Final

Environmental Assessment

Construction
at the
Colorado Army National Guard
Army Aviation Support Facility Complex

Buckley Air Force Base, Colorado



Colorado Army National Guard
and
National Guard Bureau

January 2005

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Finding of No Significant Impact

Environmental Assessment for Construction at the Colorado Army National Guard Army Aviation Support Facility Complex Buckley Air Force Base, Colorado

Introduction

Pursuant to 32 CFR 651, *Environmental Analysis of Army Actions,* and Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] 1500-1508) for implementing the procedural provisions of the National Environmental Policy Act (42 United States Code [U.S.C.] 4321 et seq.), the Colorado Army National Guard (COARNG) has conducted an Environmental Assessment (EA) of the potential environmental and socioeconomic effects associated with the construction of facilities to accommodate modern helicopter systems at Buckley Air Force Base (AFB), Colorado (CO).

Proposed Action and Alternatives Considered

Proposed Action. The Proposed Action is for the COARNG to construct facilities to accommodate modern helicopter systems and replace undersized and aging structures with larger and more modern ones. The purpose of the Proposed Action is to maintain readiness and proficiency in current aircraft systems operations. Implementation of the Proposed Action would support the COARNG's need to maintain military readiness and to ensure the ability to integrate with the active component upon mobilization in the event of war or national emergency. The COARNG planned for new facilities at the Army Aviation Support Facility (AASF) located at Buckley AFB in the 2001 Real Property Development Plan.

Alternatives. The alternatives considered for implementing the Proposed Action included constructing the COARNG facilities at the following locations: Buckley AFB near Aurora, CO (Preferred Alternative); Watkins Airfield in Watkins, CO; Centennial Airport in Centennial, CO; or, Fort Carson near Colorado Springs, CO. The Watkins Airfield, Centennial Airport, and Fort Carson alternatives did not meet all screening criteria.

No Action Alternative. Under the No Action Alternative, facilities to accommodate modern helicopter systems would not be provided. Aviation activities and operations would continue to be conducted using the existing structures at the Army Aviation Support Facility (AASF). The mission of the COARNG AASF would be seriously degraded as the existing facilities would not be able to adequately accommodate modern helicopter systems. The readiness of the COARNG depends on having modern and well-maintained facilities that enable personnel to work and train effectively and efficiently.

Environmental Analysis

The EA considered potential effects of the Proposed Action on eleven resource areas: land use, air quality, noise, geology and soils, water resources, biological resources, socioeconomics, infrastructure, cultural and historic resources, environmental justice, and hazardous and toxic materials/wastes.

The COARNG has determined that the following conditions and resources will be affected by implementing either the Proposed Action at the Preferred Alternative location (i.e., constructing COARNG facilities at Buckley AFB) or the No Action Alternative: land use (except visual resources), air quality (except radon), noise, geology and soils (except prime and unique farmland), water resources (except wetlands, wild and scenic rivers, floodplains and groundwater), biological resources, socioeconomics (except protection of children) and infrastructure.

Construction and operation of the Preferred Alternative would result in minor short-term and long-term adverse environmental impacts. Short-term or temporary impacts include: minor increase in soil erosion, noise levels, traffic, dust and air pollutant emissions from equipment during construction; temporary impact to wildlife and surrounding vegetation during construction; an increase in the demand and consumption of utilities and services (electricity, natural gas, water and wastewater service). Long-term impacts include: minor increase in stormwater runoff; loss of undeveloped land and vegetated habitat under the footprint of the new structures; an increase in the demand and consumption of utilities and services (electricity, natural gas, water and wastewater service). The Proposed Action would cause short term economic benefit by creating design and construction jobs. The long term benefit of this proposal is that it would create a modern aviation facility to maintain COARNG mission readiness for future operations.

The conditions and resources that were analyzed and determined to not be affected by implementing the Preferred Alternative or the No Action Alternative include: cultural and historic resources, environmental justice and hazardous and toxic materials/wastes.

The No Action Alternative would involve no new construction and would result in an adverse impact to future operations at the existing COARNG AASF.

Mitigation

Mitigation measures would not be necessary for any of the resources analyzed in the EA. In general, expected minor adverse impacts to soil, air quality and water resources would be minimized through the use of appropriate construction management practices such as dust control, erosion control, revegetation of disturbed areas and stormwater runoff containment.

Regulations

The Proposed Action would not violate the National Environmental Policy Act (42 USC § 4321 to 4370e), its regulations promulgated by the CEQ (40 CFR parts 1500-1508), 32 CFR Part 651, *Environmental Analysis of Army Actions,* or any other federal, state, or local environmental regulations.

Commitment to Implementation

The National Guard Bureau (NGB) and COARNG affirm their commitment to implement the EA for construction of the AASF Complex at Buckley AFB in accordance with the National Environmental Policy Act. Implementation is dependent on funding. The COARNG and the NGB Environmental Programs, Training, and Installations Divisions will ensure that adequate funds are requested in future years' budgets to achieve the goals and objectives set forth in the EA.

Public Review and Comment

The EA and Draft Finding of No Significant Impact (FNSI) was made available for public review and comment from 26 November to 25 December 2004 at the Aurora Public Library, 14949 E. Alameda Parkway, Aurora, CO 80012, (303) 739-6600 and Denver Public Library, 10 W. Fourteenth Ave. Pkwy., Denver, CO 80204-2731, (720) 865-1111. No public comments were received during the comment period.

The Draft EA was made available for public review and comment from 20 May to 22 June 2004 at the Aurora and Denver Public Libraries (listed above). No public comments were received during the comment period.

Finding of No Significant Impact

After careful review of the EA, I have concluded that implementation of the Proposed Action would not generate significant controversy or have a significant impact on the quality of the human or natural environment. Per 32 CFR Part 651, the Final EA and draft FNSI was made available for a 30-day public review and comment period. This analysis fulfills the requirements of NEPA and the CEQ Regulations. An Environmental Impact Statement will not be prepared, and the National Guard Bureau is issuing this Finding of No Significant Impact.

Gerald I. Walter — December 27, 2004

GERALD I. WALTER
Colonel, US Army
Chief, Environmental
Programs Division

Date

Final Environmental Assessment
for Construction at the
Colorado Army National Guard
Army Aviation Support Facility Complex

Buckley Air Force Base, Colorado

TITLE OF PROPOSED ACTION: Construction at the Colorado Army National Guard Army Aviation Support Facility Complex, Buckley Air Force Base, Colorado

LOCATION/AFFECTED JURISDICTION: Buckley Air Force Base, surrounded by the City of Aurora, Colorado

POINT OF CONTACT: Mr. Jeff Stalter, Environmental Data Analyst, Colorado Department of Military and Veterans Affairs, 6848 South Revere Parkway, Centennial, Colorado 80112-6709, 303-677-8902

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Abstract: This EA addresses the Colorado Army National Guard's (COARNG) proposal to construct facilities to accommodate modern helicopter systems and replace undersized and aging structures with larger and modern ones. The purpose of the proposed action is to maintain readiness and proficiency in current aircraft systems operations. Implementation of the proposed action would support the COARNG's need to maintain military readiness and to ensure the ability to integrate with the active component upon mobilization in the event of war or national emergency. The preferred alternative is constructing facilities at Buckley AFB near Aurora, Colorado. The no action alternative, which would involve no new construction, would result in an adverse impact to future COARNG operations.

Environmental Assessment Organization

The Environmental Assessment (EA) addresses the proposed action of constructing facilities to accommodate modern helicopter systems and replacing undersized and aging structures with larger and modern ones in order to maintain readiness and proficiency in current aircraft systems operations. As required by the National Environmental Policy Act and Title 32 of the Code of Federal Regulations Part 651, the potential environmental and socioeconomic effects of implementing this action are analyzed.

An ***EXECUTIVE SUMMARY*** briefly describes the proposed action, environmental and socioeconomic consequences, and mitigation measures.

An ***ACRONYMS AND ABBREVIATIONS*** list is provided immediately following the table of contents.

SECTION 1 ***PURPOSE OF AND NEED FOR THE PROPOSED ACTION*** summarizes the purpose of and need for the proposed action and briefly describes the scope of the EA.

SECTION 2 ***DESCRIPTION OF THE PROPOSED ACTION*** describes the proposed action of constructing facilities to accommodate modern helicopter systems and replacing undersized and aging structures with larger and modern ones in order to maintain readiness and proficiency in current aircraft systems operations.

SECTION 3 ***ALTERNATIVES CONSIDERED*** examines alternatives for implementing the proposed action.

SECTION 4 ***AFFECTED ENVIRONMENT*** presents the environmental and socioeconomic setting and the resources that were determined to be most likely affected by the proposed action or the no action alternative at the Colorado Army National Guard's proposed project site.

SECTION 5 ***ENVIRONMENTAL CONSEQUENCES*** identifies potential environmental and socioeconomic effects of implementing the proposed action.

SECTION 6 ***COMPARISON OF ALTERNATIVES AND CONCLUSIONS*** summarizes the potential effects of implementing each of the alternatives and determines whether a Finding of No Significant Impact would be issued.

SECTION 7 ***REFERENCES*** provides bibliographical information for cited sources.

SECTION 8 ***LIST OF PREPARERS*** identifies persons who prepared the document.

SECTION 9 ***AGENCIES AND INDIVIDUALS CONSULTED*** provides a listing of persons and agencies consulted during preparation of the EA.

APPENDICES

- ***A*** Photographs
- ***B*** Agency Correspondence
- ***C*** Public and Agency Comments and Responses (Included in the draft and final EAs)
- ***D*** Newspaper Public Notice Affidavits (Included in the draft and final EAs)

EXECUTIVE SUMMARY

BACKGROUND

This Environmental Assessment (EA) was prepared to address a Colorado Army National Guard (COARNG) proposal to accommodate Army helicopters.

In October 1999, the Secretary of the Army and the Chief of Staff of the Army articulated a vision about people, readiness and transformation of the Army to meet the emerging security challenges of the 21st century. A deliberate, phased, and synchronized 30-year program to transform the Army is now underway. Transformation of Army aviation would ultimately result in the creation of multi-function battalions having reconnaissance, attack and utility aircraft.

PURPOSE AND NEED

The purpose of the proposed action is to construct facilities to accommodate modern helicopter systems and replace undersized and aging structures with larger and modern ones in order to maintain readiness and proficiency in current aircraft systems operations. The need for the proposed action is to ensure the ability to integrate with the active component upon mobilization in the event of war or national emergency. The COARNG planned for new facilities at the Army Aviation Support Facility (AASF) located at Buckley Air Force Base (AFB) in the 2001 Real Property Development Plan (RPDP).

PROPOSED ACTION

The proposed action is to construct facilities to accommodate modern helicopter systems and replace undersized and aging structures with larger and modern ones.

ALTERNATIVES

The alternatives considered for implementing the proposed action included constructing COARNG facilities at Buckley AFB near Aurora, Colorado (preferred alternative); constructing facilities at Watkins Airfield in Watkins, Colorado; constructing facilities at Centennial Airport in Centennial, Colorado; constructing facilities at Fort Carson near Colorado Springs, Colorado; and no action. The Watkins Airfield, Centennial Airport and Fort Carson alternatives did not meet all screening criteria and therefore were eliminated from further study and were not analyzed in detail.

