affected)</i>	0	0
Environmental Restoration Program <i>(ERP sites present)</i>	No	Yes
Radon <i>(building design to reduce/prevent radon exposure)</i>	Yes	Yes
Soils <i>(presence of expansive soils)</i> <i>(cut-and-fill activities not balanced)</i>	No No	Potentially No
Surface Water Resources and Stormwater <i>(number of surface water features affected)</i> <i>(change in physical or biological water quality parameters)</i> <i>(substantial increase in stormwater flow)</i> <i>(substantial alteration of localized drainage patterns)</i>	0 No No No	0 No No No
Air Quality <i>(increase above de minimis standards)</i>	No	No
Biological Resources <i>(acres of vegetation communities affected)</i> <i>(number of threatened and/or endangered species affected)</i>	0 0	2-5 0
Noise <i>(unacceptable permanent increase above ambient conditions)</i>	No	No
Social or Economic Resources (Including Environmental Justice) <i>(unacceptable change in personal income or employment)</i> <i>(number of minority and/or low-income populations affected)</i>	No 0	No 0
Land Use and Transportation <i>(consistent with adjacent land uses [current and planned])</i> <i>(unacceptable change in level of service)</i>	Yes No	Yes No
Visual Resources <i>(unacceptable change in the general viewshed)</i>	No	No
Public Utilities <i>(unacceptable change in the level of service)</i> <i>(increase the level of water used)</i>	No No	No Yes
Hazardous Materials and Substances <i>(existing solid/hazardous waste and debris removed, if present)</i>	No	Yes

Certain resource areas and issues were eliminated from detailed analysis in this EA due to the absence of the resources within or adjacent to the proposed site or due to previous impacts. Since these areas would not be impacted either in the short or long term through implementing the proposed action or alternative or selecting the no action alternative, it is unlikely that any cumulative impacts would occur. Those resource areas or issues that were eliminated included groundwater resources, wetlands, soils, historic or

archeological resources, the ERP, and radon. Other resource areas, including surface water resources and stormwater, air quality, biological resources, noise, social or economic resources, land use and transportation, public utilities, and hazardous materials and substances, were analyzed in detail and are discussed in the following sections.

#### **4.1 RESOURCES ELIMINATED FROM DETAILED ANALYSIS IN THIS ENVIRONMENTAL ASSESSMENT**

##### **4.1.1 Groundwater Resources**

As mentioned previously, depth to groundwater is greater than 20 feet below ground surface; therefore, groundwater would not be impacted by implementation of the proposed action or selection of the no action alternative. Since there would be no impacts to this resource area, it has been eliminated from detailed analysis in this EA.

##### **4.1.2 Wetlands**

As mentioned previously, there are no wetlands located within or adjacent to the proposed site. Therefore this resource area has been eliminated from detailed analysis in this EA.

##### **4.1.3 Historic or Archeological Resources**

Since there are no known archeological or historical resources on BAFB, implementing the proposed action or selecting the no action alternative would not adversely impact this resource area. A description of installation cultural resources and cultural resources management is provided in the Draft Final Integrated Cultural Resources Management Plan (BANGB 2000).

##### **4.1.4 Environmental Restoration Program**

As mentioned previously, the proposed site is located within a known ERP site, the alleged aircraft burial ground. This site had been previously closed and the ERP has been eliminated from detailed analysis in this EA.

##### **4.1.5 Radon**

Since no permanently staffed facilities would be constructed under the proposed action and the majority of activities would be conducted outdoors, there would not be the potential for prolonged radon exposure; as such, this issue has been eliminated from further study in this EA.

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**ENVIRONMENTAL CONSEQUENCES**

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**4.2 SOILS**

Impacts due to the presence of soil properties that make certain uses incompatible could arise through the implementation of the proposed action. Additionally, soil resources could be removed or imported in large quantities, which would impact the natural soil properties of the site. Potential effects due to soil resources are quantified in this EA by the presence or absence of expansive soils and by an imbalance in cut-and-fill activities. Due to geographic variability and historic land uses, the ROI for this resource area is confined to similar soil associations/types on the installation.

**4.2.1 No Action Alternative**

Selecting the no action alternative would not result in impacts from or on soil resources since no construction activities would occur. Since fire-fighting training activities would continue at Peterson AFB, there would be no ground-disturbing activities occurring at BAFB in association with this action.

**4.2.2 Proposed Action Alternative**

Implementing the proposed action would not result in significant impacts from or on soil resources. As mentioned previously in Section 2.2.1, a geotechnical analysis would be performed to identify the presence of expansive soils, prior to any construction activities. If expansive soils are present at the proposed site, engineering controls to stabilize the soils would be implemented prior to the construction of any concrete pads. Since soils have already been removed through natural processes, implementing the proposed action would not cause any further impacts to the soils resources within or immediately adjacent to the proposed site.

**4.2.3 Cumulative Impacts**

Implementing the proposed action would not result in adverse cumulative impacts from or on soil resources. As mentioned, soil testing would be undertaken prior to any construction activities. If unsuitable soils are identified, they would be treated using standard engineering techniques to reduce the limitations of the soil. Through these activities, the shrink-swell potential of these soils would be reduced, thereby reducing the future likelihood of foundation/slab damage.

**4.3 SURFACE WATER RESOURCES AND STORMWATER QUALITY**

Implementing the proposed action could result in the disturbance of, or physical changes in, localized surface water features and/or floodplains due to changes in surface water flows and from point and nonpoint source discharges. Point source and nonpoint source discharges are quantified in terms of land use area and in stormwater and non-stormwater

flow before, during, and after construction activities. Potential effects to surface water resources are quantified in this EA by acreage and/or linear distance of surface waters affected and/or by a rise in the level of physical and biological parameters as defined by the CDPHE. Significance thresholds include the creation of excess stormwater runoff that would exceed the capacity of existing or planned stormwater drainage systems, or that would result in flooding either on site or off site and substantial alteration of localized drainage patterns. The ROI for this resource area includes the sub-watershed along the western portion of the installation adjacent to the proposed site.

#### **4.3.1 No Action Alternative**

Selecting the no action alternative would result in no impacts to hydrologic resources. Since there would be no construction activities occurring, hydrologic resources would remain as described in Section 3.3.

#### **4.3.2 Proposed Action Alternative**

Implementing the proposed action would not result in significant impacts to surface water resources or stormwater runoff/management. Small changes in stormwater, surface water, and groundwater movement would be expected. As discussed earlier, stormwater BMPs would be implemented to reduce the potential for short-term soil erosion and contaminated stormwater flows. Any hazardous wastes would be disposed of per federal, state, and local laws and regulations. Additionally, design of the facility would include appropriate spill prevention and containment features to reduce the long-term potential for material loss from the site during operational activities.

##### **4.3.2.1 Surface Water and Potentially Jurisdictional Waters**

Implementing the proposed action would reduce the annual transpiration and infiltration near the proposed site by an estimated 400,000 gallons (1.1 acre feet per year). This, in turn, would increase stormwater flows by an equivalent 400,000 gallons (1.1 acre feet per year) (Table 4-2) to be discharged into Murphy Creek at the associated outfall location. This is equivalent to an average increase in stormwater flow of 0.0015 cubic foot per second at the associated outfalls. Although small changes in annual flow would occur, the proposed action would not alter physical characteristics, including course, channel width, slope, soil characteristics, sediment profile, or flow direction of any of the surface water or potentially jurisdictional waters near the proposed live fire-fighting training area. Surface waters would remain as described in Section 3.3.

##### **4.3.2.2 Stormwater and Sanitary Sewer (Point Source Discharges)**

During construction activities, no change in stormwater flow is anticipated. Regular inspection and maintenance of stormwater collection points, such as catch

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**Table 4-2**  
**Water Transport Conditions Before and After**  
**Implementation of the Proposed Action (millions of gallons/year)**

	Area (acres)	Precipitation	Stormwater Flow	Evapo- transpiration	Runoff	Shallow Infiltration	Deep Infiltration
		millions of gallons/year					
Prior to Implementation							
Pervious Surfaces within SWCS	19.0	8.2	0.8	3.3	0.0	2.0	2.0
Pervious Surfaces outside SWCS	15.5	6.7	0.0	2.7	0.7	1.7	1.7
<b>Total</b>	<b>34.5</b>	<b>14.9</b>	<b>0.8</b>	<b>6.0</b>	<b>0.7</b>	<b>3.7</b>	<b>3.7</b>
After Implementation							
Impervious Surfaces in SWCS	0.9	0.4	0.4	0.0	0.0	0.0	0.0
Pervious Surfaces in SWCS	18.1	7.8	0.8	3.1	0.0	1.9	1.9
Pervious Surfaces outside SWCS	15.5	6.7	0.0	2.7	0.7	1.7	1.7
<b>Total</b>	<b>34.5</b>	<b>14.9</b>	<b>1.2</b>	<b>5.8</b>	<b>0.7</b>	<b>3.6</b>	<b>3.6</b>
<b>Change</b>	<b>0.0</b>	<b>0.0</b>	<b>0.4</b>	<b>(0.2)</b>	<b>0.0</b>	<b>(0.1)</b>	<b>(0.1)</b>

SWCS =stormwater collection system

basins, would ensure containment of construction debris, displaced silt, and fuel, oil, grease, and coolants from construction equipment. As discussed earlier, in accordance with the NPDES and USEPA requirements, coverage under the USEPA Construction General Permit would be obtained and a site-specific SWPPP in accordance with the proposed basewide SWPPP would be implemented to reduce the potential for soil erosion and contaminated stormwater and surface water flows due to construction activities.

After the construction and installation activities have concluded, there would be a slight increase in stormwater collected, managed, and discharged due to the new structures and the increase in impervious surfaces. As mentioned previously, 400,000 gallons (1.1 acre feet per year) of precipitation previously lost to transpiration or soil infiltration would be converted to stormwater flow on an annual basis (see Table 4-2). The stormwater system would be upgraded, as necessary, to support the proposed action and other planned activities on BAFB. This additional stormwater, without changes in operations, would constitute a proportional decrease in concentrations of contaminants of concern in discharged stormwater at the associated outfalls due to increased dilution through greater stormwater flows. Active BMPs and collection and management of these additional stormwater flows would minimize any chance for increased transport of contaminants into local waterways.

As mentioned previously, water used during fire-fighting training activities would be ultimately captured within the retention feature, thereby minimizing any surface flows from training activities being collected within the stormwater system. Water from the retention pond would be reused through the water vault or directly pumped into the fire vehicles. Water remaining in the pond would be allowed to evaporate or would be reutilized during additional training activities.

**4.3.2.3 Surface Runoff and Groundwater (Nonpoint Source Discharges)**

Since erosion-controlling BMPs would be in place as part of the proposed action implementation, increased siltation due to transport of disturbed soils would not be expected (Table 4-3). Additionally, the BMPs would reduce the potential for small quantities of construction equipment fluids to be transported in surface runoff or to infiltrate the subsurface environment. All hazardous materials associated with construction activities would be handled according to federal, state, and local guidelines, and all hazardous wastes would be disposed of at an approved landfill to minimize the potential for surface or groundwater contamination.

**Table 4-3  
Estimated Undeveloped, Open Ground, and Developed  
Nonpoint Source Discharges during Different Stages of the Proposed Action**

	Nonpoint Source Discharge (millions of gallons/year <sup>*</sup> )			
	Undeveloped	Open Ground	Developed and Maintained	Converted to Stormwater
Existing Conditions	14.8	0.0	0.0	0.0
Conditions During Construction	14.0	0.8	0.0	0.0
Conditions After Construction	14.0	0.0	0.4	0.4

<sup>\*</sup>Based on the long-term average annual precipitation of 16 inches per year

At the conclusion of construction activities, the effective area of landscaped and maintained surfaces would increase slightly on BAFB. Nonpoint source discharge such as surface water runoff and subsurface transport of materials associated with landscaping management activities would proportionally increase. The subsequent collection of additional stormwater would reduce the concentrations of surface water and groundwater transport and discharge of many potential water contaminants, including silts, fuel, oil, grease, and coolant (see Table 4-3).

**4.3.2.4 100-Year Floodplain**

Implementing the proposed action would create neither on- or off-site flooding nor any substantial alteration of localized drainage patterns. Estimated peak stormwater flow rates for a 10-, 25-, 50-, and 100-year storm event with durations of 2 and 24 hours are

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listed in Table 4-4. Although there would be no anticipated change to the 100-year floodplain, the potential for localized on-base flooding during a significant precipitation event would be monitored.

**Table 4-4**  
**Peak Stormwater Flows for the Proposed Action**  
**during 10-, 25-, 50-, and 100-Year Storm Events**

<b>Storm Frequency (years)</b>	<b>Duration (hours)</b>	<b>Peak Intensity (in/hr)</b>	<b>Flow Rates (ft<sup>3</sup>/s)</b>
10	2	0.90	0.80
10	24	0.08	0.08
25	2	1.06	1.00
25	24	0.11	0.10
50	2	1.13	1.07
50	24	0.11	0.10
100	2	1.44	1.36
100	24	0.14	0.14

in/hr = inches per hour  
ft<sup>3</sup>/s = cubic feet per second

### **4.3.3 Cumulative Impacts**

There would be no significant cumulative impacts to hydrologic resources due to implementing the proposed action or selecting the no action alternative. However, there would be more stormwater discharged, collected, and managed due to the increase in impermeable surfaces. Estimated average annual stormwater flows are listed in Table 4-5. Active BMPs and collection and management of these additional surface waters as implemented through the proposed action would minimize any chance for increased discharge concentrations.

Regular inspection and maintenance of stormwater collection points, such as catch basins, would ensure containment of construction debris, displaced silt, and fuel, oil, grease, and coolants from construction equipment. After construction completion, the subsequent collection and management of stormwater would lead to a lowered transport and discharge of many potential water contaminants, including fertilizers, pesticides, fuel, oil, grease, and coolant.

When implementation of the proposed action or selection of the no action alternative is combined with previous and other foreseeable future activities, flooding potential could be increased. Estimated peak stormwater flow rates for a 10-, 25-, 50-, and 100-year storm event with durations of 2 and 24 hours are listed in Table 4-6. Although there is no anticipated change to the documented 100-year floodplain, the potential for localized on

**Table 4-5**  
**Estimated Average Annual Stormwater Flows for BAFB (millions of gallons/year)**

	Estimated Impervious Surface Area (acres)	Estimated Stormwater Flow* (10 <sup>6</sup> gallons/year)	Precipitation Converted to Collected Stormwater (10 <sup>6</sup> gallons/year)
All Previous Construction	411.5	176.6	0.00
FY 02	412.7	177.1	0.54
FY 03	427.4	183.5	6.84
FY 04	428.8	184.0	7.42
FY 05	431.8	185.3	8.72
Total	431.8	185.3	8.72
Proposed Action	0.94	0.40	0.40
Percent Accounted for by the Proposed Action	0.22	0.22	4.64

\*Assumes average annual precipitation of approximately 16 inches

10<sup>6</sup> = 1,000,000

Source: BANGB 1999

**Table 4-6**  
**Peak Stormwater Flows for BAFB during 10-, 25-, 50-, and 100-Year Storm Events**

Storm Frequency (years)	Duration (hrs)	Peak Intensity (in/hr)	Peak Storm Water Flow Rates (ft <sup>3</sup> /s)						Percent 2004 Peak Flow Due to PA/A
			Previous	FY 02	FY 03	FY 04	FY 05	PA	
10	2	0.90	351.1	352.1	364.7	365.8	368.4	0.80	0.22
10	24	0.08	34.3	34.4	35.6	35.8	36.0	0.08	0.22
25	2	1.06	436.9	438.2	453.8	455.2	458.4	1.00	0.22
25	24	0.11	43.5	43.6	45.2	45.3	45.7	0.10	0.22
50	2	1.13	467.0	468.4	485.0	486.6	490.0	1.07	0.22
50	24	0.11	45.1	45.2	46.8	47.0	47.3	0.10	0.22
100	2	1.44	591.9	593.7	614.8	616.7	621.1	1.36	0.22
100	24	0.14	58.9	59.1	61.2	61.4	61.9	0.14	0.22

ft<sup>3</sup>/s = cubic feet per second

hrs = hours

in/hr = inches per hour

PA = Proposed Action

base flooding during a significant precipitation event would be examined with respect to these ongoing changes. During such an event, spikes in transport of traditional surface pollutants such as particulates, oil, grease, and coolants could also be observed.

#### 4.4 AIR QUALITY

Impacts to air quality would be considered significant if any criteria pollutant emissions associated with implementation of the proposed action or selection of the no action

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alternative would exceed the rates specified for attainment/maintenance areas for CO, O<sub>3</sub>, and PM<sub>10</sub> (Table 4-7); would be regionally significant; or would contribute to a violation of the Title V permit limitations. The air quality analysis examined impacts from air emissions associated with the construction and operation of a fire-fighting training center. As part of the analysis, emissions generated from construction, motor vehicles, and other (nonmobile) sources were examined for CO, volatile organic compounds (VOCs), SO<sub>2</sub>, NO<sub>x</sub>, and PM<sub>10</sub>.

**Table 4-7**  
**Applicability Thresholds for Criteria Pollutants**  
**for Denver Air Quality Control Region (AQCR 36)**

<b>Criteria Pollutants</b>	<b>Tons/Year</b>
<b>O<sub>3</sub> (NO<sub>x</sub>, SO<sub>2</sub> or NO<sub>2</sub>)</b>	
All maintenance areas	100
<b>O<sub>3</sub> (VOCs)</b>	
Maintenance areas inside an O <sub>3</sub> transport region	50
Maintenance areas outside an O <sub>3</sub> transport region	100
<b>CO</b>	
All maintenance areas	100
<b>PM<sub>10</sub></b>	
All maintenance areas	100

VOC = volatile organic compounds

Source: 40 CFR §93.153

**4.4.1 No Action Alternative**

Selecting the no action alternative would result in no impacts to ambient air quality conditions of the project area or surrounding areas since no construction activities would be undertaken. Ambient air quality conditions would remain as described in Section 3.4.

**4.4.2 Proposed Action Alternative**

Implementing the proposed action would have a minor, temporary impact on local air quality; however, emissions are not expected to exceed the rates specified for attainment/maintenance areas for CO, O<sub>3</sub>, and PM<sub>10</sub>; be regionally significant; or contribute to a violation of Title V permit limitations. The primary impact would be directly related to the generation of PM<sub>10</sub> at and around the project area during the preliminary stages of construction. These emissions would primarily be a function of (1) construction activities, such as grading and excavation; (2) movement of dust (wind erosion) from 'piled' materials; and (3) mechanical entrainment of road dust.

**4.4.2.1 Construction Activities**

The potential air quality impacts resulting from construction activities would be minor and temporary, and would disperse with distance from the project area. Implementing abatement measures such as proper maintenance of construction vehicles, limiting the size of the disturbance area, and watering unpaved roadways as necessary would minimize potential impacts.

USEPA AP-42 states that factors for fugitive dust emissions from heavy construction operations can be conservatively expressed in terms of total suspended particulate (TSP). The TSP emissions from construction-based activities depend on a number of considerations including, but not limited to:

- the number and type of vehicles (earthmovers);
- the construction activity (demolition and debris removal, site preparation, and general construction);
- the materials used (asphalt or concrete);
- the controls utilized to minimize fugitive emissions from area sources (watering exposed soils); and
- the installation of asphalt pavement.

Watering the disturbed area twice per day with approximately 3,500 gallons per acre would reduce TSP emissions by as much as 50 percent (USEPA 1995). A PM<sub>10</sub> emissions factor of 0.6 ton per acre per year (5.18E-5 grams per square meter per second [g/m<sup>2</sup>s]) was estimated for this activity with sufficient watering (USEPA 1995). Fugitive particulate emissions due to the heavy construction activities are the only anticipated stationary sources of emissions during the construction phase of the proposed action. These increases would not significantly contribute to a violation of Title V permit limitations (Table 4-8).