ENVIRONMENTAL CONSEQUENCES

The environmental consequences of two alternatives, the preferred alternative (constructing COARNG facilities at Buckley AFB near Aurora, Colorado) and the no action alternative, are presented in this EA. To summarize, neither implementing the preferred alternative nor the

no action alternative would result in major or significant adverse impacts to the natural or human environment. Construction and operation of the preferred alternative would result in minor short-term and long-term impacts. Short-term or temporary impacts include: minor increase in soil erosion, noise levels, traffic, dust and air pollutant emissions from equipment during construction; temporary impact to wildlife and surrounding vegetation during construction; an increase in the demand and consumption of utilities and services (electricity, natural gas, water and wastewater service); and, a benefit of design and construction jobs. Long-term impacts include: minor increase in stormwater runoff; loss of undeveloped land and vegetated habitat under the footprint of the new structures; an increase in the demand and consumption of utilities and services (electricity, natural gas, water and wastewater service); and, a benefit of a modern facility to maintain mission readiness for future operations of the COARNG. The no action alternative would involve no new construction and would result in an adverse impact to future operations at the existing COARNG AASF.

MITIGATION

Mitigation measures would not be necessary for any of the resources analyzed in this EA. In general, expected minor adverse impacts to soil, air quality and water resources would be minimized through the use of appropriate construction management practices such as dust control, erosion control, revegetation of disturbed areas and stormwater runoff containment.

CONCLUSIONS

The COARNG planned for new facilities at the AASF located at Buckley AFB in the 2001 RPDP. Based on the analysis performed in this EA, implementation of the proposed action at Buckley AFB (preferred alternative) would not result in significant environmental or socioeconomic effects. Issuance of a Finding of No Significant Impact is appropriate.

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ACRONYMS AND ABBREVIATIONS

AASF	Army Aviation Support Facility
AFB	Air Force Base
APCD	Air Pollution Control Division
APEN	Air Pollutant Emission Notice
AQCR	Air Quality Control Region
AR	Army Regulation
BMP	Best Management Practice
CAA	Clean Air Act
CDOW	Colorado Division of Wildlife
CDPHE	Colorado Department of Public Health and Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CHMM	Certified Hazardous Materials Manager
CNHP	Colorado Natural Heritage Program
CO	Carbon monoxide
COARNG	Colorado Army National Guard
dB	Decibel
dBA	Decibel A-weighted
DNL	Day Night Average Sound Level
DOD	Department of Defense
EA	Environmental Assessment
EAC	Early Action Compact
EPA	U.S. Environmental Protection Agency
ERP	Environmental Restoration Program
FNSI	Finding of No Significant Impact
HAP	Hazardous Air Pollutant
HEMTT	Heavy Expanded Mobile Tactical Truck
HMWMD	Hazardous Materials and Waste Management Division
MEP	Military Equipment Parking
MSGP	Multi-Sector General Permit
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NGB	National Guard Bureau
NO_2	Nitrogen dioxide
NOx	Nitrogen oxides
O_3	Ozone
Pb	Lead
PE	Professional Engineer
$PM_{2.5}$	Particulate matter 2.5 microns in diameter and smaller

PM_{10}	Particulate matter 10 microns in diameter and smaller
POV	Privately-owned Vehicle
RCRA	Resource Conservation and Recovery Act
ROI	Region of Influence
RPDP	Real Property Development Plan
RPMP	Real Property Master Plan
SCS	Soil Conservation Service
SIP	State Implementation Plan
SO_2	Sulfur dioxide
SOx	Sulfur oxides
SWPPP	Stormwater Pollution Prevention Plan
TSP	Total Suspended Particulates
TWS	The Wildlife Society
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USC	United State Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	Volatile Organic Compound

ppm = parts per million
sf = square foot or square feet
sy = square yard
$\mu g/m^3$ = micrograms per cubic meter
^{o}F = degrees Fahrenheit
pCi/L = picocurries per liter

ENVIRONMENTAL ASSESSMENT

CONSTRUCTION
AT THE
COLORADO ARMY NATIONAL GUARD
ARMY AVIATION SUPPORT FACILITY COMPLEX

BUCKLEY AIR FORCE BASE, COLORADO

1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 Introduction

This is a site-specific Environmental Assessment (EA) to address a Colorado Army National Guard (COARNG) proposal to accommodate Army helicopters.

In October 1999, the Secretary of the Army and the Chief of Staff of the Army articulated a vision about people, readiness and transformation of the Army to meet the emerging security challenges of the 21st century. A deliberate, phased, and synchronized 30-year program to transform the Army is now underway. Transformation of Army aviation would ultimately result in the creation of multi-function battalions having reconnaissance, attack and utility aircraft. The proposed action would construct facilities to support modernized helicopters within Colorado to meet the national security requirements.

This EA was prepared in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality and Title 32 of the Code of Federal Regulations (CFR) Part 651. Department of the Air Force EA regulations found in 32 CFR Part 989 were also consulted. Because this is an Army National Guard proposal, the requirements and format outlined in the National Guard Bureau (NGB) NEPA Handbook were used during the preparation of this EA.

1.2 Purpose and Need

The COARNG proposes to construct facilities to accommodate modern helicopter systems and replace undersized and aging structures with larger and modern ones in order to maintain readiness and proficiency in current aircraft systems operations. This would ensure the ability to integrate with the active component upon mobilization in the event of war or national emergency. The COARNG planned for new facilities at the Army Aviation Support Facility (AASF) located at Buckley Air Force Base (AFB) in the 2001 Real Property Development Plan (RPDP). An AASF provides flight operations, aircraft maintenance (hangar) areas, aircraft and parts storage buildings and administrative office facilities for COARNG flight operations.

1.3 Scope

This EA identifies, documents and evaluates the effects of the proposed action, which is constructing facilities to accommodate modern helicopter systems and replacing undersized and aging structures with larger and modern ones. The purpose of this EA is to inform decision-makers and the public of the likely environmental consequences associated with the implementing the proposed action, along with the alternatives considered before actions are taken. The environmental information presented in this EA also lays the foundation to which other subsequent project specific NEPA documents can be prepared and tiered, if it is determined to be necessary.

The alternatives for the proposed action analyzed in this EA were determined by the COARNG and consist of the following:

- No action
- Constructing facilities at Buckley AFB near Aurora, Colorado (preferred alternative)
- Constructing facilities at Watkins Airfield in Watkins, Colorado
- Constructing facilities at Centennial Airport in Centennial, Colorado
- Constructing facilities at Fort Carson near Colorado Springs, Colorado

1.3.1 Agency and Public Involvement

Agency and public participation promotes open communication between the public and the government, which results in better decision making. All persons and organizations having a potential interest in the proposed action, including Buckley AFB, were contacted to participate in the decision-making process. Coordination with appropriate federal, state and local agencies should take place during preparation of an EA. Agencies and individuals contacted/consulted during preparation of this EA to obtain information or comments are listed in Section 9.0. Additional agencies and individuals contacted/consulted during the review/comment process were added to Section 9.0. For example, as described herein, the COARNG consulted with the U.S. Fish and Wildlife Service (USFWS) and provided them with an opportunity to review and comment on the EA to determine if implementing the proposed action at Buckley AFB would have the potential to significantly affect biological resources. Appropriate comments were incorporated.

Prior to undertaking the proposed action, this EA, a Finding of No Significant Impact (FNSI) and any other relevant documentation would be reviewed and approved by the appropriate responsible party (i.e., the proponent for the proposed action). The information presented herein would allow for an informed decision regarding the significance of the identified environmental impacts.

1.3.2 Resources Evaluated

During the performance of this EA, appropriate federal, state and local government agencies, including Buckley AFB, were contacted to assure that significant environmental issues relevant to the proposed action had been identified; that the impact of the proposed and alternative actions, including no action, on human, natural and cultural resources had been assessed; and that measures that may be used to protect the value of the affected area had been identified (see Section 9.0 for list of agencies and individuals contacted/consulted).

The environmental conditions and resources that were analyzed in this EA include: land use, air quality, noise, geology and soils, water resources, biological resources, cultural and historic resources, socioeconomics, environmental justice, infrastructure and hazardous and toxic materials/wastes. The conditions and resources that were determined to be affected by the proposed action at the preferred alternative (i.e., constructing COARNG facilities at Buckley AFB) or the no action alternative include: land use (except visual resources), air quality (except radon), noise, geology and soils (except prime and unique farmland), water resources (except wetlands, wild and scenic rivers, floodplains and groundwater), biological resources, socioeconomics (except protection of children) and infrastructure. The analysis and anticipated effects are discussed in Section 5.0, Environmental Consequences.

The conditions and resources that were analyzed and determined to not be affected by implementing the preferred alternative or the no action alternative include: cultural and historic resources, environmental justice and hazardous and toxic materials/wastes. The analysis for each condition and resource that was determined to not be affected is also discussed in Section 5.0, Environmental Consequences (40 CFR 1501.7(a)(3)).

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 Proposed Action

The proposed action is to construct facilities to accommodate modern helicopter systems and replace undersized and aging structures with larger and modern ones. This action is needed to provide space for adequate and appropriate helicopter maintenance and repair, as well as storage, administrative and training space. The action would enable the COARNG to maintain the Army aviation-related equipment and skills required to perform its federal military and state support missions.

2.2 Facility Requirements

In order to accommodate modern helicopter systems and to ensure that assigned units can meet their operational requirements, the COARNG proposes to construct a new AASF. The mission of an AASF is to provide flight operations, aircraft maintenance, aircraft and parts storage and administrative office facilities for COARNG flight operations. Specifically, the new facility would be constructed to meet the following requirements:

- Provide approximately 130,000 square feet (sf) of indoor space to be used for the following: helicopter maintenance (hangar) bays; a permanent air operations center; administrative offices for approximately 80 full-time and part-time COARNG and civilian personnel; and, storage space for parts, equipment and helicopters. Some of the indoor maintenance and storage space would be heated and some would be unheated.

- Provide two separate, approximately 15,000 sf each, helicopter and ground support equipment storage buildings. The buildings would be unheated.

- Provide an aircraft wash rack.

- Provide a parking and secondary containment structure for unit fuel trucks (i.e., heavy expanded mobile tactical trucks (HEMTTs)).

- Provide reinforced concrete-paved helicopter parking areas with sufficient tie-downs for new aircraft (approximately 100,000 square yards (sy)).

- Provide access/service roads and privately-owned vehicle (POV) parking areas (approximately 30,000 sy).

2.3 Facility Activities

Constructing facilities to meet the foregoing requirements would require new construction of several structures and the possible demolition of existing ones, depending upon the final design. Specific construction activities that would arise from implementing the proposed action include:

- Site preparation (clearing, grubbing, stripping of topsoil and removal of subsoils on undisturbed and previously disturbed vacant land)
- Construction of new structures and possible demolition of existing ones
- Installation of new utilities (water, wastewater, gas, electricity)
- Construction of rigid paving for new helicopter parking areas
- Construction of flexible paving for new access roads and POV parking areas
- Stormwater control
- Landscaping

As described herein, implementing the proposed action at Buckley AFB would not be expected to significantly change the overall number of aircraft, aircraft maintenance activities or other related operations at the COARNG facility. Impacts associated with anticipated future helicopter operations are addressed in the *Final Environmental Assessment of Conversion to General Support Aviation Battalion at Buckley Air Force Base, Colorado.*

3.0 ALTERNATIVES CONSIDERED

3.1 Alternatives Development

NEPA requires that alternatives to the proposed action, including no action, be considered and evaluated. The COARNG identified the following four reasonable alternatives for the proposed action, in addition to the required no action alternative. The four alternatives were selected because upon initial assessment it was determined that each may be able to support both the purpose of and need for the proposed action and the mission readiness requirements of the COARNG.

- Construct facilities to accommodate Aviation Transformation for the COARNG at Buckley AFB near Aurora, Colorado
- Construct facilities to accommodate Aviation Transformation for the COARNG at Watkins Airfield in Watkins, Colorado
- Construct facilities to accommodate Aviation Transformation for the COARNG at Centennial Airport in Centennial, Colorado
- Construct facilities to accommodate Aviation Transformation for the COARNG at Fort Carson near Colorado Springs, Colorado
- No action

3.2 Screening Criteria

Following development of the alternatives list, screening criteria were applied to determine the feasibility of each alternative. The screening criteria identified by the COARNG for assessing each site are as follows:

- Screening Criteria No. 1. Alternative must meet the security measures adopted in the National Security Plan to include provisions within Army Regulation (AR) 190-11.
- Screening Criteria No. 2. Alternative must have sufficient air traffic control capability in the local area to accommodate current and future modernized aircraft operations.
- Screening Criteria No. 3. Alternative must have an armory co-located to minimize impact on the environment, by utilizing existing facilities and operational support areas rather than creating new facilities and operating areas. Footprint of maintenance and operational facilities must be within ten minutes of utilizing Army Aviation units to meet operational requirements.

- Screening Criteria No. 4. Alternative must have sufficient land allocated rather than having to purchase new property and operating areas.

After consideration of the screening criteria, only one alternative met the all criteria for acceptance and further evaluation in this EA, with the exception of the no action alternative, which would also be evaluated. The alternative is to construct the facilities to accommodate modern helicopter systems and replace undersized and aging structures with larger and modern ones at Buckley AFB. As described in the following sections, the Watkins Airfield, Centennial Airport and Fort Carson alternatives did not meet all criteria and therefore, were removed from further consideration and are not analyzed in detail in this EA. A summary of the screening criteria evaluation is shown in the following table.

Table 1
Alternative Analysis

Alternative	Screening Criteria				Status
	No. 1	No. 2	No. 3	No.4	
No Action	Did not meet	--	--	--	Retained
Buckley AFB	Met	Met	Met	Met	Retained
Watkins Airfield	Did not meet	Met	Met	Did not meet	Removed
Centennial Airport	Did not meet	Met	Met	Did not meet	Removed
Fort Carson	Met	Did not meet	Did not meet	Did not meet	Removed

3.3 Alternatives for the Proposed Action

A description of each of the identified alternatives is provided in the following sections.

3.3.1 Buckley AFB

Buckley AFB, which, as described above, was determined to be the preferred alternative for implementing the proposed action, was considered as a potential location for the proposed action because the COARNG's AASF complex and other existing training facilities are located at Buckley AFB. In addition, high-level security measures and sufficient air traffic control capability are present at the AFB, there are existing armory facilities and operational support areas/structures at the AASF, and sufficient land for expansion of operating areas is available adjacent to the existing AASF infrastructure. This is the only alternative that meets all of the screening criteria previously set forth and is the COARNG's preferred alternative. A modern facility with up-to-date equipment enables personnel to work and train efficiently, attracts and retains new recruits and creates a positive relationship with the local community. A description of the AASF and preferred alternative are presented in Sections 3.4 and 3.5.

3.3.2 Alternatives Considered But Eliminated From Further Study

As described below, the Watkins Airfield, Centennial Airport and Fort Carson alternatives did not meet all screening criteria and therefore were eliminated from further study and were not analyzed in detail.

Watkins Airfield

Watkins Airfield in Watkins, Colorado was initially considered as a potential location for the proposed action because of its proximity to COARNG training facilities at Buckley AFB, sufficient air traffic control capability, and existing armory facilities and operational support areas/structures. However, this alternative was subsequently eliminated in the screening process because of its lack of sufficient land for expansion of operating areas, potential deficiency of infrastructure, and need for additional Army security measures. The resulting higher development, construction and operating costs combined with the uncertainty that adequate property would be available for needed facilities eliminated this alternative from further evaluation in this EA.

Centennial Airport

Centennial Airfield in Centennial, Colorado was initially considered as a potential location for the proposed action because of its proximity to COARNG training facilities at Buckley AFB, sufficient air traffic control capability, and existing armory facilities and operational support areas/structures. However, similar to Watkins Airfield previously described, this alternative was subsequently eliminated in the screening process because of its lack of sufficient land for expansion of operating areas, potential deficiency of infrastructure, and need for additional Army security measures. The resulting higher development, construction and operating costs combined with the uncertainty that adequate property would be available for needed facilities eliminated this alternative from further evaluation is this EA.

Fort Carson

Fort Carson near Colorado Springs, Colorado was initially considered as a potential location for the proposed action because of its proximity to COARNG training facilities at both Fort Carson and Buckley AFB and existing security measures. However, this alternative was subsequently eliminated in the screening process because of its current and potential future shortage of air traffic control capability in the local area, lack of sufficient land for expansion of operating areas, potential deficiency of infrastructure, and need for existing armory facilities and operational support areas/structures. The resulting higher development, construction and operating costs combined with the uncertainty that adequate air traffic control capability and sufficient property would be available for needed facilities eliminated this alternative from further evaluation is this EA.

3.4 No Action Alternative

Inclusion of a no action alternative is prescribed by NEPA and NGB requirements to serve as a baseline (i.e., existing condition) against which the environmental effects of a proposed action, the preferred alternative in this EA, can be evaluated. The no action alternative refers to the continuation of existing conditions of the affected environment, without implementation of the proposed action. Under the no action alternative, facilities to accommodate modern helicopter systems would not be provided; rather, aviation activities and operations would continue to be conducted using the existing structures at the AASF.

The main structure at the AASF, Building 1500, which presently contains administrative offices and helicopter maintenance (hangar) areas, is more than 25-years old and is undersized even for present operations. In addition, the existing asphalt-paved aircraft parking areas are deteriorating and in need of repairs. Under the no action alternative, the mission of the COARNG AASF would be seriously degraded and would not be able to accommodate modern helicopter systems. The readiness of the COARNG depends on having modern and well-maintained facilities that enable personnel to work and train effectively and efficiently.

3.5 Description of the Existing COARNG AASF

The COARNG AASF is located along Sunlight Way near the southeastern corner of Buckley AFB. The AASF is located entirely within the limits of Buckley AFB. Figure 1 is a site location map showing the AFB and the AASF complex. Figure 2 is a map of Buckley AFB.

The AASF complex presently consists of two permanent and several temporary structures (Figure 3). The main structure, Building 1500, is a large one-story building that contains administrative offices and helicopter maintenance (hangar) areas. Flight operations are located in a temporary structure (trailer) immediately east of the Building 1500. The AASF complex also includes two asphalt and concrete-paved helicopter parking areas, and an asphalt-paved taxiway and helipad. All other buildings located near the AASF belong to the Colorado Air National Guard.

3.6 Description of the Preferred Alternative

Constructing facilities at Buckley AFB, which is the preferred alternative, to meet the previously-listed requirements would consist primarily of constructing a new helicopter maintenance, air operations and office facility, constructing two new aircraft storage buildings and replacing the old asphalt-paved helicopter parking areas with rigid concrete (Figure 4). The aircraft maintenance, air operations and office facility would be a permanent building. The Real Property Master Plan (RPMP) prepared for the AASF would be used to make the final decisions regarding development and construction schemes.

Specifically, the preferred alternative, as presently planned, would include the following (RPDP, 2001, as amended by the RPMP):

- Construction of a new approximately 130,000 sf AASF building on the north side of the existing north helicopter parking area to provide indoor space for the following: helicopter maintenance (hangar) bays; a permanent air operations center; administrative offices for approximately 80 full-time and part-time COARNG and civilian personnel; and, storage space for parts, equipment and helicopters. Some of the indoor maintenance and storage space would be heated and some would be unheated. At this time, none of the existing buildings at the AASF would be demolished or remodeled. The temporary flight operations structure (trailer) located immediately east of Building 1500 may be moved and relocated to another COARNG facility after the permanent air operations center is constructed.

- Construction of two separate, approximately 15,000 sf each, helicopter and ground support equipment storage buildings. The buildings would be unheated.

- Construction of an aircraft wash rack.

- Construction of a parking and secondary containment structure for HEMTTs.

- Construction of a reinforced concrete-paved helicopter parking areas with sufficient tie-downs for new aircraft (approximately 100,000 sy). The existing asphalt-paved helicopter parking areas would be demolished and the asphalt disposed at a licensed solid waste facility.

- Construction of access/service roads and POV parking areas on the north side of the new AASF building (approximately 30,000 sy).

It is possible that facilities to be provided could change as the RPMP is finalized, future needs or mission requirements are modified, and the final configurations of the structures are designed. The quantities presented herein are based on a ten percent design. It is projected that any changes would not be significant and that implementing the preferred alternative would not occur significantly outside of the approximate boundary area of the proposed action. Not counting the area of the existing asphalt-paved helicopter parking areas to be demolished and replaced with new concrete-paved parking areas, it is estimated that approximately fifteen acres of open or vacant land would be disturbed. However, prior to construction, other specific NEPA documentation tiered to this EA, could be prepared if it is determined to be necessary.

4.0 AFFECTED ENVIRONMENT

This section describes the existing environmental resources and socioeconomic conditions that were determined to be most likely affected at the proposed project site, which is adjacent to the existing COARNG AASF. It provides information to serve as a baseline from which to identify and evaluate the potential environmental and socioeconomic changes that could result from implementation of either the preferred alternative or the no action alternative. Anticipated effects of the preferred alternative and the no action alternative are discussed in Section 5.0, Environmental Consequences.

The region of influence (ROI) is the geographical area potentially affected by the preferred alternative and the no action alternative. The ROI varies for each environmental condition and resource. For several resources, the project site is the ROI limit and for others (e.g., air quality), the ROI would extend to and/or beyond the boundaries of Buckley AFB.

4.1 Location Description

4.1.1 Location and Geographic Setting of the Affected Area

The project site is located on Buckley AFB. Buckley AFB is a 3,293-acre parcel of land due east of downtown Denver and is surrounded by the city limits of Aurora, Colorado. The project site is located near the center of Section 15, Township 4 South, Range 66 West of the 6th Principal Meridian in Arapahoe County, Colorado. The physical address of the AASF complex is Building 1500, Buckley Air Force Base, Colorado.