**Table 4-8  
Construction PM<sub>10</sub> Emissions from Stationary Sources**

PM <sub>10</sub> Emissions	TPY
Baseline <sup>1</sup>	12.0
Proposed Construction	0.6
Projected Total Due to the Proposed Action	12.6
Title V Permit Limits	99.9

<sup>1</sup> Total Stationary Source Emissions at BAFB (2001)

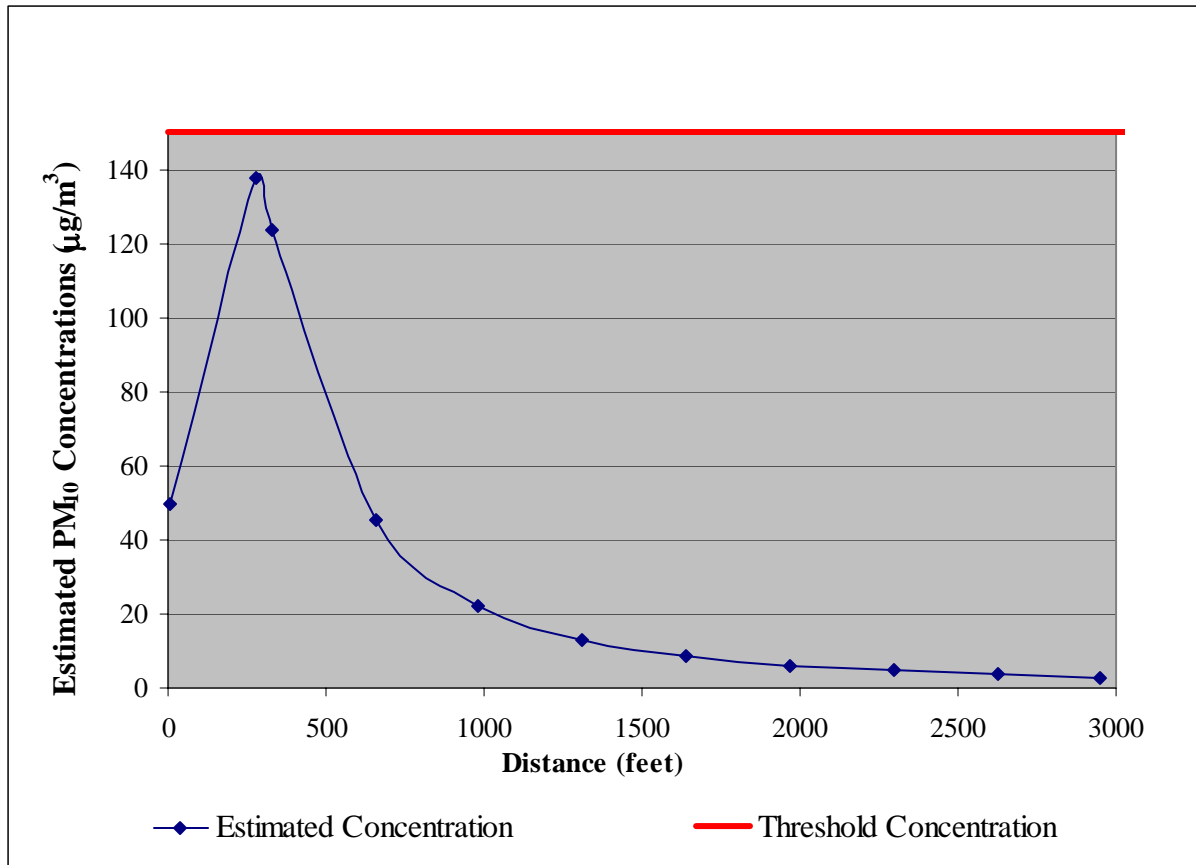
TPY = tons per year

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The USEPA recommends using the modified Pasquill-Gifford plume model outline in its guidance to “apply a simple screening procedure ... to determine if either (1) the source clearly poses no air-quality problem or (2) the potential for an air-quality problem exists” (USEPA 1995). This analysis was based on a worst-case scenario with the construction footprint for the proposed live fire-fighting training area equal to a 2.0-acre site. The SCREEN3 computer model (USEPA) was used to estimate the downwind concentrations of PM<sub>10</sub> using the following assumptions and have been illustrated in Figure 4-1.

- Average Wind Speed 3 miles per hour
- Receptor Height 4.92 feet
- Source Height 32.80 feet



**Figure 4-1. Modeled Downwind Concentrations of PM<sub>10</sub> during Construction Activities**

The maximum PM<sub>10</sub> concentration of 137.7 micrograms per cubic meter (µg/m<sup>3</sup>) at a distance of 268.96 feet from the fence line was compared to the primary and secondary National Ambient Air Quality Standard (NAAQS) PM<sub>10</sub> for 24 hours of 150 µg/m<sup>3</sup>. Since the maximum-modeled concentration is below the NAAQS for particulates, a potential for an elevated local concentration of PM<sub>10</sub> is not anticipated for this temporary activity. No decrease in visibility and subsequently no impact to airfield operations or

aircraft safety is anticipated for the proposed action. Because the grading and construction activities are low to the ground, these estimated concentrations would drop off rapidly in a short distance; as a result, temporary impacts would be local and not regional. These estimates are averages, and at any instant, the actual instantaneous concentration is likely to be higher or lower based on local wind conditions.

Exhaust-related emissions from construction equipment were estimated for diesel-powered off-road equipment (USEPA 1991; Waier 2001). Criteria pollutant emissions associated with the implementation of the proposed action do not exceed the rates specified for attainment/maintenance areas for CO, O<sub>3</sub>, and PM<sub>10</sub> nor are they regionally significant (Table 4-9). The proposed action is not regionally significant because the emissions do not exceed 10 percent or more of the attainment/maintenance area's total emissions for that particular pollutant (AQCR 36).

**Table 4-9**  
**Total Construction Emissions Compared to Applicability Thresholds**

<b>Criteria Pollutants</b>	<b>Applicability Threshold (tpy)</b>	<b>Total Construction Emissions (tpy)</b>	<b>Violates Applicability Threshold</b>
NO <sub>x</sub>	100	3.59E-04	No
SO <sub>2</sub>	100	1.50E-05	No
VOCs	50 (100)	2.29E-04	No
CO	100	3.66E-03	No
PM <sub>10</sub>	100	6.00E-01	No

tpy = tons per year

#### **4.4.2.2 Facilities Operations**

There would be minor operational emissions after the completion of construction. The primary source of operational emissions would be products of combustion due the burning of propane during active live fire-fighting training exercises.

Propane (otherwise known as Liquefied Petroleum Gas or LPG) is a byproduct of natural gas processing and petroleum refining. In its natural state, propane is a colorless, nontoxic, flammable gas. However, care should be used in the handling of propane due to its properties as a simple asphyxiant and potential to form explosive mixtures in air, particularly in enclosed spaces. An odorant is added to the gas so it can be detected for safety reasons.

Propane is one of the USEPA's listed alternative 'clean fuels.' Its emissions are invisible and have the potential for lower SO<sub>x</sub>, NO<sub>x</sub>, carbon dioxide (CO<sub>2</sub>), CO, and nonmethane hydrocarbons emissions than traditional non-alternative fuels. Propane is non-toxic, slightly soluble, and biodegrades rapidly in soil, water or air. It has safety benefits not

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common to other similar fuels. In its liquid state, it has the lowest flammability range of any alternative fuel, which reduces the chances of an accidental fire (USEPA 2002c).

Associated emissions would not exceed the rates specified for attainment/maintenance areas for CO, O<sub>3</sub>, and PM<sub>10</sub>; would not be “regionally significant;” and would not contribute to a violation of Title V permit limitations (Table 4-10). These estimates were based on 14 full days of activities with 3 activity periods occurring per day. There would be no heated space constructed at the training area and therefore no emissions related to heating and cooling support activities. Fire-fighting training activities are categorically excluded from the CDPHE APEN and permitting requirements in Colorado. Additionally, fire-training facilities are exempt from the CDPHE CAQCC Regulation 9, *Open Burning, Prescribed Fire, and Permitting*. Additionally, if possible, live fire fighting training activities would not occur during summer O<sub>3</sub> Action Alert days or during winter Red Pollution Advisories.

**Table 4-10**  
**Estimated Annual Emissions from Propane Combustion**

<b>Constituent</b>	<b>Emission Factor<sup>1/</sup> (lb/gallon)</b>	<b>Estimated Annual Propane Usage (gallons)</b>	<b>Total Increase in Emissions (tpy)</b>
CO	0.0032	4,200	0.00672
NO <sub>x</sub>	0.0190	4,200	0.0399
PM <sub>10</sub>	0.0006	4,200	0.00126
SO <sub>x</sub>	0.000018	4,200	0.0000378
VOCs (non-methane)	0.0003	4,200	0.00063

<sup>1/</sup> AP-42 Section 1.5, Emissions Factors for Liquefied Petroleum Gas Combustion

lb = pound

10<sup>6</sup> = 1,000,000

tpy = tons per year

There are 188 hazardous air pollutants (HAPs), also known as toxic air pollutants, specifically listed by the USEPA pursuant to Title III of the Clean Air Act (CAA) amendments. HAPs are pollutants that cause or may cause serious health effects and have adverse environmental or ecological effects. The *Compilation of Air Pollutant Emission Factors* (AP-42) does not currently include emission factors for the combustion of propane. However, due to the “clean” nature of propane, the additional HAP emissions should constitute less than a fraction of a percent of the entire on-base HAP emissions, which is 0.83 ton per year at BAFB.

Liquid propane is the only material hazardous in nature that would be stored at the facility; the storage of the propane is not expected to have significant impacts to the existing air quality. There is a slight potential for the propane to have an air quality impact if there was a spill or leak; however, emergency and facility response plans would

be in place to maximize confinement of the propane in the event of a release. Safety procedures in the case of a release would be explicitly addressed in the standard operating procedures of the fire-training center.

#### 4.4.3 Cumulative Impacts

There would be no significant cumulative impacts to air quality due to implementation of the proposed action or selection of the no action alternative. Cumulative impacts to air quality would be considered significant if construction or operational emissions for previous, proposed, and reasonably foreseeable future construction activities would exceed the *de minimus* rate specified for attainment/maintenance areas (see Table 4-7), would be regionally significant, or would contribute to a violation of the Title V permit limitations.

##### 4.4.3.1 Construction Activities

The PM<sub>10</sub> emissions were identified as the primary pollutant from proposed construction activities. The PM<sub>10</sub> emissions anticipated during construction activities are listed in Table 4-11. These emissions levels do not constitute a significant cumulative impact. The analysis was based on approximate building square footage and surface parking.

**Table 4-11  
Basewide PM<sub>10</sub> Emissions for Previous, Proposed,  
and Reasonably Foreseeable Future Construction Activities**

	All Previous Construction	FY 02	FY 03	FY 04	FY 05	Total
Baseline PM <sub>10</sub> Emissions (tons)	NA	12.0	12.0	12.0	12.0	48.0
PM <sub>10</sub> Emissions from Proposed Action (tons)	NA	0.0	0.6	0.00	0.0	0.6
Other Reasonably Foreseeable Construction PM <sub>10</sub> Emissions (tons)	NA	4.5	52.5	4.9	10.3	72.2
Total (tons)	513.4	16.4	64.9	17.4	22.8	634.9
Title V Permit Limits for Potential PM <sub>10</sub> Emissions (tons)	NA	99.9	99.9	99.9	99.9	NA
Percent Emissions Accounted for by the Proposed Action	0.0	0.0	0.9	0.0	0.0	0.09

NA = not applicable

##### 4.4.3.2 Facilities Operations

There would be minor ongoing operational emissions after completion of construction activities. The combined emissions for the combustion of the propane and those due to

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the heating and cooling support of existing and reasonably foreseeable future construction at BAFB are not significant. Total cumulative emissions are not anticipated to exceed the rates specified for attainment/maintenance areas for CO, O<sub>3</sub>, and PM<sub>10</sub>; to be regionally significant; or to significantly contribute to a violation of Title V permit limitations (Table 4-12). The analysis was based on approximate occupied building square footage and surface parking.

**Table 4-12**  
**Basewide Emissions for Previous, Proposed, and**  
**Reasonably Foreseeable Future Heating and Cooling Activities**

	<b>Occupied Space (acres)</b>	<b>Estimated Natural Gas Usage for Heating and Cooling (10<sup>6</sup> ft<sup>3</sup>)</b>	<b>CO (tpy)</b>	<b>NO<sub>x</sub> (tpy)</b>	<b>PM<sub>10</sub> (tpy)</b>	<b>SO<sub>x</sub> (tpy)</b>
All previous construction	50.6	199.8				
FY 02	51.3	202.4	8.3	10.1	0.8	0.1
FY 03	59.0	232.9	9.6	11.6	0.9	0.1
FY 04	59.7	235.8	9.7	11.8	0.9	0.1
FY 05	61.3	242.0	10.0	12.1	0.9	0.1
PA/A	NA	NA	0.00672	0.0399	0.00126	0.0000378
Total	61.3	242.0	37.6	45.6	3.5	0.3
PA/A as a Percentage of 5-Year Cumulative Emissions			0.018	0.088	0.036	0.014

10<sup>6</sup> = 1,000,000  
ft<sup>3</sup> = cubic feet  
tpy = tons per year

Construction activities would increase the amount of short-term mobile emissions on BAFB; however, active monitoring and maintenance of construction equipment would reduce overall impacts. Operational emissions should be minor and not add significantly to BAFB total yearly emissions.

**4.5 BIOLOGICAL RESOURCES**

The U.S. Fish and Wildlife Service (USFWS) and the Colorado Division of Wildlife (CDOW) maintain protected species lists (endangered, threatened, proposed candidate, or species of concern) for species that occur or could potentially occur within Arapahoe County. If species do occur, implementing the proposed action or alternative could affect these species and their habitat through ground-disturbing activities and increase in impervious cover. Potential effects to biological resources for both listed and nonlisted species will be estimated in this EA based on the number of acres of habitat and/or the number of individual species affected. Impacts to biological resources would be significant if there were substantial adverse effects on protected species or their habitats

or if there were any substantial adverse impacts to other sensitive habitats. The ROI for this resource area is the proposed site, as compared to the rest of the installation.

#### **4.5.1 No Action Alternative**

Selecting the no action alternative would result in no ground-disturbing activities and therefore no alteration/disturbance of existing vegetative cover. Due to the absence of ground-disturbing activities at the proposed site, vegetation and wildlife, including protected species, would not be impacted.

#### **4.5.2 Proposed Action Alternative**

Implementing the proposed action would not result in significant impacts to biological resources. The proposed action would remove approximately 2.0-5.0 acres of planted crested wheatgrass prairie, which is highly prevalent in disturbed areas and is not considered a sensitive community type. However, the planted wind rows along the eastern and southern boundaries of the proposed site would be protected from construction activities. This would occur through the final siting away from these boundaries or the installation of orange construction fencing to signal avoidance of these areas.

Additionally, there would be no impacts to biological resources associated with operation of the live fire-fighting training area, specifically use of the water-holding feature. Ponds adjacent to airfield become attractants to migratory bird species, which can then become airfield and aircraft hazards. To avoid wildlife air strike hazards, the conservation pond would be steep-sided and lined with an impervious material to reduce attractiveness to migratory bird species. The conservation pond would also be fenced to minimize the number of terrestrial animal species that can access the pond, thereby minimizing the number of accidental drowning caused by the pond's steep slopes. Aquatic vegetation would be managed to further reduce the attractiveness to avian species.

No listed species (including black-tailed prairie dogs and burrowing owls), or their habitat, have been observed on the proposed site. However, black-tailed prairie dogs have been known to occur on adjacent sites. Protected species and species of local concern would be managed under the guidance of the Supplemental EA of the Proposed Prairie Dog Management Practices at BAFB, dated June 2001. This would include surveys conducted prior to commencement of construction activities to verify the presence/absence of either black-tailed prairie dogs or burrowing owls. Any black-tailed prairie dogs present would be removed prior to commencing construction activities using approved removal methods. If nesting burrowing owls were present, construction activities would be rescheduled between November through February, when nesting owls would not be present or activities would commence once the burrowing owls have fledged and can be removed from the nests, which would ensure no long-term impacts to

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this species. If black-tailed prairie dogs and/or burrowing owls were identified after commencement of construction, construction activities would be halted and the 460 ABW Environmental Management (CES/CEVP), Natural Resource Manager would be contacted for further instructions.

**4.5.3 Cumulative Impacts**

Construction and operational activities associated with implementation of the proposed action would remove approximately 2.0-5.0 acres of undeveloped vegetation, which is less than 1.0 percent of the total undeveloped surface on BAFB. There are currently no protected species or species of local concern (i.e., black-tailed prairie dogs or burrowing owls) located within the proposed sites and therefore development associated with the proposed action would not, in the short-term, cumulatively impact these populations on BAFB. Protected species and species of local concern would be managed under the guidance of the Supplemental EA of the Proposed Prairie Dog Management Practices at BAFB, dated June 2001.

**4.6 NOISE**

This EA evaluates potential changes to existing noise environments that would result from implementation of the proposed action or no action alternative. Construction noise and its potential impacts on nearby receivers are addressed. Impacts would be considered significant if there were expected long-term increases in the number of people highly annoyed by the noise environment, noise-associated adverse health effects to individuals, or unacceptable increases to the noise environment for sensitive receptors. A sensitive receptor is any person or group of persons in an environment where low noise levels are expected, such as schools, day cares, hospitals, and nursing homes.

**4.6.1 No Action Alternative**

Selecting the no action alternative would result in no impact to the existing noise conditions of the project area and surrounding areas. Under this alternative, there would be no construction or operational activities conducted, and as a result, there would be no change in the current noise environment. It would remain as described in Section 3.6.

**4.6.2 Proposed Action Alternative**

Implementing the proposed action would have a minor, temporary impact on the noise environment. Implementing the proposed action would increase the levels of noise within the immediate project area through the use of construction equipment. The sound would attenuate rapidly with distance from the site. There are no sensitive receptors, communities, or individual residents within audible distance of the construction site. The

overall noise environment with respect to sensitive receptors, communities, and individual residents would be the same as if no construction activities were taking place.

**4.6.2.1 Construction Activities**

Construction activities would typically occur for periods of 8 hours a day, 6 days per week. The primary sources of construction noise would be due to the use of soil-moving units (i.e., backhoe or graders), heavy trucks, and additional light construction equipment (Waier 2001). Table 4-13 provides a breakdown of each piece of equipment and its contribution to the overall construction noise. The values are based on estimated periods of use during a typical workday and assume equipment would generally operate at or near its maximum sound levels anywhere from 20 to 50 percent of the time (Thalheimer 2000).

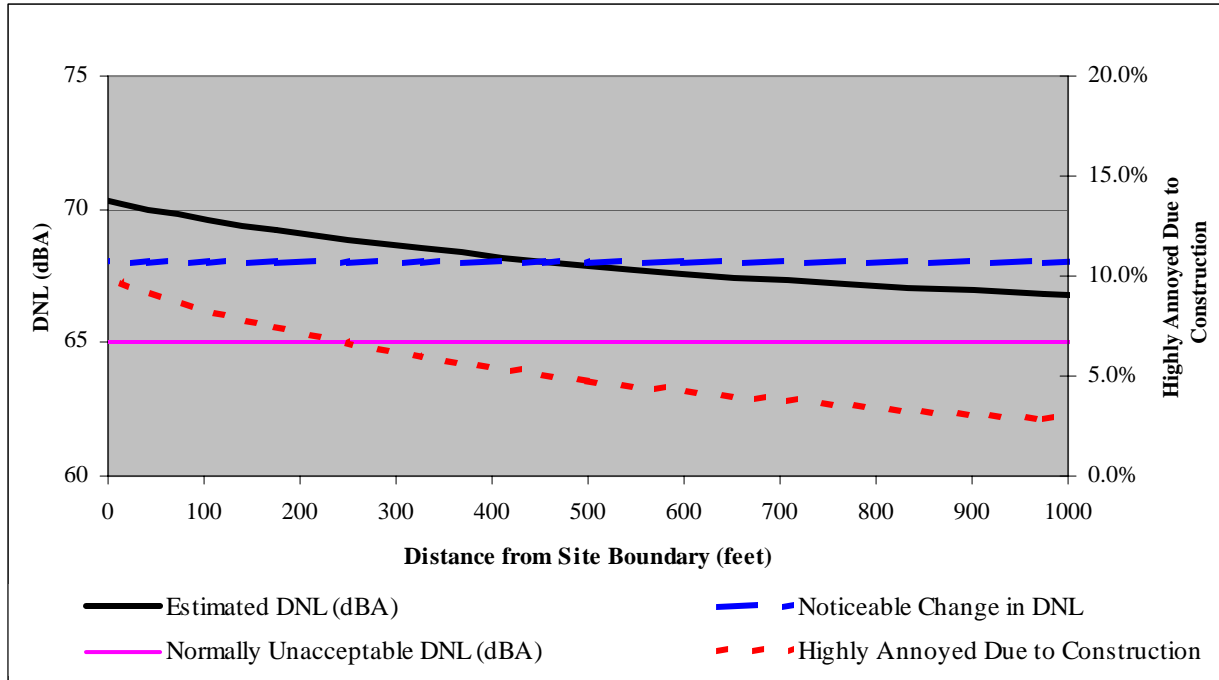
**Table 4-13  
Expected Equipment and Contribution to Overall Construction Noise**

<b>Equipment</b>	<b>Estimated Number of Units</b>	<b>L<sub>max</sub> at 50 Feet (dBA)</b>	<b>Impact Device</b>	<b>Unit Usage Factor</b>	<b>Total Usage Factor</b>	<b>Estimated L<sub>eq</sub> at 50 Feet (dBA)</b>
Backhoe	2	80	No	0.40	0.8	79.0
Compactor (ground)	1	80	No	0.20	0.2	73.0
Concrete Mixer Truck	1	85	No	0.40	0.4	81.0
Concrete Pump	1	82	No	0.20	0.2	75.0
Dozer	1	85	No	0.40	0.4	81.0
Dump Truck	5	84	No	0.40	2	87.0
Excavator	1	85	No	0.40	0.4	81.0
Generator (more than 25 KVA)	1	82	No	0.50	0.5	79.0
Grader	1	85	No	0.40	0.4	81.0
Pickup Truck	10	55	No	0.40	4	61.0
					<b>L<sub>eq</sub> Total</b>	<b>90.9</b>

L<sub>max</sub> = maximum sound level  
L<sub>eq</sub> = equivalent sound level  
KVA= kilovolt ampere

The ROI for this noise analysis is the area within a 500-foot radius of the construction site boundary. This is the estimated distance necessary to attenuate the overall noise environment to a level not noticeably different from that outside the proposed construction area (Figure 4-2). Changes in DNL of less than 3 dBA are not considered to be noticeable (Federal Interagency Committee on Noise [FICON] 1992). Since the existing DNL is 65 dBA, a noticeable change would only be detected by those receptors exposed to DNL 68 dBA or greater.