The 460th Air Base Wing is the current host for Buckley AFB. The AFB is also home to over 40 tenant organizations, that include, but are not limited to the following: the COARNG Aviation Command, the 140th Wing of the Colorado Air National Guard and 26 other active duty, Guard and Reserve units (Buckley AFB, 2002a). Small businesses and residential areas surround Buckley AFB. The AASF complex is located approximately one-half mile from the nearest boundary of the AFB and off-site residential areas.

4.1.2 General Landscape of the Project Area

The area for the preferred alternative consists of an approximate thirty-acre parcel of land. Approximately half of the thirty acres is developed with existing AASF asphalt and concrete-paved helicopter parking areas and the remainder is open or vacant, unimproved land located immediately north and south of the existing helicopter parking areas. Figure 3 is a site map that illustrates the location of the existing AASF complex and the area for constructing new facilities. The area north of the existing asphalt and concrete-paved helicopter parking areas consists of gently rolling terrain that supports non-native grasses and weedy vegetation. Approximately half of the north area has been disturbed by past earth-moving (cut and fill) activities. The area south of the existing asphalt and concrete-

paved helicopter parking areas consists of relatively flat terrain that also supports non-native grasses and weedy vegetation. Other characteristics present on the south area include: a paved roadway (Sunlight Way); a portion of an obstacle/training course; an asphalt-paved military equipment parking (MEP) area; a section of a recently concrete-paved helicopter parking area; and a soil stockpile. Photographs of the area for the preferred alternative are included in Appendix A.

4.1.3 General Climatic Conditions

Generally, Buckley AFB and the surrounding area, which includes the project site, experiences a moderate, sunny, semi-arid climate with low relative humidity and wide variations in seasonal and daily temperatures. The area averages 32 days with high temperatures above 90 degrees Fahrenheit (°F). The average summer high temperature is 88 °F and the average winter low temperature is 16 °F. Mean temperatures are 29.7 °F for January and 73.5 °F for July (Aurora Colorado Demographics, 2002 and Colorado by the Numbers, 1997).

The average yearly precipitation is approximately 15.5 inches, with the majority occurring between the months of March and September. Precipitation is generally in the form of wet snow or rain that occurs primarily during the Spring. Summer thunderstorms are usually brief, producing some rain and lightning. Winters are relatively dry with occasional high intensity "chinook" winds typically from the south-southwest (Aurora Colorado Demographics, 2002 and EA Western Tier Parcel, 1998).

4.2 Land Use

The ROI for land use is considered to be Buckley AFB, the areas of the City of Aurora that immediately surround the AFB, and the open space located next to the south end of the AFB, which is at the end of the main AFB runway.

4.2.1 Site Land Use

The project site is located on Buckley AFB and consists of an approximate thirty-acre parcel of land. Approximately half of the thirty acres is developed with existing AASF asphalt and concrete-paved helicopter parking areas and the remainder is open, unimproved land located immediately north and south of the existing helicopter parking areas. Land use at Buckley AFB includes airfield operations, aircraft operation and maintenance, administrative, community commercial, community service, outdoor recreation and open space (Buckley AFB General Plan, 2002). Land use at and around the AASF is airfield operations, aircraft operation and maintenance, administrative, community service and open space. Because the open or vacant area being proposed as part of the project site is located immediately adjacent to existing AASF facilities, its land use is classified as airfield operations and aircraft operation and maintenance.

4.2.2 Surrounding Land Use

The AASF Complex is located approximately one-half mile from the nearest boundary of the AFB and the city limits of Aurora, Colorado. Land use surrounding Buckley AFB includes developed land, open space and outdoor recreation areas. The majority of the area around the AFB is developed or planned for development. Development around the AFB includes residential, commercial, office and light industrial.

4.2.3 Visual Resources

Visual resources can be defined as the physical features of a landscape which affect the viewer's perception of the vista. Both natural and artificial (human-made) features of a landscape contribute to the impression made upon viewers, including features such as mountains, rivers, prairies, trees, buildings, roads and power lines. There are four general landscape types, which are based upon the relative dominance of the natural and human-made features. These landscape types consist of natural, rural, urban and transitional settings (Department of Defense (DOD), 1995).

The project site, which is located on Buckley AFB, would be considered to be located in an urban setting. Urban landscapes are dominated by human activity and infrastructure. Office buildings, commercial businesses, industrial sites, shopping centers, densely populated residential areas, construction sites, airports, highways, communication facilities and parks are common features of urban environments. Views within urban landscapes are generally impacted by buildings, utilities and other infrastructure (DOD, 1995). Although natural landscapes are present near the project site, it is the existing urban landscape that dominates most views either away from or toward the project site.

4.3 Air Quality

The ROI for air quality is considered to be the Denver metropolitan area.

4.3.1 Ambient Air Quality

In the Colorado Air Quality Data Report for 2002, the state was divided into five air quality monitoring areas for reporting pollutant levels (Colorado 2002 Air Quality Data Report). The air quality monitoring areas were generally based on topography and similar characteristics. The areas are: the Eastern Plains; the Northern Front Range; the Southern Front Range; the Mountain Communities; and the Western Communities. Buckley AFB is located in the Northern Front Range area which extends along the U.S. Interstate 25 corridor from the Colorado/Wyoming border to just south of the city of Castle Rock. The majority of monitors in the Northern Front Range area are located in the Denver-metro area, with other monitors located in or near Fort Collins, Greeley, Longmont and Boulder.

In summary, Colorado experienced no violations of the National Ambient Air Quality Standards (NAAQS) from mid-2002 to mid-2003 except for the new 8-hour ozone standard

in the Denver metropolitan area. The new standard was exceeded in the summer of 2003 (Colorado Air Quality Control Commission, Report to the Public). As reported, automobile and diesel exhaust are suspected of being the major contributors to urban visibility impairment in the Denver area.

In anticipation of violations and to reduce ozone levels, the Denver-metropolitan area (i.e., the Regional Air Quality Council, the Colorado Department of Public Health and Environment (CDPHE), the Air Quality Control Commission, and the Denver Regional Council of Governments) entered into an agreement with the U.S. Environmental Protection Agency (EPA), titled Early Action Compact (EAC), in December 2002 (Colorado Air Quality Control Commission, Report to the Public). The EAC is an ozone control program that allows the state to establish voluntary and/or mandatory controls to reduce ozone and avoid a nonattainment designation for violation of the 8-hour ozone standard until after 2007. However, if progress towards the ozone standard is not being met in the allowed time frame, or if the Denver-metropolitan area fails to implement appropriate control strategies, the EPA would designate the area as nonattainment and require specific controls to reduce ozone and reach attainment. This could happen as early as September 2005.

4.3.2 Air Pollutants and Regulations

Under provisions of the Clean Air Act (CAA) and its amendments, the EPA established federal NAAQS for six pollutants known as criteria pollutants. The six criteria pollutants are carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter 10 microns in diameter and smaller (PM_{10}) and lead (Pb). Both primary and secondary federal NAAQS were established. Primary standards define levels of air quality necessary to protect public health with an adequate margin of safety. Secondary standards define levels of air quality necessary to protect public welfare (e.g., wildlife and vegetation) from adverse effects. An area can be in attainment for one or more criteria pollutants, yet can also be in nonattainment for one or more other criteria pollutants. Maintenance areas are areas that were previously designated nonattainment, but have subsequently been designated as attainment due to meeting the NAAQS. The CAA required each state to prepare a state implementation plan (SIP) and submit the plan to the EPA for approval. The SIP provides for "implementation, maintenance and enforcement" of the NAAQS in each air quality control region (AQCR) in a state. Buckley AFB is located in the Metropolitan Denver Intrastate AQCR. The CAA also permitted each state to adopt air quality standards more stringent than the federal standards. The State of Colorado adopted the federal standards for each criteria pollutant, which are presented in Table 2.

The general conformity rule exempts certain federal actions from conformity determinations and assumes most other federal actions conform if total direct and indirect project emissions are below the criteria pollutant threshold levels found in 40 CFR Part 93.153. The threshold levels depend upon the nonattainment or the attainment/maintenance status of an area.

Table 2
National Ambient Air Quality Standards

Pollutant	Averaging Time	Concentration
Carbon Monoxide (CO)		
Primary	1-hour*	35 ppm
Primary	8-hour*	9 ppm
Ozone (O_3)**		
Primary	8-hour	0.08 ppm
Secondary	Same as primary	
Nitrogen Dioxide (NO_2)		
Primary	Annual arithmetic mean	0.053 ppm
Secondary	Same as primary	
Sulfur Dioxide (SO_2)		
Primary	Annual arithmetic mean	0.03 ppm
Primary	24-hour*	0.14 ppm
Secondary	3-hour*	0.5 ppm
Particulate (PM_{10})		
Primary	Annual arithmetic mean	50 $\mu g/m^3$
Primary	24-hour	150 $\mu g/m^3$
Particulate ($PM_{2.5}$)		
Primary	Annual arithmetic mean	15 $\mu g/m^3$
Primary	24-hour	65 $\mu g/m^3$
Lead (Pb)		
Primary	Calendar quarter	1.5 $\mu g/m^3$

ppm = parts per million (Colorado 2002 Air Quality Data Report)
$\mu g/m^3$ = micrograms per cubic meter
*This concentration is not to be exceeded more than once per year.
**An area will attain the 8-hour ozone standard when the annual 4th highest daily maximum 8-hour concentration, averaged over three years, is equal to or below 0.08 ppm at each monitor with an area.

4.3.3 Regional Air Quality

Air quality in a region is measured by the concentration of pollutants in the atmosphere, typically expressed in units of parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). Air quality is not only determined by types and concentration of pollutants, but also by surface topography, size of the basin or monitoring area, and by prevailing meteorological conditions.

Colorado experienced no violations of the NAAQS from mid-2002 to mid-2003 except for the new 8-hour O_3 standard in the Denver metropolitan area. The new standard was exceeded in the summer of 2003 (Colorado Air Quality Control Commission, Report to the Public). The Denver metropolitan area, which includes Buckley AFB, achieved attainment

status for CO on January 14, 2002 and PM_{10} on August 9, 2002 (Booz Allen Hamilton). The attainment designation indicates that air quality within the region for the specific criteria pollutant is now as good as or better than the NAAQS. In addition, in order to have achieved the attainment designations, extensive dispersion modeling had to be performed to demonstrate that the attainment status can be maintained in the future even with community growth. The Metropolitan Denver Intrastate AQCR is considered as attainment/maintenance status for CO, PM_{10} and O_3.

4.3.4 Air Pollution Emissions at Buckley AFB

Several operations at Buckley AFB generate air emissions in the form of criteria pollutants and hazardous air pollutants (HAPs). The operations can be categorized as stationary, fugitive dust and mobile sources. Stationary sources include internal combustion sources used to supply power, including natural gas-fired boilers and diesel-fired emergency generators, and operational sources such as jet engine tests. Fugitive emission or dust sources are those that cannot reasonably pass through a stack or vent, such as dust from construction projects and vehicles traveling on unpaved surfaces. Mobile sources include vehicle tailpipe emissions and aircraft engine exhaust (Booz Allen Hamilton).