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**Figure 4-2. Distance from Site Boundary vs. DNL and Percent Highly Annoyed due to Construction Noise**

No sensitive receptors, communities, or individual residents are located within the ROI; therefore, no sensitive receptors, communities, or individual residents would notice a change in the overall noise environment during construction activities (Table 4-14). Periodically, the construction equipment may be audible at distances greater than 500 feet from the construction site boundary, but there would be no significantly noticeable change in the overall noise environment. Brief acoustical events could occur and have minor effects on speech intelligibility by way of brief and unnoticeable interruptions in communication.

Due to the daytime hours of construction operations, no sleep disturbances are expected. In general, the average reaction of receptors outside the ROI to the noise environment would be the same as if no construction activities were taking place.

Construction noise is expected to be perceptible and dominate the soundscape for all individuals within the ROI (Table 4-15), especially construction personnel. Construction personnel, and particularly equipment operators, should don adequate personal hearing protection to limit exposure and ensure compliance with federal health and safety regulations.

**Table 4-14  
Estimated Effects of Noise due to Construction Activities**

Distance from Site Boundary (feet)	Estimated DNL (dBA)	Hearing Loss	Percent Highly Annoyed Due to Construction	Average Community Reaction	General Community Attitude	Number of Sensitive Receptors Affected	Number of People Affected
0	70	Would Not Likely Occur	7.5	Severe	Noise is one of the most important adverse aspects of the environment	0	0
2500	65	Would Not Occur	0	Significant	Noise is one of the important adverse aspects of the environment	0	0

**Table 4-15  
Expected Equipment and Contribution to Overall Operation Noise**

	Number of Units	$L_{max}$ at 50 Feet (dBA)	Impact Device	Unit Usage Factor	Total Usage Factor	Estimated $L_{eq}$ at 50 Feet (dBA)
Generator (Less than 25 KVA)	1	82	No	0.5	0.5	67.0
Pickup Trucks	5	55	No	0.4	2.0	58.0
All other equipment > 5 HP	3	85	No	0.5	0.5	85.0
					<b><math>L_{eq}</math> Total</b>	<b>85.1</b>

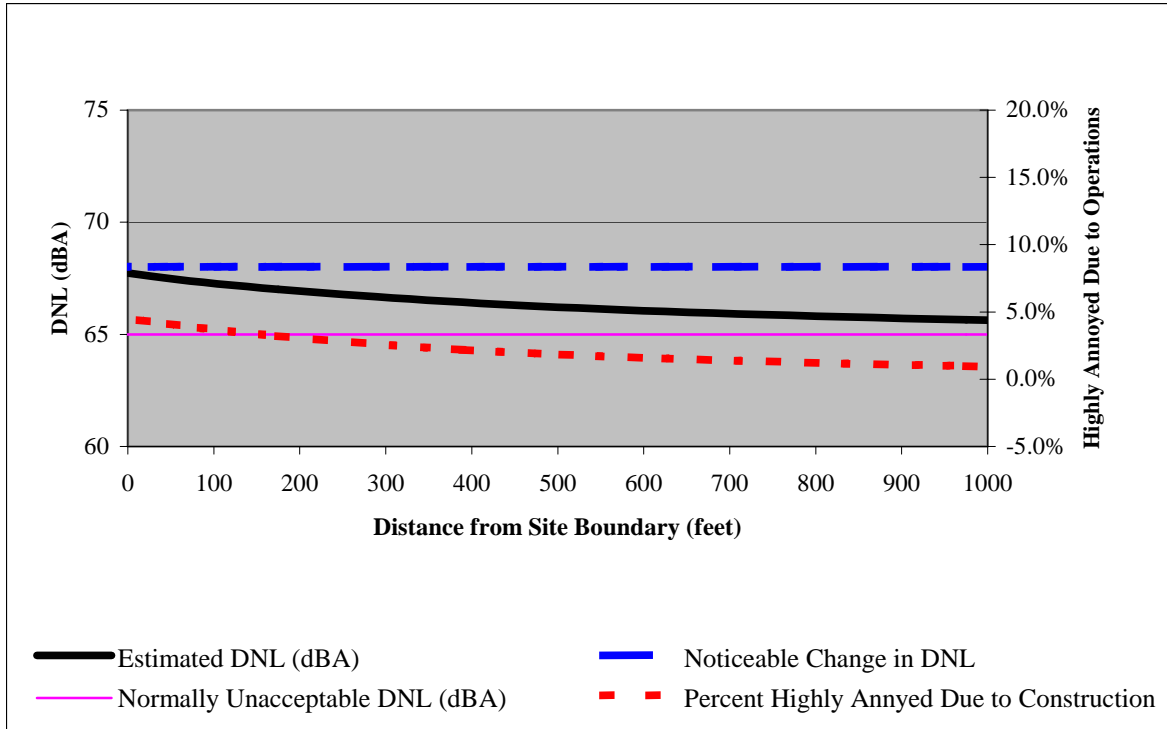
$L_{max}$  = maximum sound level  
 $L_{eq}$  = equivalent sound level  
 KVA = kilovolt ampere  
 HP = horsepower

#### 4.6.2.2 Facilities Operations

Implementing the proposed action would not have a long-term impact on the noise environment due to live fire-fighting training activities. Implementing the proposed action would increase the levels of noise within the immediate area through the use of operational support and fire-fighting equipment. The sound would attenuate rapidly with distance from activities. There are no sensitive receptors, communities, or individual residents within audible distance of the proposed facility. The overall noise environment with respect to areas beyond the site boundary would be the same as if no training activities were taking place.

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There are a limited number of noise sources associated with operation of the live fire-fighting training area. Use of generators, propane jets, water jets, trucks, and pumps would generate low-level noise (see Table 4-15). A DNL of 67.6 dBA was estimated at the site boundary for days with 8 consecutive hours of training activities. The estimated change to the in situ noise environment would be unnoticeable beyond the site boundary (Figure 4-3). Therefore, due to the limited noise levels and frequency and duration of training events, operation of the live fire-fighting training area would be consistent with or less than the existing noise levels in the area of the proposed site.



**Figure 4-3. Distance from Site Boundary vs. DNL and Percent Highly Annoyed Due to Operation Noise**

**4.6.3 Cumulative Impacts**

Implementing the proposed action would have no ongoing or cumulative impacts on the noise environment. The past, current, and reasonably foreseeable future noise environment in and around the proposed site is dominated by military jet aircraft noise. The construction and operational noise for the proposed fire-fighting training facility would be so insignificant compared to the cumulative noise environment.

There would be no change in the cumulative noise environment due to construction activities at the proposed site. Construction activities are temporary in nature, and the

current noise environment would return to ambient conditions at project completion. A DNL of 68.0 dBA was estimated 500 feet beyond the site boundary during the construction activities. In general, the average reaction of receptors beyond 500 feet from the site boundary would be the same as if no construction activities were taking place.

Additionally, there would be no change in the cumulative noise environment due to operational activities at the live fire-fighting training area. Implementing the proposed action would intermittently increase the levels of noise within the site boundaries through the use of operational support and fire-fighting equipment. A DNL of 67.6 dBA was estimated at the site boundary for days with 8 consecutive hours of training activities. The estimated change to the in situ noise environment would be unnoticeable beyond the site boundary (see Figure 4-3). Therefore, due to the limited noise levels and frequency and duration of training events, operation of the live fire-fighting training area would be consistent with or less than the current or reasonably foreseeable future noise levels within the area surrounding the proposed site.

#### **4.7 SOCIAL OR ECONOMIC RESOURCES (INCLUDING ENVIRONMENTAL JUSTICE)**

Implementing the proposed action or selecting the no action alternative could affect the local demographics, employment, and income potential, as well as localized minority and/or low-income populations. Significant impacts would occur to income and employment if an unacceptable change (i.e., significant loss or decrease) in these components occurs. There would be significant environmental justice impacts if a disproportionate amount of the adverse effects of the action was felt by minority and/or low-income populations. The ROI for this issue area is defined as USCB 2000 Census Tract 71.02, Block Group 9, Arapahoe County, Colorado (USCB 2002).

##### **4.7.1 No Action Alternative**

Selecting the no action alternative would result in no impacts to social or economic resources, including population, income and employment, or housing, in Arapahoe County or within the USCB census tract containing BAFB. Since there would be no construction activities and current operations would continue, there would be no potential increase in employment opportunities or any reductions in the number of employment opportunities. Since there are no anticipated employment changes as a result of selecting the no action alternative, there would be no changes in the population growth rate or demographics, no anticipated change in income potential, and no anticipated change in housing starts.

Arapahoe County would not be considered an area of concentrated minority population, nor would it be considered a poverty area. Likewise, USCB Census Tract 71.02 and

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Block Group 9 would not be considered areas of concentrated minority population or poverty areas. Since there would be no impacts to population, income and employment, and housing, there would be no disproportionate impacts to minority or low-income populations.

**4.7.2 Proposed Action Alternative**

Similar to the no action alternative, implementing the proposed action would result in no significant impacts to social or economic resources, including population, income and employment, and housing, within Arapahoe County or within the USCB census tract containing BAFB. Construction activities, if provided by an outside contractor, would be likely to increase short-term spending within the area immediately surrounding BAFB; however, this impact would have likely occurred elsewhere in the region, unless new employment opportunities were created or formerly unemployed workers found employment. Construction spending would be concentrated within the local area, thereby reducing the probability of a change in population growth based on this alternative. Without a change in the population growth rate, housing starts would likely remain static. The only anticipated impacts from implementing the proposed action would be the short-term spending increase for goods and services (food and beverage retailers) within the immediate vicinity of BAFB, which would subside after construction activities have concluded.

Arapahoe County would not be considered an area of concentrated minority population, nor would it be considered a poverty area. Likewise, USCB Census Tract 71.02 and Block Group 9 would not be considered areas of concentrated minority population or poverty areas. Since there would be no long-term impacts to population, income and employment, and housing, there would be no disproportionate impacts to minority or low-income populations.

**4.7.3 Cumulative Impacts**

There would be no cumulative social or economic impacts due to the proposed action or alternative since there would not be an increase or decrease in total employment at BAFB.

**4.8 LAND USE AND TRANSPORTATION**

Potential land use impacts are based upon an area's degree of sensitivity to land use changes. Typically, land use impacts are thought to be significant if they would: (1) violate or otherwise be inconsistent with adopted land use plans or policies; (2) undermine the viability of a favored existing land use activity; (3) create threats to the public health, safety, and welfare of the occupants of adjacent or nearby land uses; or (4) conflict with the fundamental mission of an installation. Impacts to transportation

networks would be significant if the total capacity of the system was exceeded. The ROI for land use includes the current and planned land uses as described in the BAFB General Plan for the proposed site, as well as the adjacent areas. The ROI for transportation is the installation transportation networks.

#### **4.8.1 No Action Alternative**

Selecting the no action alternative would result in no change to current or planned land uses. Live fire-fighting training activities would continue at Peterson AFB or an alternative training facility. Under the no action alternative, no construction activities would be undertaken.

#### **4.8.2 Proposed Action Alternative**

Implementation of the proposed action would result in no significant impacts to land use at BAFB. Implementing the proposed action would be consistent with the BAFB General Plan and with the planned land uses. The proposed use is consistent with the planned industrial designation of the proposed site. Additionally, this alternative would be consistent with AICUZ planning and design guidelines. Implementing the proposed action would not adversely impact planned adjacent land uses, which are currently agricultural and planned for an employment center, mixed used, or conservation.

Implementing the proposed action would not result in significant impacts to transportation resources. There may be minor, temporary, negative impacts to Steamboat Avenue resulting from increased traffic associated with construction activities. There would be no permanent changes to on- or off-base transportation patterns, capacity, or volume.

#### **4.8.3 Cumulative Impacts**

Under the proposed action, all activities would be located consistent with the BAFB General Plan, thereby not creating cumulative impacts to land use on BAFB. Since these activities would be located within the interior of the installation, there should be no impacts to current or planned land use activities on nonmilitary lands surrounding BAFB. The General Plan was developed in coordination with surrounding communities to lessen future impacts that developments on BAFB could potentially create. Future developments on BAFB would occur within the appropriate land use category as described in the General Plan, which coincide with planned land uses of adjacent nonmilitary lands and thus avoid cumulative impacts to land use and transportation.

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**4.9 VISUAL RESOURCES**

Potential impacts to visual resources are based on a substantial change in the scenic view of the proposed site and the surrounding areas in conflict with the planned land uses for the area. Additionally, a potential impact would occur if a substantial change to the viewshed of a protected visual resource, such as a Class I national park or wilderness area, a National Historic Landmark District, or a National Register of Historic Places listed, eligible, or potentially eligible individual site, occurred.

**4.9.1 No Action Alternative**

Selecting the no action alternative would not result in impacts to visual resources of the proposed site or the adjacent areas. Under this alternative, BAFB would not undertake construction activities and the undeveloped vegetation area would remain as described in Section 3.9.

**4.9.2 Proposed Action Alternative**

Implementing the proposed action would not result in significant impacts to visual resources within the proposed site or the adjacent areas. Under this alternative, BAFB would construct the live fire-fighting training area in an undeveloped portion of the base. As mentioned previously, adjacent land uses include a farmstead with a residence and agricultural fields. Only a short segment of public roadway (Picadilly Road) is north of the proposed site. The installation of the structural trainer would, in the short term, exceed the height of most structures on the adjacent farmstead; however, the structural trainer would be in line with future planned land uses. The addition of landscaping (e.g., additional wind row tree plantings) along the northern and eastern boundaries of the proposed site would minimize any view of the activities from the roadway or ground-level planned developments. Planned land uses for this area include employment centers, mixed-use, and conservation/open space/parks. Though implementing the proposed action would change the general visual characteristic of this portion of the base, it would be consistent with planned on-base land uses and off-base land uses. The adjacent agricultural areas would not be considered a locally or nationally significant viewshed since these areas do not lie within a public transportation corridor. No Class I parks would be affected through the implementation of the proposed action.

**4.9.3 Cumulative Impacts**

Implementing the proposed action or selecting the no action alternative would not result in cumulative impacts to visual resources of BAFB or the adjacent areas. No other BAFB projects are scheduled to occur near the proposed live fire-fighting training area due to the proximity of the airfield and explosive arcs. Planned development of the adjacent area associated with the development of the E-470 corridor would convert the

agricultural lands into mixed use or commercial and industrial uses, which would significantly alter the visual cone from BAFB. If the out-parcel and adjacent agricultural areas are developed into a conservation area, then the limited use of the live fire-fighting training area would not disrupt the overall visual cone of the area.

#### **4.10 PUBLIC UTILITIES**

Potential impacts to public utilities are based upon the capacity of the existing systems. Municipal systems are planned under constant growth assumptions over long periods (20-40 years). Unexpected rapid development within municipalities or the urban fringe can add stresses to both the community infrastructure (e.g., water and wastewater systems) and the community services (e.g., fire, police, schools). A significant impact to public utilities would be an exceedance to the current capacity of the system. The ROI for this issue area is the installation utility infrastructure system and the adjoining public utility systems.

##### **4.10.1 No Action Alternative**

Selecting the no action alternative would result in no changes to the public utilities in and around BAFB. There would be no construction of new facilities and no increase in demand for utilities, such as water services. Under this alternative, live fire-fighting training activities would continue at Peterson AFB. As a result, no impacts would occur, and baseline conditions would remain as described in Section 3.10.

##### **4.10.2 Proposed Action Alternative**

Implementing the proposed action would result in no significant impacts to public utilities. The proposed action would likely result in long-term small additional demands on potable water use. Under the proposed action approximately 8,000 gallons per training day would be brought to the facility. Over 14 days, approximately 112,000 gallons would be used for fire-fighting training activities. This would be less than one percent over current potable water usage at BAFB. Therefore, the increased potable water demand would not be substantial and should be within the existing capacity of the provider. Since water used for fire-fighting training would be reutilized during additional exercises only a small amount of wastewater would be generated, which would be allowed to evaporate from the retention pond.

##### **4.10.3 Cumulative Impacts**

Since implementing the proposed action would require continued use of existing public utilities, there would be a slight increase in demand for potable water. However, due to the small increase in demand these activities would require, there would be no short-term

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adverse changes in the level of service (Table 4-16). Future development at BAFB could cumulatively increase utility demand by approximately 40 percent over the current usage based on the estimated square footage built per year.

**Table 4-16**  
**Basewide Estimated Increase in Utility Demand**

<b>Parameter</b>	<b>Current</b>	<b>FY 02</b>	<b>FY 03</b>	<b>FY 04</b>	<b>FY 05</b>	<b>Proposed Action</b>
SF	2,200,000	54,250	638,258	59,040	131,445	NA
Electricity (kwh/m <sup>*</sup> )	8,862,732	218,547	2,571,232	237,843	529,528	NA
Gas (ft <sup>3</sup> /m <sup>**</sup> )	156,412	3,857	45,378	4,198	9,345	NA
Water (mgm <sup>***</sup> )	5.95	0.15	1.72	0.16	0.36	0.01
Cumulative Percent Increase in Utility Demand		2	31	34	40	0.1

\* Average electricity usage per square foot = 4.03 kilowatt hour based on FY 02 utility usage at BAFB

\*\* Average gas usage per square foot = 0.07 cubic feet based on FY 02 utility usage at BAFB

\*\*\* Average water usage per square foot = 9.01E-08 million gallons per day based on FY 02 utility usage at BAFB

kwh/m = kilowatt hour per month

ft<sup>3</sup>/m = cubic feet per month

mgm = million gallons per month

**4.11 HAZARDOUS MATERIALS AND SUBSTANCES**

Implementing the proposed action could disturb and/or generate hazardous wastes, consume hazardous materials, and/or disturb known hazardous materials facilities listed on federal and state databases. Potential effects associated with hazardous materials will be determined by the absence/presence of listed facilities within standard search radii and the hazardous waste management requirements associated with construction activities. The ROI for this issue area would be the proposed site and immediately adjacent areas.

**4.11.1 No Action Alternative**

Selecting the no action alternative would result in no ground-disturbing activities; therefore, there would be no alteration or disturbance of soils and no generation of wastes as the result of construction activities.

**4.11.2 Proposed Action Alternative**

**4.11.2.1 Hazardous Materials and Hazardous Wastes**

Implementing the proposed action would result in no significant adverse impacts from hazardous materials/hazardous wastes used or generated at BAFB. Hazardous materials utilized during construction activities would likely include fuels, paints, glues, etc. Most of these materials would typically be consumed in their entirety and very little waste

generated for disposal. As a result, no significant amounts of construction-related hazardous materials are expected, and any hazardous materials generated during the activities would be disposed of in accordance with all applicable federal, state, and local regulations.

Operational activities would not result in significant impacts due to hazardous materials, such as stored propane, since the appropriate steps would be undertaken to ensure safe placement, operation, fueling, and storage. These measures would include maintaining the propane tank behind standard security fencing to eliminate trespass, placement of the tank an appropriate distance from activity areas, and installation and operation of safety equipment including containment for liquid spills.

#### **4.11.2.2 Asbestos**

Implementing the proposed action would result in no significant impacts from subsurface ACM. ACMs are not expected to occur at the proposed site since it would be outside the footprint of World War II-era structures formerly occupying BAFB. However, if any subsurface debris were located during the demolition of the existing facility, activities would be halted and the area would be evaluated. Appropriate response plans would then be developed and implemented, as necessary, per applicable laws and regulations to ensure that contamination, if present, would not be released into the environment.

#### **4.11.3 Cumulative Impacts**

All hazardous materials and hazardous wastes used or generated during implementation of the proposed action would be used and disposed of according to all applicable regulations, thereby ensuring no cumulative impacts. Following all federal, state, and local laws and regulations, all new materials used for construction would not contain ACM, and if any ACMs were found during the construction of the facilities, the ACMs would be disposed of following all applicable regulations, thereby ensuring no cumulative impacts.

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**SECTION 5.0**  
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<b>Name/Title</b>	<b>Expertise/Experience</b>	<b>Involvement</b>
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**LIST OF PREPARERS**

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**SECTION 6.0**  
**DISTRIBUTION LIST AND**  
**AGENCIES AND INDIVIDUALS CONTACTED**

**6.1 DISTRIBUTION OF THE DRAFT ENVIRONMENTAL ASSESSMENT**

As part of CEQ regulations (§1503.1), public comments on the Draft EA were invited. This process helps decision makers and the public to understand and have input on the environmental effects of federal actions. This EA was distributed to the following local libraries and federal agencies for public review and comment period (08 February to 08 March 2004).

Aurora Central Library  
14949 East Alameda Drive  
Aurora, Colorado 80012

Denver Public Library, Government  
Documents Section  
10 West 14<sup>th</sup> Avenue  
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**6.2 COMMENTS AND RESPONSES TO COMMENTS**

As part of the public and agency comment period BAFB received five agency comment letters from the Metro Wastewater Reclamation District, the City of Aurora, Colorado Division of Wildlife, the USEPA – Region 8, and the CDPHE. The comments and BAFB’s responses to these comments are detailed in the following table. All agency letters and response letters can be found in Appendix E.

**Table 6-1**  
**Agency Comments and BAFB Responses to Comments**

Comment Number	Agency Comment	BAFB Response
<b>Metro Wastewater Reclamation District (18 February 2004)</b>		
1	<p>Section 4.10.2, page 4-27, of the EA describes the proposed action alternative and the sentence at the end of this section states, "Since the water would not contain any other fire suppressants, any minor non-stormwater discharges to the storm sewer from these activities would be covered under BAFB's existing permit with Metro Wastewater Reclamation District." This sentence is technically incorrect because the Wastewater Contribution Permit issued to BAFB by the Metro District authorizes the discharge of wastewater to the sanitary sewer system and not to the storm sewer system. In addition, the Metro District's <i>Rules and Regulations</i> (see Section 6.17 [6.13.16] of Appendix A of BAFB's Wastewater Contribution Permit) prohibit discharge of storm water to the sanitary sewer system.</p>	<p>Section 4.10.2, page 4-27, now reads, "Since water used for fire-fighting training would be reutilized during additional exercises only a small amount of wastewater would be generated, which would be allowed to evaporate from the retention pond."</p>
<b>City of Aurora (27 February 2004)</b>		
2	<p>Section 2.2.3 – Facilities Operation (Page 2-6, lines 9-11)</p> <p>This section states that water from fire training exercises would be treated and discharged into the storm sewer system, whereas Section 2.2.2 states that water would be discharged into the sanitary sewer system. The text should be clarified. In addition, any industrial waste water discharge into the storm sewer system would require modification to the Colorado Discharge Permit System permit and would require specific written approval from the City of Aurora Utilities Department.</p>	<p>The last paragraph in Section 2.2.3 has been changed to:</p> <p>"Some Standard maintenance procedures, such as liner repair and winterization, would require the draining of the conservation pond. During such procedures, the water would be handled, tested, and or treated per the applicable regulations prior to discharging to the storm sewer system. If the storage tank is required, water from the fire-fighting activities would be handled, tested, and or treated per the applicable regulations prior to release into the BAFB storm sewer system. Treatment prior to discharge is not anticipated since only water will be used as a fire suppressant and due to the chemical nature of the fuels being used. Additional maintenance on the pond would include management of aquatic vegetation to discourage use by migratory birds."</p>

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<b>Comment Number</b>	<b>Agency Comment</b>	<b>BAFB Response</b>
<b>City of Aurora (27 February 2004) (cont'd)</b>		
3	Section 3.4 – Air Quality – Existing Conditions  Page 3-6, line 4 – Suggest changing the words “had been” to “was formerly”	“had been” was changed to “was formerly”
4	Page 3-6, line 8 – Suggest adding the following text at the end of the first paragraph to clarify the current air quality conditions: “The Denver metropolitan area exceeded both the 1-hour and the 8-hour ozone standards during the summer of 2003. The region has entered into an ozone Early Action Compact with EPA and has committed to an extensive ozone modeling effort and early implementation of control measures as needed to ensure attainment of the 8-hour ozone standard by 2007.”	The following text was added:  “The Denver metropolitan area exceeded both the 1 hour and the 8-hour ozone standards during the summer of 2003. The region has entered into an ozone Early Action Compact with EPA and has committed to an extensive ozone modeling effort and early implementation of control measures as needed to ensure attainment of the 8-hour ozone standard by 2007”
5	Page 3-6, line 12 – Suggest changing the phrase “nitrous oxides” to “oxides of nitrogen.” The two “oxides of nitrogen” that are ozone precursors are nitric oxide (NO), and nitrogen dioxide (NO <sub>2</sub> ).	“nitrous oxides” was changed to “oxides of nitrogen”
6	Section 4.4.2.1 – Environmental Consequences – Construction Activities  Page 4-13, lines 7-9 – Suggest adding the following text to the end of the sentence: “nor are they regionally significant.”	“nor are they regionally significant. “ added to end of sentence.
7	Page 4-13, Table 4-9 – Please document the calculation methodology. The calculation methodology should include the types of equipment expected to be used during construction, the hours of operation, and the emission factors used.	The calculation methodology is included as part of the administrative record and is used by the deciding authorities to make an informed decision on the proposed action.
8	Page 4-13, Table 4-10 – This table does not contribute meaningfully to the discussion and can be deleted since this project is not regionally significant.	Table 4-10 was removed

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Comment Number	Agency Comment	BAFB Response
<b>City of Aurora (27 February 2004) (cont'd)</b>		
9	<p>Section 4.4.2.2 – Environmental Consequences – Facilities Operations</p> <p>Page 4-14, lines 2-4 – Suggest rewording the sentence as follows: “In its natural state, propane in (<i>sic</i>) a colorless, nontoxic, flammable gas. However, care should be used in handling since propane is a simple asphyxiant and can form explosive mixtures in air, particularly in enclosed spaces.”</p>	<p>The sentence was reworded as follows:</p> <p>“In its natural state, propane is a colorless, nontoxic, flammable gas. However, care should be used in the handling of propane due to its properties as a simple asphyxiant and potential to form explosive mixtures in air, particularly in enclosed spaces”</p>
10	<p>Page 4-14, line 15 – Please state how many gallons of propane would be burned annually and calculate the emissions.</p>	<p>The calculation methodology is included as part of the administrative record and is used by the deciding authorities to make an informed decision on the proposed action.</p>
11	<p>Page 4-14, Table 4-11 – Please state the emission factor source. Please calculate VOC emissions from propane combustion. TOC (total organic compound) emissions are listed in AP-42 Section 1.5. VOC emissions from propane combustion may be approximated by subtracting methane (CH<sub>4</sub>) emissions from TOC emissions.</p>	<p>The source of the emissions factor was added to Table 4-11. VOC emissions from propane combustion were approximated.</p>
12	<p>Page 4-14, line 27-34 – The Background Document to AP-42 Section 1.5 should be reviewed for information on hazardous air pollutant (HAP) emissions from propane combustion. The Background Document states that polycyclic organic matter (POM) and formaldehyde emissions are produced from combustion of propane. It is suggested that the EA mention the likelihood of forming HAPs from burning propane and state that emissions from HAPs could not be calculated due to the lack of emission factors.</p>	<p>Comment noted</p>
13	<p>It is recommended that fire fighter training exercises not be conducted during summer Ozone Action Alerts or during winter Red Pollution Advisories, if possible.</p>	<p>The following text was added.</p> <p>Additionally, if possible, live fire fighting training activities would not occur during summer O<sub>3</sub> Action Alert days or during winter Red Pollution Advisories.</p>

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Comment Number	Agency Comment	BAFB Response
<b>City of Aurora (27 February 2004) (cont'd)</b>		
14	<p>Section 4.4.3.2 – Environmental Consequences – Cumulative Impacts – Facilities Operations</p> <p>Page 4-16, line 3-9 – The entire discussion of heating and cooling emissions could be deleted from this document since there are no heating and cooling emissions, nor natural gas combustion emissions, associated with the proposed project. Emissions from the proposed project should be compared with all expected base-wide emissions and emission increases, not just those associated with heating and cooling. Most of the recently released EAs from Buckley AFB show emission increases, which should be included in the discussion of cumulative impacts.</p>	<p>The purpose of section 4.4.3.2 and Table 4-13 is to identify the emissions associated with the operation of the live fire fighting training area and all other previous, proposed, and reasonably foreseeable future operational activities from other structures on BAFB.</p>
15	<p>Page 4-16, Table 4-13 – The table does not add any meaningful data to the discussion and can be deleted. This table (minus the last two lines) would be more useful in the Comprehensive Base-Wide Facility Environmental Assessment document.</p>	<p>See response to previous comment.</p>
16	<p>Section 4.10.2 – Environmental Consequences – Public Utilities</p> <p>Page 4-27, lines 29-31 – The proposed method for disposing of waste water from fire training operations is confusing throughout the document and in this section in particular. The Metro Wastewater Reclamation District does not handle industrial wastewater discharges to the storm sewer as this section seems to indicate. Buckley’s permit to discharge industrial wastewater to the sanitary sewer is covered by a discharge permit with the Metro Wastewater Reclamation District. If waste water from fire training operations is proposed to be discharged to the sanitary sewer, then Buckley’s waste water permit with Metro will need to be modified to include these discharges. However, if wastewater from the fire training facility will be discharged to the storm sewer or will otherwise enter surface water, then Buckley’s Colorado Discharge Permit System permit with the CDPHE Water Quality Control Division would need to be modified. Also, industrial</p>	<p>See Response to Comment #2 (Section 2.2.3: Page 2-6, lines 9-11)</p>

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Comment Number	Agency Comment	BAFB Response
	discharges to the storm sewer would require specific written approval from the City of Aurora Utilities Department. Please clarify how wastewater from the fire training operation will be disposed of.	
<b>Colorado Division of Wildlife (15 March 2004)</b>		
17	In regard to the potential water detention pond, we would recommend that willows and/or cottonwoods be planted along the perimeter. These types of plantings will aid in providing habitat for a variety of small mammals, songbirds, reptiles, and amphibians.	We will take your recommendations for planting cottonwoods and/or willows along the perimeter into consideration when we plan and implement the project. However, we have to balance these recommendations with other mission requirements or concerns; such as the Bird Aircraft Strike Hazard program.
18	If prairie dogs are on site we would recommend the following: we recommend that the prairie dogs be either removed alive to another location or humanely killed before any earth-moving occurs; and	Our current protocols for prairie dogs and burrowing owls follow your recommended procedures
19	Since burrowing owls use prairie dog towns and live in prairie dog holes, the following should be observed: If construction is to occur between March 1 and October 31, we suggest that the area be checked for the presence of burrowing owls prior to any earth-moving taking place. The owls are susceptible to being buried and killed in their holes by construction activity. They are protected by law and killing one is illegal. If construction is done between November 1 and February 28, it is very unlikely that owls would be present since they migrate out of state during the winter.	Comment noted.

**SECTION 6.0  
DISTRIBUTION LIST AND AGENCIES AND INDIVIDUALS CONTACTED**

Comment Number	Agency Comment	BAFB Response
<b>U.S. Environmental Protection Agency – Region 8 (18 March 2004)</b>		
20	Page 2-6, lines 7 and 8. “During such procedures, the water would be treated and discharged into the sewer system.” Please specify the proposed treatment process and the constituents being targeted for treatment.	Page 2-6, lines 7 and 8. For clarification, the EA has been changed to: "The conservation/retention pond is being put in place to recycle and reuse water for fire-fighting training. Additional maintenance on the pond would include management of aquatic vegetation to discourage use by migratory birds. It is not anticipated that the water will be regularly discharged from the pond to the storm sewer system. The majority of water will either be reused or evaporate. The only probable discharges to the storm sewer system would be associated with some standard maintenance procedures, including liner repair and winterization or tank repair, which would require draining the conservation/retention pond. Prior to any discharge, the water would be tested to confirm that it was uncontaminated. During such procedures, water from the pond or storage tank would be handled, tested, and or treated per the applicable regulations prior to discharging to the storm sewer system. Fire-fighting training will be performed using propane as the fuel and water as the fire suppressant. Therefore, no water contamination is anticipated and treatment prior to discharge is not expected to be necessary. Discharges to the storm sewer system will need to comply with the Multi-Sector General Permit (which allows non-stormwater discharge from fire fighting activities and fire hydrant flushings). Because BAFB discharges into the City of Aurora’s storm sewer system, coordination with the City of Aurora will also be required to insure compliance with BAFB’s USEPA Municipal Separate Storm Sewer System (MS4) (compliance with BAFB’s MS4 contributes to ensuring compliance of Aurora’s Colorado MS4 permit).”

**SECTION 6.0**

**DISTRIBUTION LIST AND AGENCIES AND INDIVIDUALS CONTACTED**

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<b>Comment Number</b>	<b>Agency Comment</b>	<b>BAFB Response</b>
<b>U.S. Environmental Protection Agency – Region 8 (18 March 2004) (cont'd)</b>		
21	The H-70 Fuel Storage/Medical Pharmacy EA is cited several times in this document, however, it does not seem to appear in the reference section.	Document added to reference section
<b>Colorado Department of Public Health and Environment (05 March 2004)</b>		
22	Section 2.2.3, page 2-6 – The final paragraph in this section notes that water from the conservation pond or storage tank would be treated prior to discharge into the storm sewer system. Please describe the treatment methods for this procedure.	See response to comment 20.

**SECTION 6.0**  
**DISTRIBUTION LIST AND AGENCIES AND INDIVIDUALS CONTACTED**

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**SECTION 8.0**  
**ACRONYMS AND ABBREVIATIONS**

µg/m <sup>3</sup>	micrograms per cubic meter
ABW	Air Base Wing
ACM	asbestos-containing material
AFI	Air Force Instruction
AICUZ	Air Installation Compatible Use Zone
APCD	Air Pollution Control Division
APEN	Air Pollutant Emission Notice
AQCR	Air Quality Control Region
ARFF	aircraft fire fighting
BAFB	Buckley Air Force Base
BANGB	Buckley Air National Guard Base
BMP	best management practice
CAA	Clean Air Act
CAQCC	Colorado Air Quality Control Commission
CDOW	Colorado Division of Wildlife
CDPHE	Colorado Department of Public Health and Environment
CEQ	Council on Environmental Quality
CES	Civil Engineering Squadron
CEVP	Environmental Management
CFR	Code of Federal Regulations
CO	carbon monoxide
COANG	Colorado Air National Guard
COARNG	Colorado Army National Guard
dBA	A-weighted decibel level
DNL	day-night average sound level
DOD	Department of Defense
DODI	Department of Defense Instruction
EA	environmental assessment
EDR	Environmental Data Resources, Inc.
EIAP	Environmental Impact Analysis Process
EIS	environmental impact statement
ERP	Environmental Restoration Program
FEMA	Federal Emergency Management Agency
FICON	Federal Interagency Committee on Noise
FOD	foreign objects and debris
FONSI	finding of no significant impact
FY	fiscal year
g/m <sup>2</sup> s	grams per square meter per second
HAP	hazardous air pollutants
MS4	Municipal Separate Storm Sewer System
NAAQS	National Ambient Air Quality Standards

**SECTION 8.0**  
**ACRONYMS AND ABBREVIATIONS**

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NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NO <sub>x</sub>	oxides of nitrogen
NOI	notice of intent
NPDES	National Pollutant Discharge Elimination System
O <sub>3</sub>	ozone
pCi/l	pico-Curies per liter
PM <sub>10</sub>	particulate matter measuring less than 10 microns in diameter
POL	petroleum, oil, and lubricant
ROI	region of influence
SBIRS	space-based infrared surveillance
SF	square feet
SO <sub>2</sub>	sulfur dioxide
SWPPP	Stormwater Pollution Prevention Plan
TSP	total suspended particulate
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USC	U.S. Code
USCB	U.S. Census Bureau
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compound

- 1 **APPENDIX A**
- 2 **USAF FORM 813**

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# REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS

Report Control Symbol  
RCS:

INSTRUCTIONS: Section I to be completed by Proponent; Sections II and III to be completed by Environmental Planning Function. Continue on separate sheets as necessary. Reference appropriate item number(s).


## SECTION I - PROPONENT INFORMATION

1. TO (Environmental Planning Function)  460 CES/CEV	2. FROM (Proponent organization and functional address symbol)  460 CES/CEF	2a. TELEPHONE NO.  7-9924
--	---	---------------------------------

3. TITLE OF PROPOSED ACTION  
Live Fire Training Area

4. PURPOSE AND NEED FOR ACTION (Identify decision to be made and need date)  
The purpose and need for the live fire training area is to meet live fire training requirements for firefighters IAW NFPA 1500, AFI 32-2001, DoDI 6055.6 and DoDI 6055.6M.

5. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES (DOPAA) (Provide sufficient details for evaluation of the total action.)  
Construct live fire training area on Buckley AFB. Alternatives to this action (see attached).

6. PROPONENT APPROVAL (Name and Grade)  David L. Morrison GS-12	6a. SIGNATURE 	6b. DATE  20030807
---	---	--------------------------


## SECTION II - PRELIMINARY ENVIRONMENTAL SURVEY. (Check appropriate box and describe potential environmental effects including cumulative effects.) (+ = positive effect; 0 = no effect; - = adverse effect; U = unknown effect)

	+	0	-	U
7. AIR INSTALLATION COMPATIBLE USE ZONE/LAND USE (Noise, accident potential, encroachment, etc.) <i>approved by FB</i>		✓		
8. AIR QUALITY (Emissions, attainment status, state implementation plan, etc.) <i>minor during construction -</i>			✓	
9. WATER RESOURCES (Quality, quantity, source, etc.)				✓
10. SAFETY AND OCCUPATIONAL HEALTH (Asbestos/radiation/chemical exposure, explosives safety quantity-distance, bird/wildlife aircraft hazard, etc.)		✓		
11. HAZARDOUS MATERIALS/WASTE (Use/storage/generation, solid waste, etc.)				✓
12. BIOLOGICAL RESOURCES (Wetlands/floodplains, threatened or endangered species, etc.)				
13. CULTURAL RESOURCES (Native American burial sites, archaeological, historical, etc.)		✓		
14. GEOLOGY AND SOILS (Topography, minerals, geothermal, Installation Restoration Program, seismicity, etc.)		✓		
15. SOCIOECONOMIC (Employment/population projections, school and local fiscal impacts, etc.)		✓		
16. OTHER (Potential impacts not addressed above.) <i>cumulative will be addressed in EA</i>				

## SECTION III - ENVIRONMENTAL ANALYSIS DETERMINATION

17.  PROPOSED ACTION QUALIFIES FOR CATEGORICAL EXCLUSION (CATEX) # \_\_\_\_\_ ; OR  
 PROPOSED ACTION DOES NOT QUALIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALYSIS IS REQUIRED.

18. REMARKS

19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION (Name and Grade)  Elisa Shere Elisa Shere GS-12	19a. SIGNATURE 	19b. DATE  9/17/03
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DEPARTMENT OF THE AIR FORCE

460TH AIR BASE WING (AFSPC)

07 Aug 03

MEMORANDUM FOR 460 CES/CEV

FROM: 460 CES/CEF

SUBJECT: Alternatives to the construction of a live fire training area on BAFB

1. Pay firefighters overtime to travel to Peterson AFB to conduct live fire training semi-annually.
  - a. Problems with this alternative are:
    1. Firefighters already work a 72 hour workweek, 24 on 24 off and this proposal is a hardship to the firefighters by not getting a day off.
    2. Difficulty in scheduling with Peterson AFB, they not only have to train their firefighters but the training area is used by locals and the Antarctica firefighters for training.
    3. Places hardship on Peterson AFB in that they have to supply Buckley with a vehicle to train with and personnel to monitor and operate training area.
2. Pay firefighters overtime to attend training at DIA.
  1. All the same restrictions and hardships as with Peterson AFB but in addition Denver would charge a fee of \$18,000.00 a training session or \$36,000. annually for the required training. To date in 2003 the fire dept. has expended \$8725.28 in overtime expenses to attend live fire training. The ANG expenses to date are unknown.
3. We also have a 25 person ANG Fire Dept. on Buckley that require the same live fire training requirements and must also travel for the training.
4. Additional problem is as we receive new firefighters could be up to six months before we could get the new hires qualified. Could conduct live fire training as often as needed with the facility located on base.

A handwritten signature in black ink that reads "David L. Morrison".