The CDPHE, Air Pollution Control Division (APCD) issued Buckley AFB a Title V Air Operating Permit (Permit No. 950PAR118) for all existing sources in August 1997. The Permit was renewed on July 1, 2002 and is valid through June 30, 2007. Basewide, Buckley AFB is classified as a major source for Title V purposes, but is designated a synthetic minor source for NOx and SOx for the purpose of Prevention of Significant Deterioration provisions and a minor source for CO, PM_{10} and volatile organic compounds (VOCs). Any new sources would be included as a permit modification, as applicable. The Permit requires Buckley AFB to review and update the inventory of all the stationary emission units at the end of each calendar year and calculate the total of criteria pollutant and HAP emissions. The 2002 Air Emissions Inventory summary for Buckley AFB is presented in Table 3.

In summary, stationary source air emissions in 2002 for CO, NOx, PM_{10}, SOx and VOCs were slightly less than the emissions in 2001. Based upon the criteria pollutant emission levels established in the AFB's Permit, the AFB is in compliance with permitted limits. In addition, total HAPs emitted from the stationary sources at the AFB are less than the federal regulatory emission levels. The federal regulatory emission levels for HAPs emitted from stationary sources are 25 tons per year of combined HAPs or 10 tons per year of any single HAP.

If the AFB adds new sources or modifies existing sources that increase emissions for any criteria pollutant, new permitting requirements for the AFB may apply. In addition, an Air Pollutant Emission Notice (APEN) may be required for a new emission source or construction project depending on the type of activity and projected emission amount.

Table 3
Calendar Year 2002 Summary of Basewide Air Emissions Inventory

Pollutant	Annual Emissions (Tons/Year)			
	Actual			
	Stationary	Stationary Source Permit Limits	Mobile	Total
Carbon Monoxide (CO)	24.2	99.9	287	311
Nitrogen Oxides (NOx)	81.3	249.9	82	163
Particulate Matter (PM_{10})	11.6	99.9	2	TBD
Sulfur Dioxide (SO_2)	1.4	249.9	7	8
Volatile Organic Compounds (VOCs)	7.4	99.9	74	81
Hazardous Air Pollutants (HAPs)	1.8	NA	NA	NA

NA = Not Applicable TBD = To Be Determined (Buckley AFB, 2003)

4.3.5 Radon

Radon is a naturally occurring radioactive gas. It cannot be seen, smelled, or tasted, and is generated from the radioactive decay of uranium. High concentrations of radon can be found in soils and rocks containing uranium, granite, shale, phosphate and pitchblende.

Radon is diluted to such low concentrations outdoors that it usually does not become a health concern. However, radon can accumulate inside an enclosed space (e.g., a home, school or office) to levels that can pose risks to human health. The indoor levels of radon depend on the building's construction and the concentration of radon in the underlying soils.

An increased risk of developing lung cancer is the only known health effect associated with exposure to elevated levels of radon. Generally, the risk increases as the level of radon and the duration of exposure increases. The potential exists for radon to accumulate at concentrations above the recommended EPA remediation/mitigation action level of 4.0 picocuries per liter (pCi/L) in structures throughout the United States.

The U.S. Air Force (USAF) requires testing all buildings for radon if the structure is to be occupied by personnel for more than eight hours per day (e.g., housing). Buckley AFB tested for radon in four buildings between 1993 and 1997. The 30 test results ranged from 0.2 to 6.9 pCi/L. All were below 4.0 pCi/L except one sample collected from Building 600 (Buckley AFB General Plan, 2002).

4.4 Noise

The ROI for noise is considered to be Buckley AFB, the areas of the City of Aurora that immediately surround the AFB, and the open space located next to the south end of the AFB, which is at the end of the main AFB runway.

4.4.1 Noise Standards

Noise can be defined as unwanted sound that interferes with normal activities such as conversation, recreation or sleeping, when it causes actual physical harm such as hearing loss, has adverse effects on mental health, or is otherwise annoying. Noise can become an annoyance or disturbance when it exceeds typical background levels at work or home. Human response to noise can vary according to the type of the noise source, the characteristics of the path the noise travels (e.g., length and barriers) and the sensitivity of the receiver. Impacts of noise can be altered or mitigated by changing the characteristics of source, path or receiver.

In general, there are two types of noise problems. There is specific job related noise created by extremely loud machinery and there is community noise, where the combined effect of many individual noise sources creates an overall noise level that is unacceptable. The main contributors to a community noise problem are transportation sources such as roads and highways, railroads and airports. Additionally, at any given site, there may be other noise sources that add to the problem, sources such as a jackhammer or air compressor at a construction site (The Noise Guidebook, 2002).

Noise is typically measured in decibels (dB), which is a logarithmic scale. The human ear is more sensitive to high frequencies and less sensitive to mid and low frequencies. Consequently, an "A-weighted" scale, termed dBA, was developed and is typically used to express sound because it was found to approximate the frequency response as perceived by the human ear. A variety of typical dBA levels are presented in Table 4.

The federal noise standard for measuring noise exposure is the day night average sound level system (DNL). The DNL is a 24-hour average sound level expressed in dB. Typical DNL background noise levels in a dense urban area with heavy traffic is 64-74 dBA and typical background noise levels in an urban area is 57-67 dBA (DOD, 1995). DNL noise levels below 65 dB are not considered a constraint to development by the DOD (Buckley AFB General Plan, 2002). If noise levels meet or exceed 65 dB, noise level reduction measures are recommended for several types of construction projects (e.g., residential, hospital or school). The recommended range for incorporating noise level reduction measures in administrative facilities is 70 to 80 dB (Buckley AFB General Plan, 2002).

4.4.2 Existing Noise Conditions and Sources

Activities at Buckley AFB and the AASF that have the highest potential for noise impacts are associated with airfield operations. As reported in the Buckley AFB General Plan, a computerized noise model (NOISEMAP) was used to produce contours showing noise levels generated by aircraft operations for a typical day at the AFB. Most of the AFB is shown to be within the 65 dB DNL noise contour and the existing AASF Complex is shown to be just outside of the 70 dB DNL noise contour. The area for the project site is shown to be between the 70 and 75 dB DNL noise contours. Details regarding the modeling and

restrictions created by airfield operations can be found in the *Air Installation Compatible Use Zone Study* prepared for the AFB (Buckley AFB General Plan, 2002).

Table 4
Typical dBA Sound Levels

dBA	Description
0	Threshold for hearing
10	Barely audible noise
20	Broadcasting studio
30	Soft whisper
40	Living room Residential area at night
50	Light auto traffic (100 feet)
60	Large store
70	Vacuum cleaner Freeway traffic (50 feet)
80	Freight train (50 feet)
90	Subway train (90 feet) Jack hammer (50 feet)
100	Inside propeller plane Garbage truck
110	Jet takeoff (2,000 feet) Riveting machine
120	Jet takeoff (200 feet) Maximum vocal effort Threshold for pain
130	Live rock music
140	Jet engine (75 feet)

(Environmental Engineering, 1992 and DOD, 1995)

4.5 Geology and Soils

The ROI for geology and soils is considered to be the project site.

4.5.1 Topographic Conditions

The topography at the project site generally slopes gently downgrade from the southeast to the northwest. The elevation of the project site is approximately 5,580 feet above mean sea level. Figure 1 illustrates the topography of the project site and the surrounding area.

4.5.2 Geology

The project site is located on the western edge of the Central Great Plains Province that extends from the foothills of the Rockies in eastern Colorado and southeastern Wyoming,

eastward through Kansas and Nebraska. The site is in the Denver Basin, a north-south fold in regional geology that extends along the Front Range from Cheyenne, Wyoming to Colorado Springs, Colorado. Surface geologic deposits are due primarily to river and stream erosion that deposited alluvial sediments from the Platte River system and associated wind-blown eolian sediments (EA Western Tier Parcel, 1998).

4.5.3 Soils

The predominant surface soils on the project site have been classified as Fondis silt loam. The Fondis soils are deep, well-drained, gently sloping to sloping soils on uplands in the western half of Arapahoe County. They have moderately slow permeability, slow internal drainage and high available water holding capacity. Fondis soils are high in natural fertility but are susceptible to soil blowing and to water erosion. In a typical profile, the surface layer is about seven inches thick and consists of dark grayish-brown silt loam over dark grayish-brown silty clay loam. The upper part of the subsoil is dense clay about 20 inches thick. In the lower part of the subsoil are layers of a buried soil that consist of yellowish-brown clay loam (U.S. Department of Agriculture (USDA), Soil Conservation Service, (SCS), 1971). No stained soils, stressed vegetation or other indications of contamination (e.g., hazardous or household debris) were observed on or adjacent to the site during the environmental field evaluations conducted on November 14, 2002 and May 29, 2003. A small amount of scattered concrete, asphalt and wood debris and several piles of soil and gravel were observed on the north and west portions of the area of the proposed action.

4.5.4 Seismic Conditions

The project site is not located in an area commonly considered high risk for seismic events or in an area with known unstable geologic formations (U.S. Geological Survey (USGS), 1979).

4.5.5 Prime and Unique Farmland

A representative from the USDA, Natural Resources Conservation Service (formerly SCS) indicated that the soils located on the project site would not be considered as prime or unique farmland because they are not irrigated or used for the production of specialty crops (Price, pers. comm.). Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides and labor, without intolerable soil erosion. Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops (e.g., citrus, tree nuts, olives, cranberries, fruits, vegetables) when treated and managed according to acceptable farming methods (USDA, Farmland Protection Program).

4.6 Water Resources

Water resources include surface water (stormwater, wetlands, wild and scenic rivers, and floodplains) and groundwater. The ROI for water resources, except for surface water and wetlands, is considered to be the East Toll Gate Creek drainage between the project site and East Toll Gate Creek. The ROI for surface water and wetlands is considered to be the project site.

4.6.1 Surface Water

One surface water feature is located on the project site. The surface water feature is a small stormwater retention basin adjacent to the south helicopter paved parking area (see Section 4.6.3). A drainage swale that runs along the south side of the south helicopter parking area is connected to the retention basin. The drainage swale appears to capture runoff from the south helicopter parking area and run-on from the adjacent land to the south. There was no water observed in the retention basin or drainage swale during the environmental field evaluations on November 14, 2002 and May 29, 2003. Stormwater related issues concerning the basin are discussed in Section 4.6.2 and wetland related issues are discussed in Section 4.6.3.

4.6.2 Stormwater

Stormwater runoff naturally drains from the north portion of the project site to the northwest and from the south portion of the project site to the southwest. The project site lies within the East Toll Gate Creek drainage basin. East Toll Gate Creek is located west and south of the project site and at its nearest point appears to be located approximately 1,000 feet southwest of the project site. East Toll Gate Creek flows to the northwest and discharges into Sand Creek. Sand Creek discharges into the South Platte River, which is located approximately 12 miles northwest of Buckley AFB. East Toll Gate Creek is reported to be characteristically intermittent (Buckley AFB General Plan, 2002). Based on observations of the overall topography surrounding the project site and the presence of the main AFB runway located east of the site, very little surface water would appear to run onto the project site during storm events. At present, with the exception of the small stormwater retention basin and connecting drainage swale, the majority of stormwater runoff from the project site and surrounding area would appear to flow overland toward East Toll Gate Creek.