DAVID L. MORRISON, GS-12, DAFC  
Chief, Fire Protection

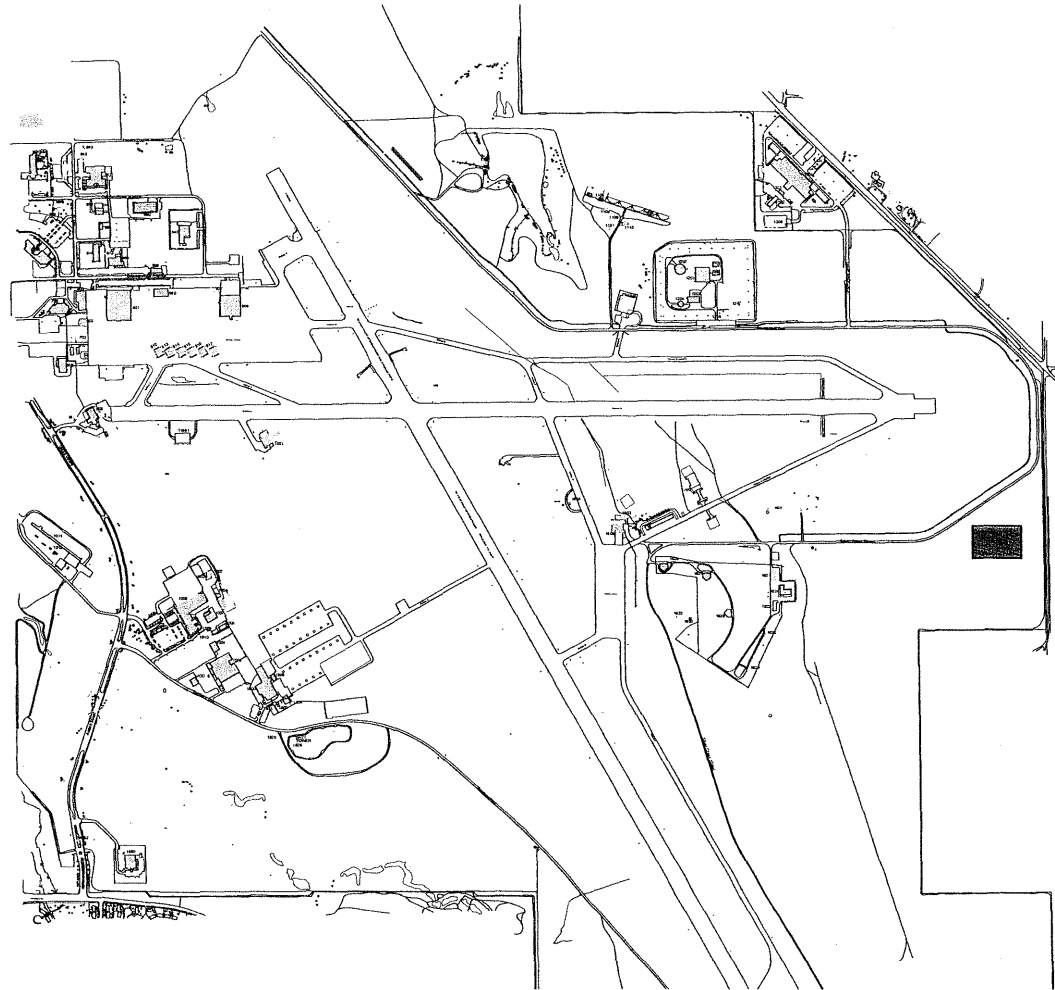


# Fire Training Pit

Best distance away from  
runway interference.

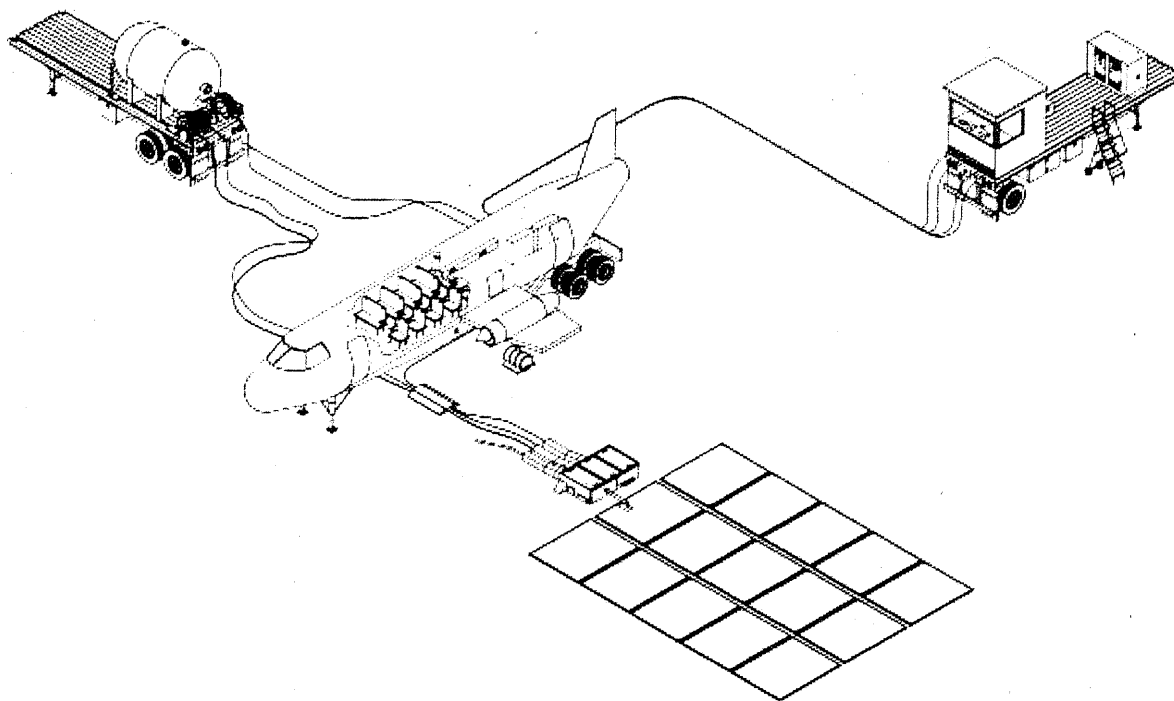
FY08 MILCON.

Close proximity to fire crash  
house rescue station, B-1606





# MOBILE, AIRCRAFT FIRETRAINER® A-3000

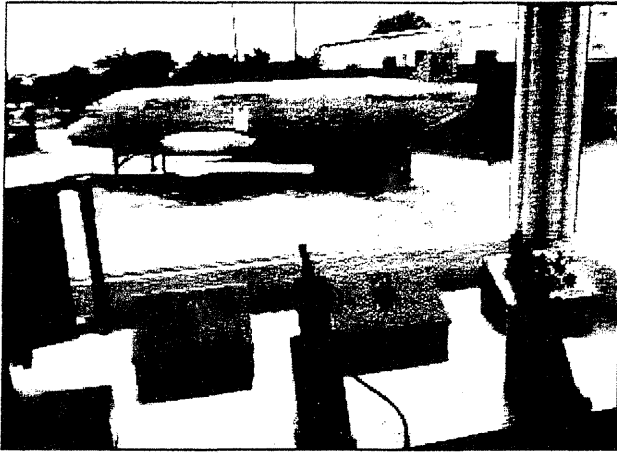


- Dimensionally representative of commuter aircraft
- High wing, low wing and turbojet configurations
- 1300 square-foot Fuel Spill Burn Area
- Easy to transport, easy to setup and easy to operate
- Independent and redundant safety systems
- Comes with propane supply and electric generator

- The lowest profile Mobile Fuel Spill Burn Area EVER!
- Full engulfments, partial engulfments or the unique Wall of Flame™ feature to reduce fuel consumption
- State of the art Touch-Screen control system
- Selectable flame spread, respread and

extinguishment difficulty levels

- Incident fires include main cabin fire, engine fire, and wheel/brake fire



- Computer controlled fire scenarios with extinguishing agent detection
- Incident fires have selectable flame height, growth rate, extinguishment difficulty and soak duration
- Full time computer monitoring of the interior for unburned gas and excessive heat levels
- Automatic and emergency shutdown and ventilation
- Control Room with full, year round, climate control



ENGINE FIRE



FUEL SPILL FIRE



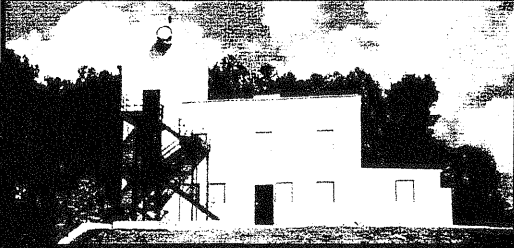
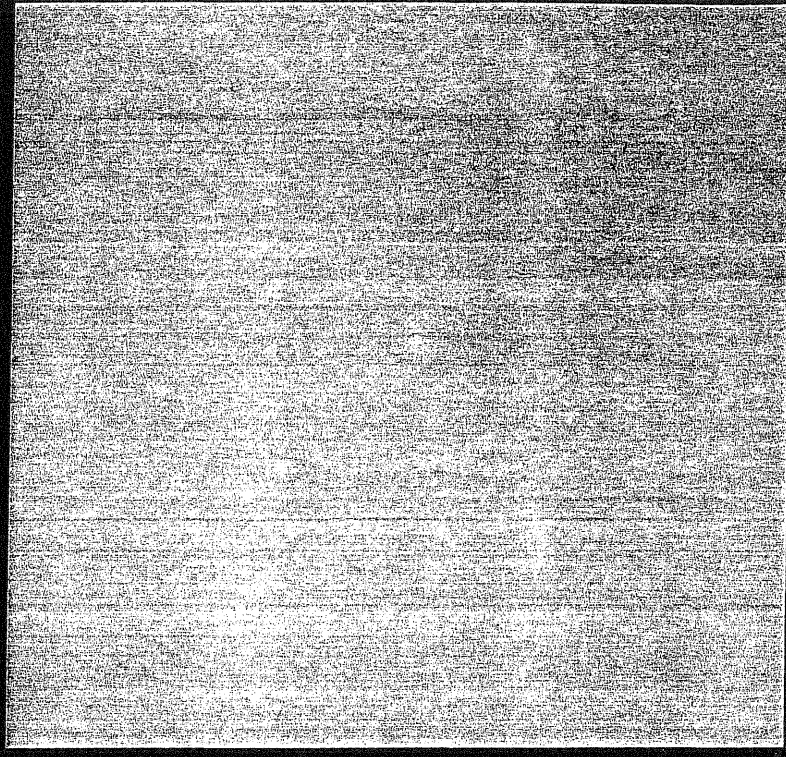
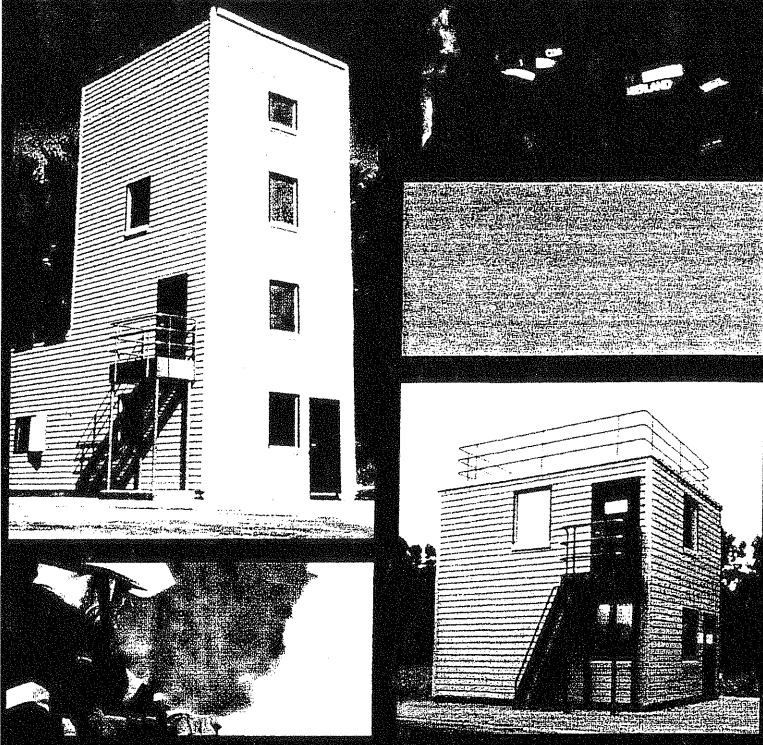
WHEEL BRAKE FIRE

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Subject to design or specification changes. Please consult Symtron Systems inc. for current configuration.

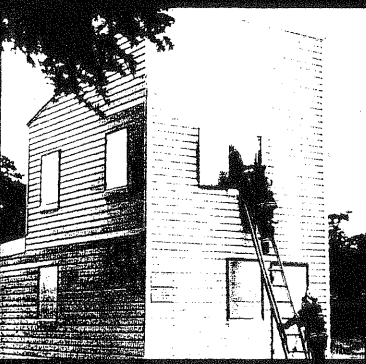
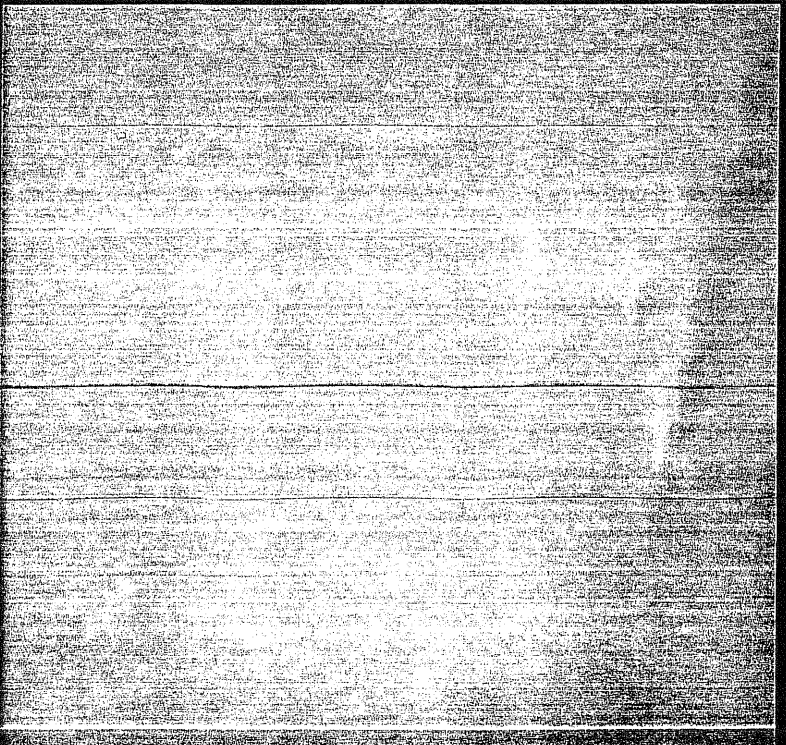
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# PRODUCT FAMILY



## FIRE FACILITIES INC.®

*Steel Fire Training Towers*



# TOWER BENEFITS

## Safety First

- 100 PSF live loads for decks, floors, attics and roof systems assure safety with maximum loading requirements.
- Flat wall, floor, and roof panels allow for easy and safe training exercises, especially rappelling and laddering.
- 1200° Westemp Insulating Panels provide a safe training exercise, while providing real-life exposure to fire.
- Temperature monitoring system allows training officer to monitor training exercise.

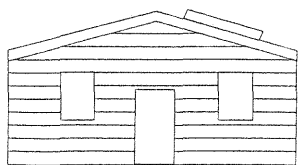
## Quality, Durable Materials

- Structural steel I-beams and columns offer worry-free maintenance and long-lasting towers.
- State-of-the-art manufacturing facility features the latest in computer-controlled equipment providing accurate and consistent products time after time.
- 2 coats of baked-on paint finish on both sides of 18-gauge hot dipped galvanized steel wall panel for optimum durability.

# WESCO® Fire Training Towers

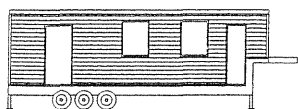
Fire Facilities' Wesco® Steel Fire Training Towers are the premier in fire training. From mobile units to multi-story facilities, the towers allow for a variety of training exercises with live fire exposure. Towers may be customized to meet the specific needs of any fire department.

## The Trainee – Series Two Model



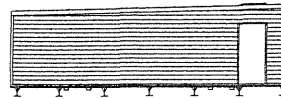
- 24' L x 30' W x 10' H
- 8 Steel Doors (4 Exterior, 4 Interior)
- 8 Window Openings
- 4 Interior Rooms
- Roof Chop-Out Hatch
- 1 Burn Room, 1 Future Burn Room

## The Mobile Trainee – Series Two Model



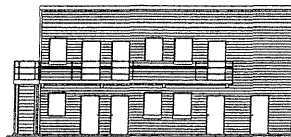
- 30' 8 1/4" L x 8' 6" W x 12' 8 5/8" H
- 3 Entrance Doors
- 5 Window Openings
- Interior Burn Room
- Roof Chop-Out Hatch
- 3-Head Sprinkler System
- Bilco Roof Hatch

## The RSG-1 – Series Two Model



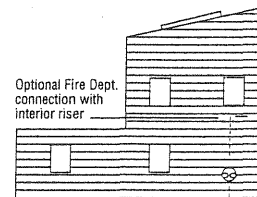
- 32' L x 8' 6" W x 10' 1 1/8" H
- 5 Entrance Doors
- 14 Levelers
- Roof Chop-Out Hatch
- Interior Burn Room
- 3-Head Sprinkler System

## The Hall Crawler – Series Three Model



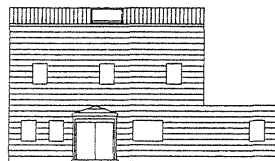
- 46' L x 22' W x 20' H
- 22 Steel Doors (9 Exterior, 13 Interior)
- 14 Window Openings
- Parapet Roof Guard
- 9 Interior Rooms
- 2 Burn Rooms
- Corner Burn Area
- Cantilevered Balcony w/Stairs

## The Probie – Series Four Model



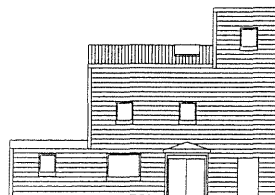
- 32' L x 16' W x 25' H
- 3 Steel Doors (2 Exterior, 1 Interior)
- 9 Window Openings
- Roof Chop-Out Hatch
- 2-Story Tower with Attic, Burn Room Annex

## The Battalion Chief – Series Four Model



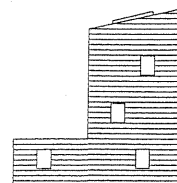
- 49' 4" L x 22' W x 27' H
- 5 Steel Doors (4 Exterior, 1 Interior)
- 20 Window Openings
- 2 Roof Chop-Out Hatches
- 2-Story Residential Section with Attic, Burn Room Annex

## The Deputy Chief – Series Four Model



- 48' 8" L x 22' W x 30' H
- 8 Steel Doors (5 Exterior, 3 Interior)
- 13 Window Openings
- 3 Roof Chop-Out Hatches
- Parapet Roof Guard
- 2nd Floor Burn Room
- 3-Story Tower, 2-Story Residential Section with Attic, Burn Room Annex

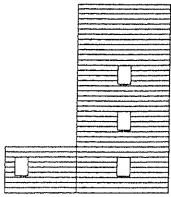
## The Firefighter – Series Five Model



- 32' L x 16' W x 34' H
- 3 Steel Doors (2 Exterior, 1 Interior)
- 12 Window Openings
- Roof Chop-Out Hatch
- 3-Story Tower with Attic, Burn Room Annex

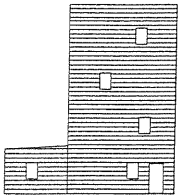
# TOWER BENEFITS

## The Lieutenant – Series Five Model



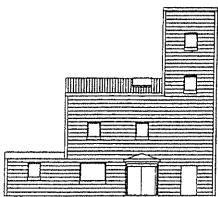
- 32' L x 16' W x 34' H
- 3 Steel Doors (2 Exterior, 1 Interior)
- 13 Window Openings
- Roof Chop-Out Hatch
- Parapet Roof Guard
- 3-Story Tower with Attic, Burn Room Annex

## The Captain – Series Five Model



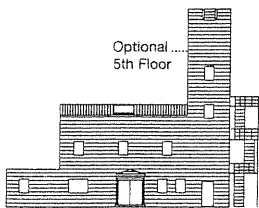
- 39' L x 22' W x 40' H
- 3 Steel Doors (2 Exterior, 1 Interior)
- 13 Window Openings
- Roof Chop-Out Hatch
- Parapet Roof Guard
- 4-Story Tower, Burn Room Annex

## The Assistant Fire Chief – Series Five Model



- 48' 8" L x 22' W x 40' H
- 8 Steel Doors (5 Exterior, 3 Interior)
- 14 Window Openings
- 3 Roof Chop-Out Hatch
- Parapet Roof Guard
- 2nd Floor Burn Room
- 4-Story Tower, 2-Story Residential Section with Attic, Burn Room Annex

## The Fire Chief – Series Five Model



- 60' L x 22' W x 40' H
- 8 Steel Doors (5 Exterior, 3 Interior)
- 20 Window Openings
- 3 Roof Chop-Out Hatches
- Parapet Roof Guard
- 4-Story Tower, 2-Story Residential Section with Attic, Burn Room Annex

## Customization

- Flexible design enables towers to be customized to meet your specific needs.
- Limitless list of options available to create a tower specific to your needs.
- Custom-made doors and shutters.