The EPA is the permitting authority for stormwater discharges at federal installations in the State of Colorado. Certain industrial activities/areas at Buckley AFB are presently authorized to discharge stormwater under EPA's Multi-Sector General Permit (MSGP), which was issued on October 30, 2000. The MSGP expires in October 2005. As of December 16, 2002, there were no reported violations of the MSGP for Buckley AFB. In accordance with the federal regulations, all facilities covered by a stormwater discharge permit must prepare and implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP should, at a minimum, include all of the elements listed in the permit, including: identifying potential sources of pollution which may reasonably be expected to affect the

quality of stormwater discharges from the facility; describing and ensuring implementation of practices which would be used to reduce the pollutants in stormwater discharges from the facility; and assuring compliance with the terms and conditions of the permit. The existing SWPPP that covers the AASF would need to be amended if new structures are built or if activities change that could impact stormwater runoff. Prior to beginning any construction activities, a construction stormwater permit and SWPPP would be required if the construction activities disturb one or more acres of land.

4.6.3 Wetlands

Determination of wetland presence within the project site was based on the methods and techniques specified for "routine on-site delineations" in the publication *Corps of Engineers Wetlands Delineation Manual* (U.S. Army Corps of Engineers (USACE), 1987). Only one small potential wetland was located on the project site. Figure 5 is a habitat map that illustrates the general location of the potential wetland. The potential wetland has become established in the small stormwater retention basin (approximately 35 feet by 75 feet) that appears to have been constructed, along with a drainage swale, to collect runoff from the adjacent south paved helicopter parking area. Stormwater runoff is collected by the swale and is discharged into the retention basin. Only a small, central portion of the retention basin exhibited potential suitable characteristics for classification as wetland (approximately 20 feet by 35 feet). This portion of the basin supports a small pocket of narrow-leafed cattail (*Typha angustifolia*) and scattered individuals of curly dock (*Rumex crispus*). Check holes dug in this area indicated reducing conditions and a possible hydric (wetland) soil. The remaining portions of the basin did not exhibit possible hydric soil conditions and are vegetated primarily by upland vegetation species including leafy spurge (*Tithymalus uralensis*), yellow sweetclover (*Melilotus officinale*), and Canada thistle (Cirsium arvense). (Scientific nomenclature for plants follows Weber, W.A. and R.C. Wittman, 1996.) This potential wetland would not be classified as jurisdictional by the USACE since it has no continuous wetland or defined channel connection to other waters of the U.S. A follow-up wetland delineation conducted in January 2004 determined that there was not any wetland within the stormwater retention basin. The January 2004 wetland delineation report was transmitted to Buckley AFB.

4.6.4 Wild and Scenic Rivers

There are no "wild and scenic rivers" or rivers listed in the Nationwide Rivers Inventory located on or near the project site (Nationwide Rivers Inventory, 2002). The Nationwide Rivers Inventory contains a listing of more than 3,400 free-flowing river segments in the U.S. that are believed to possess one or more "outstanding remarkable" natural or cultural values judged to be of more than local or regional significance.

4.6.5 Floodplains

Based upon available information, flood hazards have not been surveyed or mapped along the portion of East Toll Gate Creek that passes through Buckley AFB. At its nearest point,

East Toll Gate Creek appears to be located approximately 1,000 feet southwest of the project site. A review of the Flood Insurance Rate Map maintained by the Federal Emergency Management Agency for the downstream area east of Buckley AFB indicates that the 100-year and 500-year floodplains along East Toll Gate Creek extend from approximately 300 feet to 500 feet on either side of the creek (Flood Insurance Rate Map). Based upon the approximate 50-foot increase in elevation from East Toll Gate Creek on Buckley AFB to the project site, it appears that the project site and surrounding area would be located in an area determined to be outside the 100-year and 500-year floodplains.

4.6.6 Groundwater

Buckley AFB is located in an area where groundwater conditions predominate in the Denver Aquifer. The depth to the water table in the shallow unconsolidated sediments is generally more than 20 feet below ground surface and commonly more than 100 feet (USGS Hydrologic Investigations Atlas, 1996). Groundwater flow direction and the depth to shallow, unconfined groundwater, if present, would likely vary depending upon seasonal variations in rainfall, irrigation and the depth to the soil/bedrock interface, but commonly follows surface topography. The topography at the project site generally slopes gently downgrade from the southeast to the northwest toward East Toll Gate Creek.

There are ten Environmental Restoration Program (ERP) sites on Buckley AFB (Buckley AFB General Plan, 2002). Two of the sites are located immediately west (topographically down-gradient) of the project site (oil pit and former landfill) and one is located approximately 3,000 feet east (topographically cross-gradient) of the project site (former fire training area no. 2). The oil pit site is undergoing technical review, the former landfill is in long-term groundwater monitoring and the former fire training area is under remedial investigation. The CDPHE, Hazardous Materials and Waste Management Division (HMWMD) reported that the groundwater flow direction in the vicinity of the former fire training area is to the northeast, away from the project site, and that the project site is up-gradient from the oil pit and former landfill (Larock, pers. comm.). The HMWMD was not aware of any past or present activities that would suggest shallow groundwater contamination at the project site.

The Colorado Department of Natural Resources, Division of Water Resources did not have any records of registered groundwater wells on the project site nor were any groundwater wells observed during the environmental field evaluations on November 14, 2002 and May 29, 2003 (Colorado Department of Natural Resources, Division of Water Resources).

4.7 Biological Resources

The ROI for biological resources is considered to be the project site and immediately adjacent property. The COARNG consulted with the USFWS and provided them with an opportunity to review and comment on the EA to determine if the proposed action would have the potential to significantly affect biological resources. The USFWS reviewed the

Draft EA and found an adequate discussion of impacts and concurred with the findings (letter from USFWS included in Appendix C).

4.7.1 Vegetation

An environmental field evaluation of existing features and vegetation communities was completed for the project site on November 14, 2002 and May 29, 2003. The field survey included pedestrian transects through the entire area so that all acreages within and near the project site boundaries were observed and evaluated. Observations recorded during the field survey included: major vegetation communities and wildlife habitats present within the property; dominant flora associated with each vegetation community and habitat; unique habitat features; and presence of wetlands. Determination of wetland presence within the project site was based on the methods and techniques specified for "routine on-site delineations" in the publication *Corps of Engineers Wetlands Delineation Manual* (U.S. Army Corps of Engineers, 1987). Evaluation of potential habitat for threatened and endangered plant species consisted of a review of the known distribution and habitat preferences of potential species and comparing this information to habitat conditions within and near the project site. A review of Colorado Natural Heritage Program (CNHP) occurrence records was also completed (Colorado Natural Heritage Program).

The entire project site and adjacent areas consist of relatively flat to gently rolling terrain that supports primarily non-native grassland communities in areas not previously developed or disturbed. The remainder of the project site is comprised of developed areas (helicopter parking area, MEP lot and a roadway) and disturbed sites (soil stockpile and areas of past earth-moving activities). One small, isolated stormwater retention basin is located adjacent to the south paved helicopter parking area. None of the vegetation communities present within the project create any unique or rare habitat conditions. The location and extent of these areas are depicted on Figure 5. The following sections describe the vegetation characteristics of non-native grassland, disturbed and wetland communities present within the project area.

Non-native Grassland. As noted above, the project site and adjacent areas support primarily non-native grassland communities in the undeveloped areas. Dominance by non-native grasses is probably the result of re-seeding with non-native species following past ground-clearing activities or other past ground disturbances associated with development of the AFB. There is no clear evidence regarding when this change occurred, but it is likely the time frame was within one or more phases of development of the AFB, possibly when the adjacent asphalt-paved helicopter parking areas, taxiway and helipad were constructed. Dominant non-native grasses present in the project area include crested wheatgrass (*Agropyron cristatum*), smooth brome (*Bromopsis inermis*) and cheatgrass (*Anisthantha tectorum*). A few, small remnant pockets of native blue grama (*Chondrosum gracile*) and purple three awn (*Aristida purpurea*) were noted at scattered locations. (Scientific nomenclature for plants follows Weber, W.A. and R.C. Wittman, 1996.)

Occupied black-tailed prairie dog (*Cynomys ludovicianus*) burrows were noted throughout the non-native grassland portions of the project site, and as a result, much of the grass stands present are closely cropped to the ground from black-tailed prairie dog grazing pressure. In addition, most areas of non-native grassland also appeared to be occasionally mowed as part of the airfield operations.

Other common but less dominant species noted of non-native grassland included pricklypear (*Opuntia polyacantha*), kochia (*Bassia sieversiana*), Canada thistle (*Cirsium arvense*), western ragweed (*Ambrosia psilostachya*), field bindweed (*Convolvulus arvensis*), many-flowered aster (*Virgulus ericoides*), mullein (*Verbascum thapsus*) and Russian thistle (*Salsola australis*). The only woody species observed in the non-native grassland community was rubber rabbitbrush (*Chrysothamnus nauseosus*). As a result of black-tailed prairie dog grazing, many areas within the non-native grassland community exhibited very sparse total vegetation cover. Total vegetation cover was estimated to range from 10 percent to 55 percent. Vegetation height for herbaceous species was generally less than six inches.

Disturbed. The disturbed/soil stockpile site in the southern portion of the project area is vegetated almost entirely by dense stands of the annual weed, kochia, except where active earth-moving activities have removed all vegetation cover. The disturbed/weedy community in the northern portion of the project area appears to have been affected by past excavation and soil moving activities. Very little grass cover is supported in this area and vegetation was composed almost entirely of kochia, Russian thistle, yellow sweetclover and various other annual weeds.

Wetland. See Section 4.6.3.

Threatened and Endangered Vegetation Species. A review of CNHP occurrence records available through the Colorado Natural Diversity Information Source revealed no known occurrences of sensitive plant species or CNHP Conservation Sites within or near the project site. Current vegetation communities within the project site also do not provide any suitable habitat conditions for any rare, threatened or endangered vegetation species potentially occurring in the region.

4.7.2 Wildlife

An environmental field evaluation of existing habitats and potential wildlife use was completed for the project site on November 14, 2002 and May 29, 2003. The field survey included pedestrian transects through the entire area so that all acreages within and near the project site boundaries were observed and evaluated. Observations recorded during the field survey included major vegetation communities, wildlife habitats and observations of wildlife species and/or definitive sign (nests, scat, tracks, burrows, etc.). Evaluation of potential habitat for threatened and endangered wildlife species consisted of a review of the known distribution and habitat preferences of potential species and comparing this

information to habitat conditions within and near the project site. A review of CNHP occurrence records was also completed.

As described in Section 4.7.1, Vegetation, the only wildlife habitats present within the project site are non-native grassland, disturbed habitat and one small stormwater retention basin. Overall habitat diversity and value is limited by past development and the proximity of the military airfield and training facilities. Habitat value and wildlife use of non-native grassland and disturbed habitat is limited because of low vegetation species diversity and the relative lack of woody vegetation cover. The stormwater retention basin has minimal habitat value because of its small size and proximity to the existing aircraft parking area. As a result of black-tailed prairie dog grazing, many areas within the non-native grassland community exhibited very sparse total vegetation cover and much of the grass stands are closely cropped to the ground. In addition, most areas of the non-native grassland and the few small remnant pockets of native grassland also appeared to be occasionally mowed as part of the airfield operations. There are no areas of unique or high quality habitat in the area of the project site.