## Convenience

- Save money by dealing directly with the manufacturer.
- Towers designed to meet code and climate constraints from hurricanes to earthquakes.
- The entire tower may be used for training exercises rather than only using designated areas.

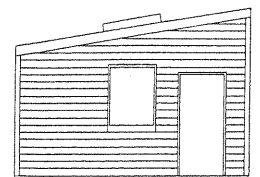
## Complete Service and Support

- Supported by over 100 years of manufacturing experience.
- As the manufacturer and seller of towers, we know every detail of each product, giving you the expert resource you deserve.
- In-house engineering department offers custom designs and tower solutions.
- Knowledgeable and experienced sales force offers guidance with meeting safety and training requirements.
- Pool of erectors who are familiar with tower designs erect towers quickly and cost-effectively.
- Complete turnkey packages available.
- Manufactured in the USA.

# Volunteer Fire Training Towers

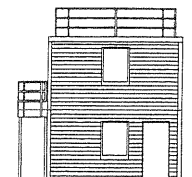
Fire Facilities' Volunteer Fire Training Towers are the first fire training towers designed specifically for the volunteer and smaller full-time department budget. The Volunteer models offer the same quality and craftsmanship as our Wesco models.

## Volunteer 1 – Single Story Model



- 16' L x 24' W x 9' H
- 4 Steel Doors (3 Exterior, 1 Interior)
- 3 Window Openings
- Roof Chop-Out Hatch
- Interior Room
- Burn Room

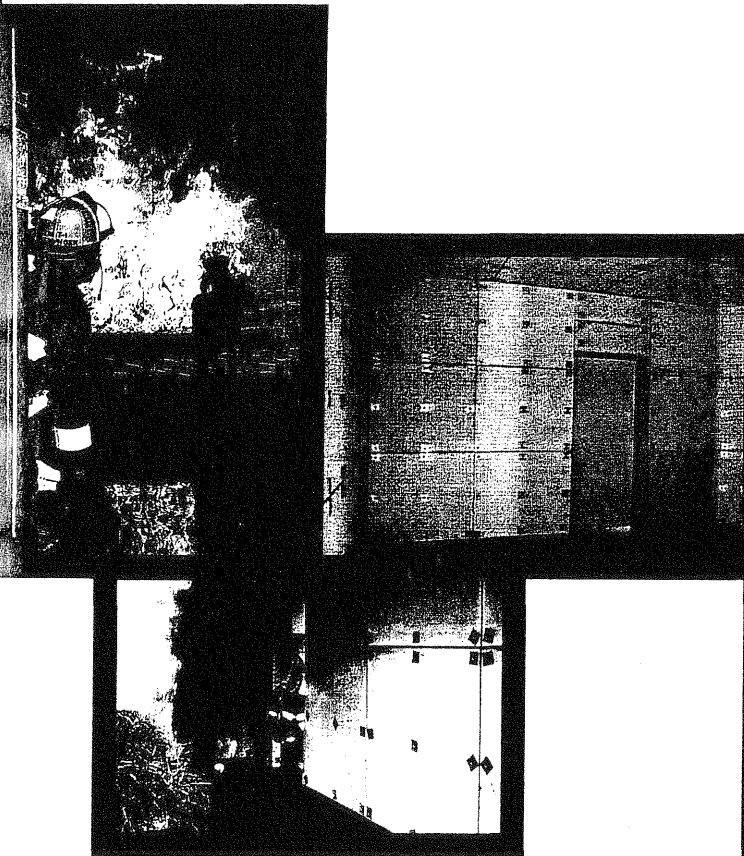
## Volunteer 2 – Two Story Model



- 18' L x 16' W x 18' H
- 4 Steel Doors (3 Exterior, 1 Interior)
- 4 Window Openings
- Roof Chop-Out Hatch
- Rappelling Ring
- Burn Room

# Westemp® Insulating Panels

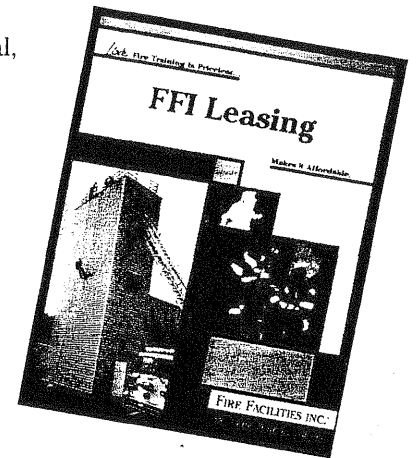
- Line burn rooms to provide repeated, continuous fires at 1200° F.
- Provide safe, hands-on firefighting experience under controlled conditions.
- Included in all Wesco and Volunteer Fire Training Tower burn rooms.
- May be attached to concrete and masonry structures, allowing for existing tower retrofits.



# FFI LEASING

## A cost-effective financing alternative

- Spread the cost of a FFI training tower over a number of years instead of a single-year budget outlay.
- Leasing periods from 3 to 7 years.
- Flexible payment structure including monthly, quarterly, semiannual, and annual options.
- Tax-exempt lease rates available.



## BUILDING OPTIONS

- Cantilevered Balcony
- Supported Balcony
- Burn Room
- Elevator Shaft
- Exterior Stairs
- Interior Ladder
- Open Story
- Rappelling Rings
- Roof Hatch
- Smoke Generator
- Open Corner Balcony
- Corner Burn Area
- Concealed Space
- Exhaust Fan
- Caged Ladder
- Ship's Ladder
- Propane System
- Riser System
- Smoke Distribution System
- Sprinkler System

# FIRE FACILITIES INC.®

## *Steel Fire Training Towers*

- 1 **APPENDIX B**
- 2 **REPRESENTATIVE PHOTOGRAPHS**

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Photograph 1. From Fire Road looking West



Photograph 2. From Fire Road looking North



Photograph 3. From Fire Road looking Northeast



Photograph 4. From Fire Road looking Northwest



Photograph 5. From Proposed Site looking North



Photograph 6. From Proposed Site looking West



- 1 **APPENDIX C**
- 2 **NOTICE OF AVAILABILITY AND AFFIDAVIT OF PUBLICATION**

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**THE Denver Newspaper Agency  
DENVER, CO**

**PUBLISHER'S AFFIDAVIT**

City and County of Denver,  
STATE OF COLORADO, SS.

Collene Curran

..... being of lawful  
age and being first duly sworn upon oath, deposes and says:

Legal Advertising Reviewer

That he/she is the .....  
Of The Denver Newspaper Agency, publisher of the Denver Post and  
Rocky Mountain News, daily newspapers of general Circulation published  
and printed in whole or in part in Denver, in the County of Denver and  
State of Colorado, and that said newspaper was Prior to and during  
all the time hereinafter mentioned duly qualified For the publication of  
legal notices and advertisements within the Meaning of an Act of the  
General Assembly of the State of Colorado,  
Approved April 7, 1921, as amended and approved March 30, 1923;  
And as amended and approved March 5, 1935, entitled "An Act  
Concerning Legal Notices, Advertisements and Publications and the  
Fees of printers and publishers thereof, and to repeal all acts and parts  
Of acts in conflict with the provision of this Act" and amendments  
Thereeto:

That the notice, of which the annexed is a true copy, was published in  
The said newspaper to wit: (dates of publication)

February 8, 2004

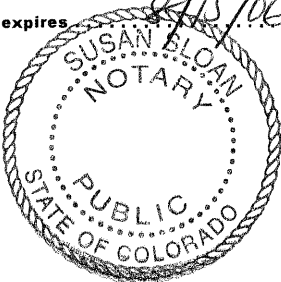
Signature

Subscribed and sworn to before me this 9th ..... day

Of FEBRUARY ..... A.D. 2004.

Notary Public.

My commission expires



**Notice of Availability**

Interested parties are hereby notified that Buckley Air Force Base (BAFB) has prepared a Draft Environmental Assessment (EA) and a Draft Finding of No Significant Impact (FONSI) for the proposed construction and operation of a live fire-fighting training area at BAFB, Colorado.

**Statutory Authority.** This notice is being issued to interested parties in accordance with the National Environmental Policy Act (Public Law, [PL] 91-190, 42 United States Code 4321 et seq.) as amended in 1975 by PL 94-52 and PL 94-83.

**Purpose.** The purpose and the need for the proposed action is to meet the live fire-fighting training requirements for fire fighters according to the National Fire Protection Association code 1500, Air Force Instruction 32-2001, Department of Defense Instruction (DODI) 6055.6, and DODI 6055.6M. Currently, fire fighters for BAFB and Colorado Air National Guard (COANG) are undertaking live fire-fighting training for aircraft fire fighting at Peterson AFB in Colorado Springs, approximately 63 miles south of BAFB. Fire fighters are paid overtime wages and travel expenses to undertake training at Peterson AFB on their days off shift. Alternatives considered for this proposed action include (1) the no action alternative, which includes the continuation of fire-fighting training activities at Peterson AFB, Colorado and (2) live fire-fighting training activities at Denver International Airport.

**Comments:** Comments on the Draft EA should be directed to Elise Sherva, 460 CES/CEVP, 660 S. Aspen Street (Stop 86), Bldg. 1005, Room 254, Buckley AFB, Colorado 80011-9551 (303) 677-9077. The comment period is open for 30 days from 08 February 2004 following the publication of this notice in a general circulation newspaper. Copies of the Draft EA are available for review by the public at the Aurora Central Library, 14949 E. Alameda Drive, Aurora, Colorado 80012 and the Denver Public Library, Government Documents Section, 10 West 14th Avenue, Denver, Colorado, 80204. Copies may also be obtained by writing to BAFB at the address listed above.



- 1 **APPENDIX D**
- 2 **INTERAGENCY COORDINATION LETTERS**

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## GEO-MARINE, INC.

550 East 15th Street  
Plano, Texas 75074

phone: 972.423.5480  
email: [gmi@geo-marine.com](mailto:gmi@geo-marine.com)

fax: 972.422.2736  
website: [geo-marine.com](http://geo-marine.com)

11 December 2003

Natalie Brower-Kirton  
Water Conservation Specialist  
City of Aurora  
15151 E. Alameda Parkway  
Aurora, CO 80012  
*Via e-mail*

RE: Preliminary Draft Environmental Assessment for a Proposed Live Fire Fighting Training Area on Buckley Air Force Base

Dear Ms. Brower-Kirton,

Buckley Air Force Base (BAFB) is currently in the planning stages of constructing a live fire fighting training area southeast of Taxiway M on base (Attachment 1). BAFB would like to solicit your input on the inclusion of a grit chamber and lined retention feature that would capture and store water used and recycled for fire-fighting training activities.

BAFB is proposing the construction, installation, and operation of a steel fire fighting training structure (approximately 2,100 square feet), a mobile aircraft fire fighting trainer with a fuel spill burn area (approximately 1,300 square feet), as well as the construction of ancillary facilities (i.e., roads, propane holding tank, concrete pads, retention feature). Proposed construction activities would include a 40,000 square foot concrete pad, a 1,012 square foot concrete pad, and a 100 square foot concrete pad. Roads, with sufficient area for fire vehicle maneuverability, would be paved to avoid picking up dirt and other foreign objects and debris, which could be carried onto the airfield in the event of a fire response. Additionally, a water holding feature of 300,000 gallons would be constructed to capture and reuse water from fire fighting training activities.

The water holding feature would be constructed to catch surface flow from fire fighting training activities. This retention feature would be a pond of no more than 300,000 gallons, where surface flow from fire fighting activities would be captured, reused for additional training activities, or would be allowed to evaporate. Water used during fire training activities would be brought on site via fire vehicles. The water conservation/retention pond would also be used to store the water between exercises. Some standard maintenance procedures, such as liner repair and winterization would require the draining of the pond at certain times of the year. During such procedures, the water would be treated and discharged into the storm sewer system.

Should you have any questions or need further information, please contact me at (972) 423/5480 or via e-mail at [rshneider@geo-marine.com](mailto:rshneider@geo-marine.com). I look forward to your input on this issue.

Sincerely,

Geo-Marine, Inc.

*//signed//*

Rae Lynn Schneider  
NEPA Project Manager

cc: Ron Moore, GMI  
Elise Sherva, BAFB  
ref: 12560.00.55.02



## GEO-MARINE, INC.

550 East 15th Street  
Plano, Texas 75074

phone: 972.423.5480  
email: [gmi@geo-marine.com](mailto:gmi@geo-marine.com)

fax: 972.422.2736  
website: [geo-marine.com](http://geo-marine.com)

11 December 2003

Jim Ives, CEP  
Environmental Planning  
City of Aurora  
15151 E. Alameda Parkway  
Aurora, CO 80012  
*Via e-mail*

RE: Preliminary Draft Environmental Assessment for a Proposed Live Fire Fighting Training Area on Buckley Air Force Base

Dear Mr. Ives,

Buckley Air Force Base (BAFB) is currently in the planning stages of constructing a live fire fighting training area southeast of Taxiway M on base (Attachment 1). BAFB would like to solicit your input on the inclusion of a grit chamber and lined retention feature that would capture and store water used and recycled for fire-fighting training activities.

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Should you have any questions or need further information, please contact me at (972) 423/5480 or via e-mail at [rschneider@geo-marine.com](mailto:rschneider@geo-marine.com). I look forward to your input on this issue.

Sincerely,

Geo-Marine, Inc.

*//signed//*

Rae Lynn Schneider  
NEPA Project Manager

cc: Ron Moore, GMI  
Elise Sherva, BAFB  
ref: 12560.00.55.02

DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)



Lt Col Christopher C. McLane  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Kathleen A. Mansfield-Hall  
Nevin Gun Club L.L.C.  
631 Salida Way, A-4  
Aurora CO 80011

Dear Ms. Mansfield-Hall

The Air Force prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for construction and operation of a fire training facility on the eastern boundary of the installation. This project is required to support the mission at Buckley Air Force Base. Personnel currently travel to off-site locations to accomplish this training. The Draft EA and Draft FONSI are available for review at the Aurora and Denver Public Libraries.

The public comment period for this EA is 30 days. Please provide any written comments to:

460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Environmental Planning Chief, at 303-677-9077, email: [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, email: [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

Sincerely

A handwritten signature in black ink, appearing to read "Ch c 21".

CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

EL987332330US

Lt Col Christopher C. McLane  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Natalie Brower-Kirton  
Water Conservation Specialist  
City of Aurora  
15151 East Alameda Parkway  
Aurora CO 80012

Dear Ms. Brower-Kirton


The Air Force prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for construction and operation of a fire training facility to support the mission at Buckley Air Force Base. Personnel currently travel to off-site locations to accomplish this training. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Environmental Planning Chief, at 303-677-9077, email: [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, email: [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

Sincerely

  
CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer

Attachments:  
Draft EA  
Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

EL987332326US

Lt Col Christopher C. McLane  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

David Rathke  
U.S. Environmental Protection Agency, Region 8  
999 18th Street, Suite 500  
Denver CO 80202

Dear Mr Rathke


The Air Force prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for construction and operation of a fire training facility to support the mission at Buckley Air Force Base. Personnel currently travel to off-site locations to accomplish this training. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Environmental Planning Chief, at 303-677-9077, email: [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, email: [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

Sincerely

  
CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer

Attachments:  
Draft EA  
Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

Lt Col Christopher C. McLane  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Jennifer Lane  
U.S. Environmental Protection Agency, Region 8  
999 18th Street, Suite 500  
Denver CO 80202

Dear Ms. Lane

The Air Force prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for construction and operation of a fire training facility to support the mission at Buckley Air Force Base. Personnel currently travel to off-site locations to accomplish this training. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Environmental Planning Chief, at 303-677-9077, email: [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, email: [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

Sincerely

  
CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer

Attachments:  
Draft EA  
Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

EL987332309US

Lt Col Christopher C. McLane  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Cynthia Cody  
NEPA Unit Chief  
U.S. Environmental Protection Agency, Region 8  
999 18th Street, Suite 500  
Denver CO 80202

Dear Ms. Cody

The Air Force prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for construction and operation of a fire training facility to support the mission at Buckley Air Force Base. Personnel currently travel to off-site locations to accomplish this training. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Environmental Planning Chief, at 303-677-9077, email: [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, email: [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

Sincerely

  
CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer

Attachments:  
Draft EA  
Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

EL987332290US

Lt Col Christopher C. McLane  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Kevin Wegener  
Manager, Wastewater Operations  
City of Aurora  
1515 East Alameda Parkway  
Aurora CO 80012

Dear Mr. Wegener


The Air Force prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for construction and operation of a fire training facility to support the mission at Buckley Air Force Base. Personnel currently travel to off-site locations to accomplish this training. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Environmental Planning Chief, at 303-677-9077, email: [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, email: [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

Sincerely

  
CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer

Attachments:  
Draft EA  
Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

EL987332286US

Lt Col Christopher C. McLane  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Eliza Moore  
Wildlife Manager  
Colorado Division of Wildlife  
6060 South Broadway  
Denver CO 80216

Dear Ms. Moore


The Air Force prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for construction and operation of a fire training facility to support the mission at Buckley Air Force Base. Personnel currently travel to off-site locations to accomplish this training. The Draft EA and Draft FONSI are attached for your information, review, and comment.

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Buckley AFB CO 80011-9551

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Sincerely

  
CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer

Attachments:  
Draft EA  
Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

EL987332272US

Lt Col Christopher C. McLane  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Eugene Jansak  
Industrial Waste Specialist  
Metro Wastewater Reclamation District  
6450 York Street  
Denver CO 80229-7499

Dear Mr. Jansak

The Air Force prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for construction and operation of a fire training facility to support the mission at Buckley Air Force Base. Personnel currently travel to off-site locations to accomplish this training. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Environmental Planning Chief, at 303-677-9077, email: [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, email: [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

Sincerely

A handwritten signature in black ink, appearing to read "C. McLane".

CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer

Attachments:  
Draft EA  
Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

EL987332365US

Lt Col Christopher C. McLane  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Bruce Rosenlund  
Colorado Field Supervisor  
U.S. Fish and Wildlife Service  
755 Parfet Street, Suite 361  
Lakewood CO 80215

Dear Mr Rosenlund

The Air Force prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for construction and operation of a fire training facility to support the mission at Buckley Air Force Base. Personnel currently travel to off-site locations to accomplish this training. The Draft EA and Draft FONSI are attached for your information, review, and comment, to include review per Section 7 of the Endangered Species Act.

The public comment period for this EA is 30 days. Please provide any written comments to:

460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Environmental Planning Chief, at 303-677-9077, email: [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, email: [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

Sincerely

  
CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer

Attachments:  
Draft EA  
Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

EL987332374US

Lt Col Christopher C. McLane  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Denise Balkas  
Director of Planning  
City of Aurora  
15151 East Alameda Parkway  
Aurora CO 80012

Dear Ms. Balkas

The Air Force prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for construction and operation of a fire training facility to support the mission at Buckley Air Force Base. Personnel currently travel to off-site locations to accomplish this training. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Environmental Planning Chief, at 303-677-9077, email: [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, email: [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

Sincerely

  
CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer

Attachments:  
Draft EA  
Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

EL987332388US

Lt Col Christopher C. McLane  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

James Ives, C.E.P.  
Planning, Environmental Division  
City of Aurora  
15151 East Alameda Parkway  
Aurora CO 80012

Dear Mr. Ives

The Air Force prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for construction and operation of a fire training facility to support the mission at Buckley Air Force Base. Personnel currently travel to off-site locations to accomplish this training. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Environmental Planning Chief, at 303-677-9077, email: [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, email: [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

Sincerely

  
CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer

Attachments:  
Draft EA  
Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

Lt Col Christopher C. McLane  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Ed LaRock  
Federal Facilities HMWM 2800  
Colorado Department of Public Health and Environment  
4300 Cherry Creek Drive, South  
Denver CO 80246-1530

Dear Mr. LaRock

The Air Force prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for construction and operation of a fire training facility to support the mission at Buckley Air Force Base. Personnel currently travel to off-site locations to accomplish this training. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Environmental Planning Chief, at 303-677-9077, email: [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, email: [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

Sincerely

  
CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer

Attachments:  
Draft EA  
Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

Lt Col Christopher C. McLane  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Brad Beckman  
Manager Environmental Planning  
Colorado Department of Transportation  
4201 East Arkansas Avenue  
Denver CO 80222

Dear Mr. Beckman


The Air Force prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for construction and operation of a fire training facility to support the mission at Buckley Air Force Base. Personnel currently travel to off-site locations to accomplish this training. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The public comment period for this EA is 30 days. Please provide any written comments to:

460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Environmental Planning Chief, at 303-677-9077, email: [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, email: [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

Sincerely

  
CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer

Attachments:  
Draft EA  
Draft FONSI



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

Lt Col Christopher C. McLane  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

William and Verna Simons  
22285 East Alameda  
Aurora CO 80018

Dear Mr. And Mrs. Simons

The Air Force prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for construction and operation of a fire training facility on the eastern boundary of the installation. This project is required to support the mission at Buckley Air Force Base. Personnel currently travel to off-site locations to accomplish this training. The Draft EA and Draft FONSI are available for review at the Aurora and Denver Public Libraries.

The public comment period for this EA is 30 days. Please provide any written comments to:

460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Environmental Planning Chief, at 303-677-9077, email: [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, email: [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

Sincerely

  
CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer



550 East 15th Street Plano, Texas 75074-5708

ph: 972.423.5480 fax: 972.422.2736

[www.geo-marine.com](http://www.geo-marine.com)

EL987332269US

05 February 2004

Librarian  
Aurora Central Library  
14949 East Alameda Drive  
Aurora, Colorado 80012

RE: Draft Environmental Assessment for the Proposed Construction and Operation of a  
Live Fire-Fighting Training Area at Buckley Air Force Base, Colorado  
Public Review Copy

Dear Librarian:

Please find enclosed a copy of the Draft Environmental Assessment prepared for the proposed construction and operation of a live fire-fighting training area at Buckley Air Force Base, Colorado. A notice of availability for this document has been published by the Denver Newspaper Agency in the local Denver newspapers. Please make this document available for public review from 08 February to 08 March 2004.

Please contact me at 972/423-5480 or via e-mail at [rschneider@geo-marine.com](mailto:rschneider@geo-marine.com), or Elise Sherva, 460 CES/CEVP, Buckley Air Force Base at 303/677-9077 or via e-mail at [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) with any questions. Thank you in advance for your assistance.

Sincerely,

Geo-Marine, Inc.



Rae Lynn Schneider  
NEPA Project Manager

Enclosures (1)

cc: Elise Sherva, BAFB

file ref. 12560.00.55.03





Since 1972

**GEO-MARINE, INC.**  
ENGINEERING AND ENVIRONMENTAL SERVICES

EL987332255US

05 February 2004

Librarian  
Denver Public Library  
Government Documents Section  
10 West 14<sup>th</sup> Avenue  
Denver, Colorado 80204

RE: Draft Environmental Assessment for the Proposed Construction and Operation of a  
Live Fire-Fighting Training Area at Buckley Air Force Base, Colorado  
Public Review Copy

Dear Librarian:

Please find enclosed a copy of the Draft Environmental Assessment prepared for the proposed construction and operation of a live fire-fighting training area at Buckley Air Force Base, Colorado. A notice of availability for this document has been published by the Denver Newspaper Agency in the local Denver newspapers. Please make this document available for public review from 08 February to 08 March 2004.

Please contact me at 972/423-5480 or via e-mail at [rschneider@geo-marine.com](mailto:rschneider@geo-marine.com), or Elise Sherva, 460 CES/CEVP, Buckley Air Force Base at 303/677-9077 or via e-mail at [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) with any questions. Thank you in advance for your assistance.

Sincerely,

Geo-Marine, Inc.



Rae Lynn Schneider  
NEPA Project Manager

Enclosures (1)

cc: Elise Sherva, BAFB

file ref. 12560.00.55.03





DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

JAN 22 2004

Lt Col Christopher C. McLane  
460th Civil Engineer Squadron  
660 South Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Georgianna Contiguglia  
State Historic Preservation Officer  
Colorado History Museum  
1300 Broadway  
Denver CO 80203-2137

Dear Ms. Contiguglia

The Air Force is preparing an Environmental Assessment for the construction and operation of a new Fire Training Facility. The proposed action, which is the construction and operation of a live fire training area, is required to meet mission requirements and needs. The fire training area would include a steel fire training structure, a mobile aircraft fire trainer, as well as ancillary facilities (i.e. roads, propane holding tank, concrete pads). The alternatives are to continue using the existing facilities at Peterson AFB in Colorado Springs or Denver International Airport. The attached figure shows the area in which the fire training facility would be constructed.

In compliance with Section 106 of the National Historic Preservation Act, Buckley AFB has determined that the proposed action, and alternatives, would not have an adverse affect on historic properties. There are no known archaeological or historic structure resources in, or near, the proposed sites at Buckley AFB and the off-base sites are established sites within Colorado.

Please provide written comments and/or concurrence to:

Elise Sherva  
460 CES/CEVP  
660 South Aspen Street, (Stop 86)  
Buckley AFB CO 80011-9551

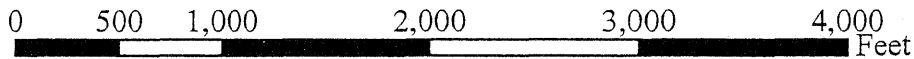
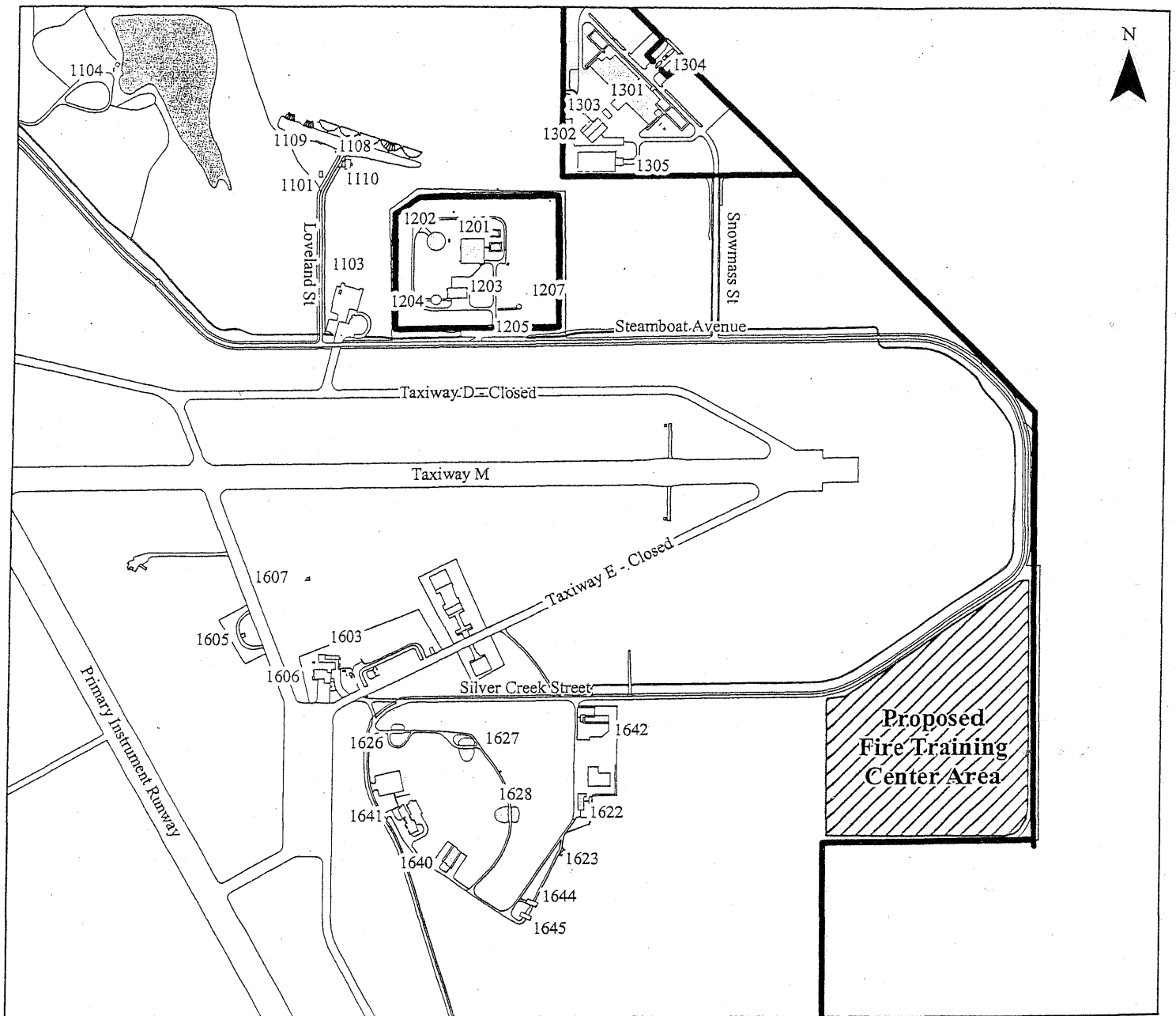
For further questions please contact Ms. Sherva, Environmental Planning Chief at 303-677-9077, email [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) or Ms. Janet Wade, Environmental Flight Chief at 303-677-9977, email [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).


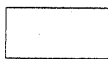


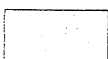
Sincerely

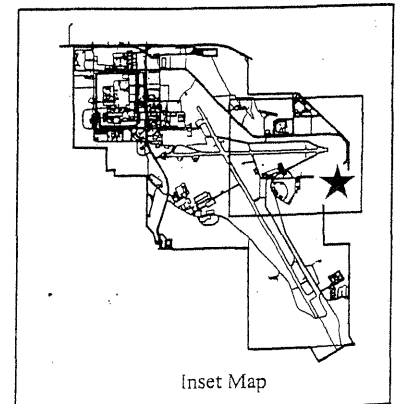
A handwritten signature in black ink, appearing to read "C. C. McLane".

CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer

Attachment  
Location figure



-  Proposed Fire Training Center Area
-  Existing Structures
-  Transportation Network
-  Fence Line
-  Lake Willams



# Proposed Fire Training Center Buckley AFB, CO

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Georgianna Contiguglia  
 Colorado State Historic Preservation Officer  
 Colorado History Museum  
 1300 Broadway  
 Denver CO 80203-2137

2. Article Number (Copy from service label)

7003 1680 0002 6809 7791

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) B. Date of Delivery

1-26-0

C. Signature

X *[Signature]*  Agent  
 Addres

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type

- Certified Mail  Express Mail
- Registered  Return Receipt for Merchandise
- Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes

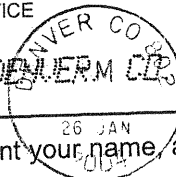
PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-17

UNITED STATES POSTAL SERVICE

ISS #4 DENVER CO



First-Class Mail  
 Postage & Fees Paid  
 ISSN # 0000-0000  
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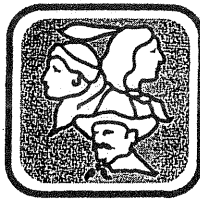
• Sender: Please print your name, address, and ZIP+4 in this box •

Sherva  
 460 CES/CEVP  
 660 S. Aspen Street, MS 86  
 Buckley AFB CO 80011-9551

ref: Fire Training SHPO

55





COLORADO  
HISTORICAL  
SOCIETY

The Colorado History Museum 1300 Broadway Denver, Colorado 80203-2137

January 29, 2004

Lt. Col. Christopher C. McLane  
460<sup>th</sup> Civil Engineer Squadron  
18401 East A-Basin Avenue (Stop 86)  
Buckley AFB, CO 80011-9524

Re: Environmental Assessment for the construction and operation of a new Fire Training Facility (CHS #42436)

Dear Lt. Col. McLane,

Thank you for your correspondence received by our office on January 21, 2004 regarding the above-mentioned project.

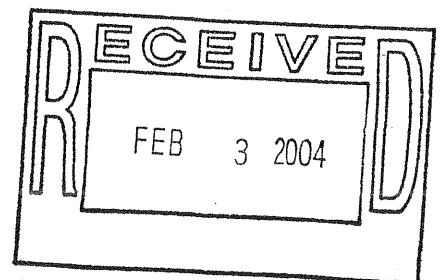
After reviewing the submitted information, it is our opinion that there are no historic properties present within the area of potential effect. Therefore, staff has determined under the Section 106 review that the undertaking will have a finding of *no historic properties affected*.

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

Sincerely,

for Georgianna Contiguglia  
State Historic Preservation Officer

cc: Elise Sherva, Buckley AFB





DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

EL987332357US

Lt Col Christopher C. McLane  
460th Civil Engineer Squadron  
660 S. Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Georgianna Contiguglia  
State Historic Preservation Officer  
Colorado History Museum  
1300 Broadway  
Denver CO 80203-2137

Dear Ms. Contiguglia

The Air Force prepared a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for construction and operation of a fire training facility to support the mission at Buckley Air Force Base. Personnel currently travel to off-site locations to accomplish this training. The Draft EA and Draft FONSI are attached for your information, review, and comment.

The Air Force has determined that the proposed action or alternatives would not have adverse impacts on archaeological or historical resources per Section 106 consultation, per the National Historic Preservation Act (see letter dated 22 Jan 04). The public comment period for this EA is 30 days. Please provide any written comments to:

460 CES/CEVP  
660 S Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

If you have any questions please feel free to contact Ms. Elise Sherva, Environmental Planning Chief, at 303-677-9077, email: [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) or Ms. Janet Wade, Environmental Flight Chief, at 303-677-9977, email: [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

Sincerely

A handwritten signature in black ink, appearing to read "C. McLane".

CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer

Attachments:  
Draft EA  
Draft FONSI



- 1 **APPENDIX E**
- 2 **COMMENTS AND RESPONSES TO COMMENTS**

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12

13

Planning Department  
15151 E. Alameda Parkway  
Aurora, Colorado 80012  
Phone: 303-739-7250  
Fax: 303-739-7268  
www.auroragov.org



February 27, 2004

Ms. Elise Sherva  
Conservation Chief  
460 CES/CEVP  
660 S. Aspen Street, Stop 86  
Building 1005, Room 254  
Buckley AFB, CO 80011-9551

Dear Ms. Sherva:

**RE: Comments on Draft EA and FONSI for Construction and Operation of a Fire Training Facility at BAFB**

The staff for the City of Aurora, Colorado has reviewed the above-referenced document and has the following comments on the Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the Proposed Construction and Operation of a Live Fire-Fighting Training Area at Buckley Air Force Base (BAFB):

**General Comments:**

Staff concurs with the assessment that only minimal environmental impacts will result from the construction and operation of the proposed fire training area. However, we urge that care be exercised in the design, construction and operation of the facility. Historically, fire-training areas have been the source of significant environmental contamination, such as Sites 1 and 5 at BAFB and sites at the former Lowry AFB. This is especially true at sites where jet fuel and other liquid petroleum products were used in the training. The use of gaseous propane fuel and planned water reuse and lined retention pond should reduce the potential for environmental contamination.

**Specific Comments:**

**Section 2.2.3 – Facilities Operation (Page 2-6, lines 9-11)**

- This section states that water from fire training exercises would be treated and discharged into the storm sewer system, whereas Section 2.2.2 states that water would be discharged into the sanitary sewer system. The text should be clarified. In addition, any industrial waste water discharges into the storm sewer system would require modifications to the Colorado Discharge Permit System permit and would require specific written approval from the City of Aurora Utilities Department.

### **Section 3.4 – Air Quality - Existing Conditions**

- Page 3-6, line 4 – Suggest changing the words “had been” to “was formerly.”
- Page 3-6, line 8 - Suggest adding the following text at the end of the first paragraph to clarify the current air quality conditions: “The Denver metropolitan area exceeded both the 1-hour and the 8-hour ozone standards during the summer of 2003. The region has entered into an ozone Early Action Compact with EPA and has committed to an extensive ozone modeling effort and early implementation of control measures as needed to ensure attainment of the 8-hour ozone standard by 2007.”
- Page 3-6, line 12 – Suggest changing the phrase “nitrous oxides” to “oxides of nitrogen.” The two “oxides of nitrogen” that are ozone precursors are nitric oxide (NO), and nitrogen dioxide (NO<sub>2</sub>).

### **Section 4.4.2.1 – Environmental Consequences – Construction Activities**

- Page 4-13, Lines 7-9 – Suggest adding the following text to the end of the sentence: “nor are they regionally significant.”
- Page 4-13, Table 4-9 – Please document the calculation methodology. The calculation methodology should include the types of equipment expected to be used during construction, the hours of operation, and the emission factors used.
- Page 4-13, Table 4-10 – This table does not contribute meaningfully to the discussion and can be deleted since this project is not regionally significant.

### **Section 4.4.2.2 – Environmental Consequences – Facilities Operations**

- Page 4-14, Lines 2-4 – Suggest rewording the sentence as follows: “In its natural state, propane is a colorless, nontoxic, flammable gas. However, care should be used in handling since propane is a simple asphyxiant and can form explosive mixtures in air, particularly in enclosed spaces.”
- Page 4-14, Line 15 – Please state how many gallons of propane would be burned annually and calculate the emissions.
- Page 4-14, Table 4-11 – Please state the emission factor source. Please calculate VOC emissions from propane combustion. TOC (total organic compound) emissions are listed in AP-42 Section 1.5. VOC emissions from propane combustion may be approximated by subtracting methane (CH<sub>4</sub>) emissions from TOC emissions.
- Page 4-14, Line 27-34 – The Background Document to AP-42 Section 1.5 should be reviewed for information on hazardous air pollutant (HAP) emissions from propane combustion. The Background Document states that polycyclic organic matter (POM) and formaldehyde emissions are produced from combustion of propane. It is suggested that the EA mention the likelihood of forming HAPs from burning propane and state that emissions from HAPs could not be calculated due to the lack of emission factors.
- It is recommended that fire fighter training exercises not be conducted during summer Ozone Action Alerts or during winter Red Pollution Advisories, if possible.

**Section 4.4.3.2 – Environmental Consequences – Cumulative Impacts - Facilities Operations**

- Page 4-16, Line3-9 – The entire discussion of heating and cooling emissions could be deleted from this document since there are no heating and cooling emissions, nor natural gas combustion emissions, associated with the proposed project. Emissions from the proposed project should be compared with all expected base-wide emissions and emission increases, not just those associated with heating and cooling. Most of the recently released EAs from Buckley AFB show emission increases, which should be included in the discussion of cumulative impacts.
- Page 4-16, Table 4-13 – The table does not add any meaningful data to the discussion and can be deleted. This table (minus the last two lines) would be more useful in the Comprehensive Base-Wide Facility Environmental Assessment document.

**Section 4.10.2 - Environmental Consequences – Public Utilities**

- Page 4-27, Lines 29-31 – The proposed method for disposing of waste water from fire training operations is confusing throughout the document and in this section in particular. The Metro Wastewater Reclamation District does not handle industrial wastewater discharges to the storm sewer as this section seems to indicate. Buckley's permit to discharge industrial wastewater to the **sanitary sewer** is covered by a discharge permit with the Metro Wastewater Reclamation District. If waste water from fire training operations is proposed to be discharged to the **sanitary sewer**, then Buckley's waste water permit with Metro will need to be modified to include these discharges. However, if wastewater from the fire training facility will be discharged to the storm sewer or will otherwise enter surface water, then Buckley's Colorado Discharge Permit System permit with the CDPHE Water Quality Control Division would need to be modified. Also, industrial discharges to the storm sewer would require specific written approval from the City of Aurora Utilities Department. Please clarify how wastewater from the fire training operations will be disposed of.

Thank you for giving the City the opportunity to respond to the draft EA and FONSI. We look forward to receiving the Final Environmental Assessment.

Sincerely,

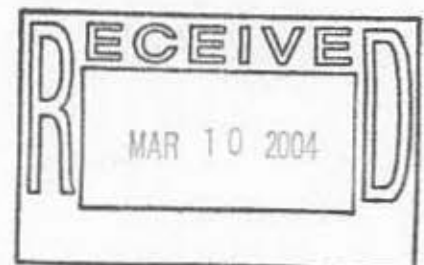


Denise M. Balkas, A.I.C.P.  
Director of Planning

DMB/jai

c: Nancy Freed, Deputy City Manager of Operations  
Jim Ives, Environmental Program Supervisor

P:\coordination activities\2003\Enviro\BUCKLEY\comments\_Draft\_BAFB-FireTrain-EA02-27-04.doc





Samuel J. Atwood, Chairman of the Board  
Anthony G. Ferraro, Chairman Pro Tem  
Kathryn E. Jensen, Secretary  
Ralph H. Mitchell, Treasurer

Robert W. Hite, District Manager

6450 York Street - Denver, Colorado 80229-7499  
(303) 286-3000 Telefax (303) 286-3030  
[www.metrowastewater.com](http://www.metrowastewater.com)

February 18, 2004

Ms. Elise Sherva, Environmental Planning Chief  
460 CES/CEVP  
660 S. Aspen Street, Stop 86  
Buckley Air Force Base, CO 80011-9551

Dear Ms. Sherva:

RE: Comments to the Draft Environmental Assessment for the Proposed Construction and Operation of a Live Fire-Fighting Training Area at Buckley Air Force Base

Thank you for the opportunity to comment on this draft Environmental Assessment (EA). The Metro Wastewater Reclamation District (Metro District) has the following comment:

- Section 4.10.2, page 4-27, of the EA describes the proposed action alternative and the sentence at the end of this section states, "Since the water would not contain any other fire suppressants, any minor non-stormwater discharges to the storm sewer from these activities would be covered under BAFB's existing permit with the Metro Wastewater Reclamation District." This sentence is technically incorrect because the Wastewater Contribution Permit issued to BAFB by the Metro District authorizes the discharge of wastewater to the sanitary sewer system and not to a storm sewer system. In addition, the Metro District's *Rules and Regulations* (see Section 6.17 [6.13.16] of Appendix A of BAFB's Wastewater Contribution Permit) prohibit discharge of storm water to the sanitary sewer system.