Active black-tailed prairie dog burrows are present throughout the non-native grassland portions of the project site, and black-tailed prairie dogs and their burrows were observed to occupy grassland areas extending well beyond the project area boundaries. The only other wildlife species documented in the project area by direct observation of animals or definitive sign were Nuttall's cottontails (*Sylvilagus nuttallii*), coyote (*Canis latrans*), badger (*Taxidea taxus*) and red fox (*Vulpes vulpes*) . A possible red fox den burrow was located on the south edge of the stormwater retention basin. Black-tailed prairie dogs and Nuttall's cottontails noted in the project area represent potential food sources for mammalian predators and raptors.

There are no areas of cliffs, rock outcrops or trees that could provide potential raptor nesting or perching habitat. The obstacle/training course towers in the south parcel could provide potential raptor perching sites, but human presence and nearby helicopter operations severely restricts the suitability of this area for raptor perching.

Deer mouse (*Peromyscus maniculatus*), thirteen-lined ground squirrel (*Spermophilus tridecemlineatus*, prairie vole (*Microtus ochrogaster*), northern pocket gopher (*Thomomys talpoides*), black-tailed prairie dog, Nuttall's cottontail, horned lark (*Eremophila alpestris*) and western meadowlark (*Sturnella neglecta*) are the more common species likely to establish resident populations in non-native grassland and disturbed habitats. (Scientific nomenclature follows Fitzgerald et. al., 1994 for mammals and American Ornithologists' Union, 1983 and subsequent revisions for birds.) Songbirds such as Brewer's blackbird (*Euphagus cyanocephalus*), common grackle (*Quiscalus quiscula*), and black-billed magpie (*Pica pica*) may also occasionally use these habitats. Species such as striped skunk (*Mephitus mephitus*), coyote, badger, and red fox will occasionally hunt prey in non-native grassland. Raptors potentially hunting over non-native grassland include American kestrel

(*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*) and Swainson's hawk (*Buteo swainsoni*). However, at this project site, resident wildlife species are limited because the project site is adjacent to an urban environment at the existing COARNG AASF, which results in a high human disturbance factor, and the habitat conditions are of low quality. Species would need to adapt to an urban environment and human presence.

As requested, the CDOW completed a review of their maps and indicated that the project site would not be located within an officially designated wilderness area, wildlife preserve/refuge, critical habitat, park or recreation area. The CDOW also indicated that if there are black-tailed prairie dogs on the project site, it is possible that bald eagles (*Haliaeetus leucocephalus*) could hunt them on occasion and burrowing owls (*Athene cunicularia*) could live and nest in black-tailed prairie dog holes (CDOW, 2002). As reported by Buckley AFB, bald eagles are occasionally seen on the AFB during the winter months hunting prairie dogs for food; however, no bald eagles are nesting on the AFB (Buckley AFB, 2003).

An EA supplement has been prepared for the management of black-tailed prairie dogs on Buckley AFB (USAF, 2001). As described in the EA supplement, in the event an action affects a black-tailed prairie dog colony, the EA supplement prefers to capture and remove the black-tailed prairie dogs on an as-needed basis. The black-tailed prairie dogs would be relocated to either on-base or off-base locations or transferred to an USFWS black-footed ferret (*Mustela nigripes*) breeding facility. The last option would be to use lethal control measures. A permit from the Colorado Department of Natural Resources, Division of Wildlife (CDOW) would be required if live black-tailed prairie dogs were to be trapped on the project site and relocated. Black-tailed prairie dogs may not be captured and removed between March 1 and July 15 because young are being raised and the young would not be able to survive on their own. Also, burrowing owls, a state threatened species, may use abandoned black-tailed prairie dog holes for cover and nesting between March 1 and October 31 and can not be killed, injured or harassed (see additional discussion on burrowing owls in the following section).

4.7.3 Threatened and Endangered Species

A review of CNHP occurrence records and CDOW *Wildlife Resources Information Systems* mapping available through the Colorado Natural Diversity Information Source revealed no known occurrences of sensitive wildlife species or CNHP Conservation Sites within or near the project site. The field evaluation regarding potential habitat for state or federal listed threatened and endangered species determined that the existing black-tailed prairie dog town represents the only possible suitable habitat for threatened or endangered species. Two species, burrowing owl (State Threatened) and black-footed ferret (State and Federal Endangered) rely on black-tailed prairie dog towns for much of their life history requisites. The black-tailed prairie dog is a candidate species for listing as a threatened species

(Federal). DOD and USAF policy is that candidate species be treated as listed when possible.

Burrowing owls are a migratory species in Colorado and are protected under the Migratory Bird Treaty Act. They occur in the state from early March through October. During winter, Colorado burrowing owls migrate to Mexico and Central America. Burrowing owls are primarily found in grasslands and mountain parks, usually in or near black-tailed prairie dog towns. They use abandoned black-tailed prairie dog holes for cover and nesting and often hide in burrows when they feel threatened. Burrowing owls are active and hunt for food anytime during the day or night. They are often observed standing on black-tailed prairie dog mounds surrounding a burrow. Families of owls often remain together in a black-tailed prairie dog town into September (Appendix B).

The Migratory Bird Treaty Act and state threatened species law prohibits killing, injuring or harassing these birds during nesting or the destruction of nests during earth moving for construction or by black-tailed prairie dog poisoning or removal projects. The CDOW recommends that black-tailed prairie dog towns be surveyed on two consecutive mornings for burrowing owl presence if a black-tailed prairie dog town is to be disturbed between March 1 and October 31. If burrowing owls are determined to be present, or within 150 feet of the area to be disturbed, construction and black-tailed prairie dog removal activities should be completed between November 1 and the end of February, or after young have left the nest in the fall, to ensure burrowing owls are not inadvertently killed (Appendix B).

Current USFWS survey guidelines state that a black-tailed prairie dog town or complex of towns (within seven kilometers of each other) of more than 80 acres needs to be surveyed for black-footed ferrets to document their absence prior to ground disturbance activities. Based on a reconnaissance of areas with black-tailed prairie dogs extending beyond the project area boundaries, it is likely that there are sufficient acres of black-tailed prairie dog town to warrant a black-footed ferret survey. However, as reported in the Buckley Realignment EA, the black-footed ferret has not been observed on the AFB during four previous surveys and the USFWS has designated Buckley AFB as being within a "block clearance zone". A "block clearance zone" is an area determined by the USFWS as not supporting the black-footed ferret (USAF, 2000).

4.8 Cultural and Historic Resources

The ROI for cultural and historic resources is considered to be the project site. Cultural resources include prehistoric archaeological and historic, architectural and Native American resources. Prehistoric archaeological resources include archaeological sites, structures, artifacts and other evidence of prehistoric human activity that predates written records (DOD, 1995).

Historic resources can be materials, properties or locations that postdate written records. These resources can include archaeological sites, structures, artifacts, documents and

other evidence of human behavior. They can also include locations of events that were important in history or that are associated with historically significant persons (DOD, 1995).

Historic property as defined by the National Historic Preservation Act of 1966, as amended, "means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religions and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria" (36 CFR Part 800.16 (l)(1)). The criteria used to evaluate properties for nomination to, and inclusion in, the National Register of Historic Places are described in 36 CFR Part 60.4. Historic properties that are eligible for listing in the National Register of Historic Places are cultural resources.

Native American resources include places/sites or properties used by Native American tribes, including, but not limited to, traditionally or customary religious or sacred sites. These sites can include certain places where ceremonies are or have been conducted, places where sacred items, medicinal plants or other traditional items were collected, and places figuring prominently in the oral or written history or traditions of a tribe. The DOD policy document titled "Annotated Policy Document for the American Indian and Alaska Native Policy", dated October 27, 1999, establishes principles and responsibilities for addressing tribal concerns related to protected tribal resources, tribal rights and Indian lands. This policy document requires meaningful communication with tribes on a government to government basis. The COARNG consulted with Native American tribes and provided them with an opportunity to review and comment on the EA to determine if the proposed action would have the potential to significantly affect protected Native American resources or sites. The Ute Mountain Tribe responded to the COARNG's information request and reported that they did not have any concerns or questions regarding any of the COARNG's proposed projects (memorandum included in Appendix C). The Southern Ute Tribe did not respond to the COARNG's information request (memorandum included in Appendix C).

There are numerous federal statutes and associated regulations that govern the appropriate evaluation and treatment of cultural resources on lands controlled by federal agencies. The regulations are generally administered by the State Historic Preservation Officer of each state. As requested, the Colorado Historical Society completed a file search and indicated that the project site has been surveyed for cultural resources and that no known historic properties are located within the area of the preferred alternative (Colorado Historical Society, 2002 (Appendix B)).

4.9 Socioeconomics

The ROI for socioeconomics is considered to be Buckley AFB and the areas of the City of Aurora that surround the AFB. This section addresses the social and economic aspects of

the human environment and includes demographic (population and employment), economic activity (income), housing information and protection of children. The socioeconomic data presented in this section are primarily for Buckley AFB and the City of Aurora and was obtained from Buckley AFB, the U.S. Department of Commerce, U.S. Census Bureau and the City of Aurora. The City of Aurora is located in Adams, Arapahoe and Douglas counties. The completion of state highway E-470 has stimulated significant growth in the past few years in the areas east and south of the AFB. In addition, the opening of Denver International Airport in 1995, which is located approximately ten miles northeast of the AFB, stimulated development in northeast Aurora.

4.9.1 Population, Employment, Income and Housing for Aurora

Selected demographic, social, economic and housing characteristics for Aurora, Colorado are presented in Table 5. The information was obtained from the U.S. Census Bureau's 2000 Census and the City of Aurora.

Referring to Table 5, the population of Aurora was 276,393 persons in 2000, a 24.4% increase over the 1990 population of 222,103 persons. The 1999 median household income in Aurora was $46,507 and the median household value was $144,600.

4.9.2 Information Regarding Buckley AFB

Selected demographic and economic information regarding Buckley AFB for fiscal year 2001 is presented in Table 6. The information was obtained from a Buckley AFB annual economic statement.

Referring to Table 6, in fiscal year 2001, there were 2,987 active duty military personnel and 3,732 National Guard and Reserve personnel stationed at Buckley AFB. Total military and civilian personnel at the AFB was 9,232. The total estimated annual impact from Buckley AFB in fiscal year 2001 was $547,305,599 (Buckley AFB, 2002B). Buckley AFB is the largest employer in or near Aurora (USAF, 2000). At the end of fiscal year 2002, there were approximately 3,600 active duty military personnel, approximately 3,600 civilian personnel and approximately 1,750 contractor personnel either stationed or working at Buckley AFB (Buckley AFB, 2003).

Total military and civilian personnel associated with the AASF is approximately 80 persons. Even though the AASF employs only a small portion of the total personnel at the AFB, the total annual impact from the AASF to the surrounding community is estimated to be approximately 3.3 million dollars.