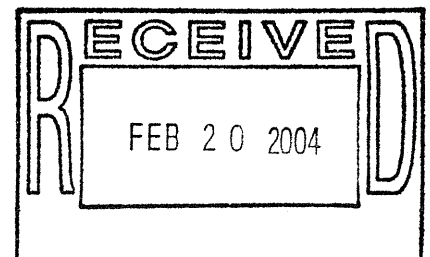
If you have any questions regarding these comments, please call me at 303-286-3447.

Sincerely,

A handwritten signature in black ink that reads "Eugene Jansak". The signature is fluid and cursive, with a large, stylized initial "E".

Eugene Jansak  
Industrial Waste Specialist

EJ/bc  
M:/BAFB Fire Fighting EA Comments 2-18-04\_epj.doc



## Sherva Elise L Civ 460 CES/CEVP

---

**From:** ED J LAROCK [ed.larock@state.co.us]  
**Sent:** Friday, March 05, 2004 1:14 PM  
**To:** elise.sherva@BUCKLEY.AF.MIL  
**Cc:** Mark.Spangler@BUCKLEY.AF.MIL; Rathke.David@epamail.epa.gov  
**Subject:** EA for Fire training at BAFB

Elise,

I have reviewed the Draft Environmental Assessment for the Proposed Construction and Operation of a Live Fire-Fighting Training Area at Buckley Air Force Base, Colorado dated February 2004 and received February 10, 2004.

I have only one comment:

Section 2.2.3, page 2-6 - The final paragraph in this section notes that water from the conservation pond or storage tank would be treated prior to discharge into the storm sewer system. Please describe the treatment methods for this procedure.

thanks you for the opportunity to comment. If you require a letter for this comment, lease let me know.

sincerely,

Ed LaRock  
Hazardous Materials and Waste Management Division  
Colorado Dept. of Public Health and Environment  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
303-692-3324  
Fax 303-759-5355  
ed.larock@state.co.us



STATE OF COLORADO

Bill Owens, Governor  
DEPARTMENT OF NATURAL RESOURCES  
**DIVISION OF WILDLIFE**

AN EQUAL OPPORTUNITY EMPLOYER

Bruce McCloskey, Acting Director  
6060 Broadway  
Denver, Colorado 80216  
Telephone: (303) 297-1192



*For Wildlife-  
For People*

March 15, 2004

Elise Sherva  
460 CES/CEV  
660 S. Aspen Street, Stop 86  
Buckley AFB, CO 80011-9551

RE: Draft Environmental Assessment and Draft Finding of No Significant Impact for proposed construction of a firefighting training facility on Buckley Air Force Base.

Dear Ms. Sherva:

Thank you for the opportunity to comment on the proposed construction of the firefighting training area on Buckley Air Force Base (BAFB). The proposed facility will cover approximately 2-5 acres and will include the construction of a steel training structure, a mobile aircraft firefighting trainer with a spill burn area, concrete pads, and a lined water retention feature.

Our goal at the Colorado Division of Wildlife (CDOW) is to provide complete, consistent and timely information to all entities who request comment on matters within our statutory authority and our mission – which is to protect, preserve, enhance and manage wildlife and their environment for the use, benefit and enjoyment of the people of Colorado and its visitors.

While we have not recently visited the site, the majority of currently undeveloped land at BAFB consists primarily of fragmented habitat surrounded by development. Noxious weeds such as thistle and knapweed have also been found in past visits. The Division would expect to find a variety of small ground-dwelling mammals, ground-nesting birds, red fox, coyotes, and passerine birds at the proposed site. These animals are capable of moving to the undisturbed habitat surrounding the proposed site.

Currently, CDOW policy directs our efforts towards proposals that will potentially have high impacts to wildlife and wildlife habitat. The emphasis of the Division's concerns is on large acreages, critical habitats, wildlife diversity, and impacts to species of special concern, or those that are state or federally endangered. Due to the small acreage and low availability of undisturbed habitat adjacent to the proposed site, impacts of the proposed construction may be characterized as minimal.

Therefore, in this case, we want to focus our recommendations on planning and implementing your proposal to minimize negative impacts and maximize potential enhancements to support living with wildlife in our community. In regard to the potential water detention pond, we would recommend that willows and/or cottonwoods be planted along the perimeter. These types of planting will aid in providing habitat for a variety of small mammals, songbirds, reptiles, and amphibians. If prairie dogs are on site we would recommend the following:

→ We recommend that the prairie dogs be either removed alive to another location or humanely killed before

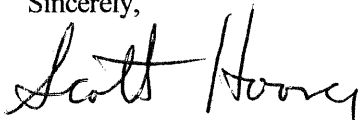
DEPARTMENT OF NATURAL RESOURCES, Russell George, Executive Director  
WILDLIFE COMMISSION, Philip James, Chair • Jeffrey Crawford, Vice-Chair • Brad Phelps, Secretary  
Members, Bernard Black • Tom Burke • Rick Enstrom • Claire O'Neal • Robert Shoemaker • Ken Torres  
Ex Officio Members, Russell George and Don Ament

any earth-moving occurs; and

- Since burrowing owls use prairie dog towns and live in prairie dog holes, the following should be observed:
- If construction is to occur between March 1 and October 31, we suggest that the area be checked for the presence of burrowing owls prior to any earth-moving taking place. The owls are susceptible to being buried and killed in their holes by construction activity. They are protected by law and killing one is illegal.
  - If construction is done between November 1 and February 28, it is very unlikely that owls would be present since they migrate out of state during the winter.

If you have further questions, please contact District Wildlife Manager Joe Padia at (303)291-7162.

Sincerely,

A handwritten signature in cursive script that reads "Scott Hoover".

Scott Hoover  
NE Region Manager



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8  
999 18<sup>TH</sup> STREET - SUITE 300  
DENVER, CO 80202-2466  
Phone 800-227-8917  
<http://www.epa.gov/region08>

March 18, 2004

Ref: 8 EPR-F

Anthony Fontanetta, 1Lt, USAF  
Chief, Environmental Planning  
660 South Aspen Street, Stop 86  
Buckley AFB, CO 800011-9551

Re: Draft Environmental Assessment for the Proposed Construction and Operation of a Live Fire-Fighting Area At Buckley Air Force Base, Colorado

Draft Environmental Assessment for the Proposed Construction and Operation of an Outdoor Recreation Equipment Rental Facility at Buckley Air Force Base, CO

Dear Mr. Fontanetta:

The Environmental Protection Agency, Region 8 Federal Facilities Program has reviewed the above listed Environmental Assessments. The following comments are provided for your consideration.

In both documents the Environmental Restoration Program was considered as having "no significant impact". At this time we concur, however, as a point of information, a base-wide Preliminary Assessment is being planned for the near future. The intent is to determine if any previously undiscovered sites on the base need to be examined for possible contamination. Depending on the results from this investigation, either site could be impacted and require remediation.

**Live Fire-Fighting Training Area**

Page 2-6 Lines 7 and 8. "During such procedures, the water would be treated and discharged into the sewer system". Please specify the proposed treatment process and the constituents being targeted for treatment.



The H-70 Fuel Storage/Medical Pharmacy EA is cited several times in this document, however, it does not seem to appear in the reference section.

**Outdoor Recreation Equipment Rental Facility**

No specific comments related to this document.

**Comments Not Specific to these Documents**

EA Distribution:

Please remove Jennifer Lane, USEPA Region 8 from the distribution list.

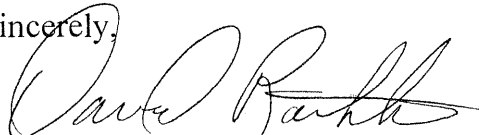
Please change Cynthia Cody, NEPA Unit Chief to Larry Svoboda, NEPA Unit Chief.

In correspondences, please change Ms. Rathke to Mr. Rathke.

I would appreciate receiving a copy of the H-70 Fuel Storage/Medical Pharmacy EA dated March 2003, at your convenience.

If you have any questions please contact me at 303 312-6016 or [Rathke.David@EPA.GOV](mailto:Rathke.David@EPA.GOV).

Sincerely,

A handwritten signature in black ink, appearing to read "David Rathke". The signature is fluid and cursive, with the first name "David" being larger and more prominent than the last name "Rathke".

David Rathke  
Federal Facilities Program

cc: Ed LaRock  
Mark Spangler



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

MAY 25 2004

Lt Col Christopher C. McLane  
Commander, 460th Civil Engineer Squadron  
660 South Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Denise M. Balkas  
City of Aurora  
Director of Plans  
15151 East Alameda Parkway  
Aurora CO 80012

Dear Ms. Balkas

Thank you for your letter, dated 27 February 2004, on the Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for construction and Operation of a Fire Training Facility at Buckley Air Force Base (BAFB). Our responses follow:

**Section 2.2.2:**

The last paragraph in Section 2.2.2 has been deleted. Water used for fire-fighting training would be reutilized during additional exercises and only a small amount of surplus water would be generated. This water would be discharged to the storm sewer as described above. Water from the conservation/retention pond would not be discharged down the sanitary sewer since it is prohibited per the existing Wastewater Contribution Permit.

**Section 2.2.3:**

Page 2-6, lines 9-11

The last paragraph in Section 2.2.3 has been changed to:

"The conservation/retention pond is being put in place to recycle and reuse water for fire-fighting training. Additional maintenance on the pond would include management of aquatic vegetation to discourage use by migratory birds. It is not anticipated that the water will be regularly discharged from the pond to the storm sewer system. The majority of water will either be reused or evaporate. The only probable discharges to the storm sewer system would be associated with some standard maintenance procedures, including liner repair and winterization or tank repair, which would require draining the conservation/retention pond. Prior to any discharge, the water would be tested to confirm that it was uncontaminated. During such procedures, water from the pond or storage tank would be handled, tested, and or treated per the applicable regulations prior to discharging to the storm sewer system. Fire-fighting training will be performed using propane as the fuel and water as the fire suppressant. Therefore, no water contamination is anticipated and treatment prior to discharge is not expected to be necessary. Discharges to the storm sewer system will need to comply with the Multi-Sector General Permit (which allows non-stormwater discharge from fire fighting activities and fire

hydrant flushings). Because BAFB discharges into the City of Aurora's storm sewer system, coordination with the City of Aurora will also be required to insure compliance with BAFB's EPA Municipal Separate Storm Sewer System (MS4) (compliance with BAFB's MS4 contributes to ensuring compliance of Aurora's Colorado MS4 permit)."

### **Section 3.4:**

Page 3-6, line 4

"had been" was changed to "was formerly"

Page 3-6, line 8

The following text was added:

"The Denver metropolitan area exceeded both the 1 hour and the 8-hour ozone standards during the summer of 2003. The region has entered into an ozone Early Action Compact with EPA and has committed to an extensive ozone modeling effort and early implementation of control measures as needed to ensure attainment of the 8-hour ozone standard by 2007."

Page 3-6, line 12

"nitrous oxides" was changed to "oxides of nitrogen"

### **Section 4.4.2.1**

Page 4-13, lines 7-9

"nor are they regionally significant." added to end of sentence.

Page 4-13, Table 4-9

The calculation methodology is included as part of the administrative record and is used by the deciding authorities to make an informed decision on the proposed action.

Page 4-13, Table 4-10

Table 4-10 was removed

### **Section 4.4.2.2**

Page 4-14 lines 2-4

The sentence was reworded as follows:

"In its natural state, propane is a colorless, nontoxic, flammable gas. However, care should be used in the handling of propane due to its properties as a simple asphyxiant and potential to form explosive mixtures in air, particularly in enclosed spaces"

Page 4-14, line 15

The calculation methodology is included as part of the administrative record and is used by the deciding authorities to make an informed decision on the proposed action.

Page 4-14, Table 4-11

The source of the emissions factor was added to Table 4-11. VOC emissions from propane combustion were approximated.

Page 4-14, Line 27-34

This following paragraph was added to the EA at the bottom of page 4-14.

There are 188 hazardous air pollutants (HAPs), also known as toxic air pollutants, specifically listed by the USEPA pursuant to Title III of the Clean Air Act (CAA) amendments. HAPs are pollutants that cause or may cause serious health effects and have adverse environmental or ecological effects. The Compilation of Air Pollutant Emission Factors (AP-42) does not currently include emission factors for the combustion of propane. However, due to the "clean" nature of propane, the additional HAP emissions should constitute less than a fraction of a percent of the entire on-base HAP emissions, which is 0.83 ton per year at BAFB.

We will take into consideration your recommendation for not conducting exercises during summer Ozone Action Alerts or during winter Red Pollution Advisories if possible. The EA was not changed since this is a procedural recommendation that would not change the calculations or the final determination of significance.

**Section 4.4.3.2**

Page 4-16, line 3-9

The purpose of section 4.4.3.2 and Table 4-13 is to identify the emissions associated with the operation of the live fire fighting training area and all other previous, proposed, and reasonably foreseeable future operational activities from other structures on BAFB.

Page 4-16, Table 4-13

See response to previous comment.

**Section 4.10.2**

Page 4-27 Lines 29-31

See Response to the comment re: Section 2.2.3: Page 2-6, lines 9-11.

Please contact Ms. Elise Sherva at 720-847-9077, Email [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) if you have any questions or require further information.

Sincerely,



CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

Lt Col Christopher C. McLane  
Commander, 460th Civil Engineer Squadron  
660 South Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

MAY 25 2004


Ed LaRock, Environmental Protection Specialist  
Colorado Department of Public Health and Environment  
Hazardous Materials and Waste Management Division  
4300 Cherry Creek Drive South  
Denver CO 80246

Dear Mr. LaRock

Thank you for your comments, dated 5 Mar 04, on the Environmental Assessment (EA) for the Proposed Construction and Operation of a Live Fire-Training Area. The last paragraph in Section 2.2.3 has been changed to:

"The conservation/retention pond is being put in place to recycle and reuse water for fire-fighting training. Additional maintenance on the pond would include management of aquatic vegetation to discourage use by migratory birds. It is not anticipated that the water will be regularly discharged from the pond to the storm sewer system. The majority of water will either be reused or evaporate. The only probable discharges to the storm sewer system would be associated with some standard maintenance procedures, including liner repair and winterization or tank repair, which would require draining the conservation/retention pond. Prior to any discharge, the water would be tested to confirm that it was uncontaminated. During such procedures, water from the pond or storage tank would be handled, tested, and or treated per the applicable regulations prior to discharging to the storm sewer system. Fire-fighting training will be performed using propane as the fuel and water as the fire suppressant. Therefore, no water contamination is anticipated and treatment prior to discharge is not expected to be necessary. Discharges to the storm sewer system will need to comply with the Multi-Sector General Permit (which allows non-stormwater discharge from fire fighting activities and fire hydrant flushings). Because BAFB discharges into the City of Aurora's storm sewer system, coordination with the City of Aurora will also be required to insure compliance with BAFB's EPA Municipal Separate Storm Sewer System (MS4) (compliance with BAFB's MS4 contributes to ensuring compliance of Aurora's Colorado MS4 permit)."

If you have any further questions please feel free to contact Ms. Elise Sherva, NEPA Program Manager, at 720-847-9077, E-mail [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil), or Ms. Janet Wade, Environmental Flight Chief, at 720-847-9977, E-mail [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

  
CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

MAY 25 2004

Lt Col Christopher McLane  
Commander, 460<sup>th</sup> Civil Engineer Squadron  
660 South Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

Eugene Jansak  
Industrial Waste Specialist  
Metro Wastewater Reclamation District  
6450 York Street  
Denver CO 80229-7449

Dear Mr. Jansak

Thank you for your comment letter dated 18 Feb 04. Section 4.10.2 of the Environmental Assessment has been changed to the following:

"Since water used for fire-fighting training would be reutilized during additional exercises only a small amount of surplus water would be generated. This water would be discharged to the storm sewer per the Multi-Sector General Permit, which allows non-stormwater discharge from fire fighting activities and fire hydrant flushings. Because BAFB discharges into the City of Aurora's storm sewer system, coordination with the City of Aurora will also be required to insure compliance with BAFB's EPA Municipal Separate Storm Sewer System (MS4) (compliance with BAFB's MS4 contributes to ensuring compliance of Aurora's Colorado MS4 permit). Water from the conservation/retention pond would not be discharged down the sanitary sewer since it is prohibited per the existing Wastewater Contribution Permit".

If you have any questions please feel free to contact Ms. Elise Sherva, NEPA Program Manager, at 720-847-9077, Email [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) or Ms. Janet Wade, Environmental Flight Chief, at 720-847-9977, Email [janet.wade@buckley.af.mil](mailto:janet.wade@buckley.af.mil).

Sincerely,

A handwritten signature in black ink, appearing to read "Chp McLane".

CHRISTOPHER McLANE, Lt Col, USAF  
Base Civil Engineer

cc

460 CES/CEVC (Ron Lancaster)



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

MAY 25 2004

Lt Col Christopher C. McLane  
Commander, 460th Civil Engineer Squadron  
660 South Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

David Rathke  
Federal Facilities Program  
United States Environmental Protection Agency  
Region 8  
99 18th Street, Suite 300  
Denver CO 80202-2466

Dear Mr. Rathke

Thank you for your letter, dated 18 March 2004, on the Draft Environmental Assessment (EA) for the Proposed Construction and Operation of a Live Fire-Training Area and the Draft EA for the Proposed Construction and Operation of an Outdoor Recreation Equipment Rental Facility at Buckley Air Force Base (AFB). Our responses to your comments follow:

- Live Fire-Training Facility

Page 2-6, lines 7 and 8. For clarification, the EA has been changed to: "The conservation/retention pond is being put in place to recycle and reuse water for fire-fighting training. Additional maintenance on the pond would include management of aquatic vegetation to discourage use by migratory birds. It is not anticipated that the water will be regularly discharged from the pond to the storm sewer system. The majority of water will either be reused or evaporate. The only probable discharges to the storm sewer system would be associated with some standard maintenance procedures, including liner repair and winterization or tank repair, which would require draining the conservation/retention pond. Prior to any discharge, the water would be tested to confirm that it was uncontaminated. During such procedures, water from the pond or storage tank would be handled, tested, and or treated per the applicable regulations prior to discharging to the storm sewer system. Fire-fighting training will be performed using propane as the fuel and water as the fire suppressant. Therefore, no water contamination is anticipated and treatment prior to discharge is not expected to be necessary. Discharges to the storm sewer system will need to comply with the Multi-Sector General Permit (which allows non-stormwater discharge from fire fighting activities and fire hydrant flushings). Because BAFB discharges into the City of Aurora's storm sewer system, coordination with the City of Aurora will also be required to insure compliance with BAFB's EPA Municipal Separate Storm Sewer System (MS4) (compliance with BAFB's MS4 contributes to ensuring compliance of Aurora's Colorado MS4 permit)."

The H-70 Fuel Storage/Medical Pharmacy EA has been added to the reference section.

- No responses are required for the Outdoor Recreation Equipment Rental Facility.

Changes to the distribution list have been made per your comments and a copy of the H-70 Fuel Storage/Medical Pharmacy EA is attached per your request.

Please contact Ms. Elise Sherva at 720-847-9077, Email [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) if you have any questions or require further information.

Sincerely,



CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer

1 Atach:  
H-70 Fuel Storage/Medical Pharmacy EA



DEPARTMENT OF THE AIR FORCE  
460TH AIR BASE WING (AFSPC)

Lt Col Christopher C. McLane  
Commander, 460th Civil Engineer Squadron  
660 South Aspen Street, Stop 86  
Buckley AFB CO 80011-9551

MAY 25 2004

Scott Hoover  
NE Region Manager  
Colorado Division of Wildlife  
6060 Broadway  
Denver CO 80216

Dear Mr. Hoover

Thank you for your letter dated 15 March 2004 on the Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact for Proposed Construction and Operation of a Live Fire-Training Area. We will take your recommendations for planting cottonwoods and/or willows along the perimeter into consideration when we plan and implement the project. However, we have to balance these recommendations with other mission requirements or concerns such as the Bird Aircraft Strike Hazard program. Our current protocols for prairie dogs and burrowing owls follow your recommended procedures.

Please contact Ms. Elise Sherva at 720-847-9077, Email [elise.sherva@buckley.af.mil](mailto:elise.sherva@buckley.af.mil) if you have any questions or require further information.

Sincerely,

A handwritten signature in black ink, appearing to read "C. McLane", is positioned above the typed name.

CHRISTOPHER C. McLANE, Lt Col, USAF  
Base Civil Engineer