Table 5
Demographic, Social, Economic and Housing Characteristics

Characteristic	Number or Percent
Total population, 2000	276,393
Total population, 1990	222,103
Population, percent change 1990 to 2000	24.4%
Male	49.5%
Female	50.5%
Persons under 18 years old	27.6%
Persons 65 years old and over	7.4%
Median age	31.7 years
White persons	68.9%
Black or African American persons	13.4%
American Indian and Alaska Native persons	0.8%
Asian persons	4.4%
Native Hawaiian and Other Pacific Islander	0.2%
Persons reporting some other race	8.1%
Persons reporting two or more races	4.2%
Persons of Hispanic or Latino origin	19.8%
Total area	142.74 square miles
Total housing units	109,260
Occupied housing units	96.7%
Vacant housing units	3.3%
Owner-occupied housing units	63.9%
Renter-occupied housing units	36.1%
Median household value	$144,600
High school graduate or higher, 25 years and over	85.0%
Bachelor's degree or higher, 25 years and over	24.6%
Civilian veterans, 18 years and over	29,745
Unemployed, 16 years and over	3.0%
Armed forces, 16 years and over	1,561
Median household income, 1999	$46,507
Per capita income,1999	$21,095
Private wage and salary workers	83.0%
Government workers	17,136
Individuals below poverty status, 1999	8.9%

(Census, 2002 and City of Aurora, 2002)

Table 6
Buckley AFB Fiscal Year 2001 Information

Characteristic	Number
Active Duty Personnel	2,987
Air National Guard/Air Force Reserve Personnel	1,561
Army/Navy/Marine Reserve Personnel	2,171
Appropriated Fund Civilian Personnel	836
Civilian Non-Appropriated/Base Exchange Personnel	281
Contract/Private Personnel	1,396
Military Dependents	16,126
Area Air Force Retirees	22,000
Military Construction Contracts	$6,133,697
Service Contracts	$29,559,088
Indirect Jobs Created	3,862
Estimated Annual Dollar Value of Jobs Created	$159,937,006
Appropriated Military Payroll	$164,701,216
Appropriated Civilian Payroll	$50,990,792
Non-Appropriated Fund Payroll (Includes Base Exchange, Contractors and Private Business)	$99,889,620
Total Estimated Annual Impact	$547,305,599

(Buckley AFB, 2002b)

4.9.3 Protection of Children

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, requires federal agencies to identify and assess disproportionate risks to children that result from environmental health and safety risks. Operations at the existing AASF do not disproportionately affect children. No family housing presently exists at Buckley AFB, therefore, no children live on the AFB. There is a day care center in Building 725 in the central portion of the AFB, which is located approximately one-half mile northwest of the AASF. On the infrequent occasions when children are present at the AASF, they are required to be under the supervision of an adult and are prohibited from entering areas that could pose an environmental health or safety risk. Therefore, construction and operation of the preferred alternative would not have an impact on the protection of children.

4.10 Environmental Justice

The ROI for environmental justice is considered to be Buckley AFB and the areas of the City of Aurora that immediately surround the AFB. The concept of environmental justice is to identify and address, as appropriate, disproportionately high adverse human health, economic, social or environmental effects from federal policies and actions on minority and low-income populations and identify alternatives to mitigate impacts. An environmental justice analysis for Buckley AFB was performed as part of the September 2000

Realignment EA for Buckley AFB (USAF, 2000). As determined in the Realignment EA, there did not appear to be a disproportionately high low-income population within the ROI and only one of the surrounding zip code areas had a disproportionately high minority population. As a result, it was concluded that the realignment (increase in military and civilian personnel and government vehicles) would not have an overall disproportionately adverse environmental or human health effect on the minority population (USAF, 2000). Because the preferred alternative would be located adjacent to the existing AASF on Buckley AFB and because there did not appear to be disproportionately high low-income or minority populations surrounding the AFB (USAF, 2000), it was concluded that construction and operation of the preferred alternative would not have an adverse human health, economic, social or environmental impact on minority or low-income populations within the surrounding communities.

4.11 Infrastructure

4.11.1 Utilities and Services

Utilities and services addresses key infrastructure and other services required to implement the proposed action. All utilities are either provided by a commercial company (Xcel Energy) or a municipality (City of Aurora). Regulations governing the extension of utilities and other services have been set by Buckley AFB operational rules, local utility standards, and state and local building codes and ordinances, as appropriate.

Water. The ROI for potable water is considered to be the City of Aurora's water supply and distribution system. Buckley AFB and the COARNG AASF obtain potable water from the City of Aurora. At present, there are no water use limits or restrictions for Buckley AFB other than the ongoing mandatory water restrictions placed on all Aurora businesses and residences (Pitts, pers. comm.). Future restrictions on water connections for new development could be imposed if current drought conditions do not improve in the near future. In fiscal year 2002 Buckley AFB and its tenant facilities used 102,448,000 gallons of water (Buckley AFB, 2003).

Wastewater. The ROI for wastewater is considered to be the City of Aurora's sanitary sewer system and the Metro Wastewater Reclamation District. Domestic wastewater and wastewater from oil/water separators generated on Buckley AFB is discharged into the City of Aurora sanitary sewer system. The wastewater is treated by the Metro Wastewater Reclamation District, which serves 55 local cities and sanitation districts. Presently, the treatment plant processes approximately 160 million gallons of wastewater a day and has a current capacity to process 185 million gallons of water per day (Metro Wastewater Reclamation District). Buckley AFB has been issued an industrial discharge permit by the Metro Wastewater Reclamation District to discharge wastewater to the sanitary sewer system. The permit was last reissued on February 1, 2003 and expires on January 31, 2008 (Metro Wastewater Reclamation District). Buckley AFB reported an approximate

wastewater discharge of 17.1 million gallons for July, August and September 2002 (Buckley AFB, 2002b).

Solid Waste. The ROI for solid waste is considered to be the non-hazardous solid waste landfills in the Denver metropolitan area. Solid waste collection and disposal at Buckley AFB and the AASF is handled by a private contractor. Waste is collected in dumpsters located throughout the AFB and is disposed at a local permitted off-base landfill (USAF, 2000). Several of the non-hazardous solid waste landfills in the Denver metropolitan area have many years of available capacity (approximately 40 to 50 years). A contractor also collects recyclable materials.

Electricity. The ROI for electricity is considered to be the available capacity and supplies. Electricity supplied to facilities at Buckley AFB is provided by Xcel Energy. Xcel Energy serves 3.1 million electric customers in 12 Western and Midwestern states. Xcel Energy operates more than 70 regulated facilities for generating electricity. Xcel Energy generates approximately three-quarters of the electricity needed to serve its customers and purchases the remainder from other electricity suppliers (Xcel, 2003). Currently, Xcel Energy has forecasted that there would be sufficient capacity and available electricity to meet future demands (Miller, pers. comm.). In fiscal year 2002 Buckley AFB and its tenant facilities used approximately 99 million kilowatt-hours of electricity (Buckley AFB, 2003).

Natural Gas. The ROI for natural gas is considered to be the available capacity and supplies. Natural gas supplied to facilities at Buckley AFB is provided by Xcel Energy. Xcel Energy serves 1.5 million natural gas customers in 12 Western and Midwestern states. Xcel Energy purchases the natural gas needed to serve its customers. Xcel Energy provides design assistance to building owners, architecture and engineering firms, and developers to identify and implement cost-effective energy efficiency strategies (Xcel, 2003). Currently, Xcel Energy has forecasted that there would be sufficient capacity and available natural gas to meet future demands (Miller, pers. comm.). In fiscal year 2002 Buckley AFB and its tenant facilities used approximately 131 million cubic feet of natural gas (Buckley AFB, 2003).

Communications. Buckley AFB is well served by fiber-optic lines and other communication facilities. Local telephone service is provided by Qwest Communications. The AFB is connected to the Reserve Component Automation System (RPDP, 2001).

Law Enforcement and Fire Protection. Law enforcement and fire protection services for facilities on the AFB are provided by Buckley AFB. These services would be extended to new construction at the project site.

4.11.2 Transportation and Traffic

The ROI for transportation and traffic is considered to be Buckley AFB and the areas of the City of Aurora that immediately surround the AFB. Buckley AFB is located on a 3,293-acre

parcel of land that lies due east of downtown Denver and is surrounded by the city limits of Aurora, Colorado. The 460th Air Base Wing is the current host for Buckley AFB. The AFB is also home to the COARNG Aviation Command, the 140th Wing of the Colorado Air National Guard and 26 other active duty, Guard and Reserve units (Buckley AFB, 2002a). Aurora has approximately 290,000 residents and 10,400 businesses and is the second most populous city in the Denver metro area (City of Aurora, 2002). Numerous small businesses and residential areas surround the AFB.

There are three primary entrances into Buckley AFB, the North Gate off East 6th Avenue, the South Gate off East Mississippi Avenue and the Telluride Gate off Telluride Street (which is west of the North Gate just off East 6th Avenue). The North Gate is the main entrance to the AFB. The gates are staffed by AFB personnel and visitors must have approved passes to enter. The road network on the AFB is well-defined and in good condition. The primary route into and out of the AFB is East 6th Avenue, which runs in an east-west direction along the north boundary of the AFB. All commercial vehicles are required to enter the AFB through the South Gate off East Mississippi Avenue.

The AASF is located along Sunlight Way near the southeastern corner of the AFB, which is near the South Gate. At the present time, except for several other COARNG facilities, this area of the AFB is sparsely developed and not heavily utilized. The main entrance to the AASF and the existing POV parking area is from Sunlight Way. The access road and parking area are paved and in good condition. The size of the existing POV parking area is adequate for the full-time AASF personnel and visitors; however, it is reported to be overflowing on drill weekends. Unit personnel park at other nearby COARNG facilities and walk to the AASF (RPDP, 2001).

Traffic counts for the peak hour traffic on local roads accessing the AFB and for the average daily traffic on the AFB are reported in the Buckley Realignment EA (USAF, 2000). As reported in the Buckley Realignment EA, this information was obtained from *Environmental Assessment for the Construction of a Base Exchange and Commissary Complex Buckley Air National Guard Base, Colorado, December 1998.* The afternoon peak hour traffic on East 6th Avenue, west of the North Gate was approximately 1,300 vehicles and the peak hour traffic east of the North Gate was approximately 400 vehicles. The peak hour traffic on East Mississippi Avenue, west of the South Gate was approximately 700 vehicles. The average daily traffic on the AFB was approximately 3,000 vehicles on Aspen Street in the central base area. The average daily traffic on the AFB near the South Gate was approximately 4,000 vehicles on Aspen Street.

4.12 Hazardous and Toxic Materials/Wastes

The ROI for hazardous and toxic materials/wastes is considered to be the project site. Hazardous substances and wastes are solid, liquid or gaseous materials, or combinations thereof, which because of their quantity, concentration, or physical, chemical, or infectious characteristics may:

- cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

- pose a substantial present or potential hazard to human health, or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed (Resource Conservation and Recovery Act (RCRA), 42 United States Code (U.S.C.) Sections 6901-6992).

Management of hazardous materials, hazardous wastes, non-hazardous wastes and regulated wastes are governed by specific federal and state environmental regulations. The major federal statutes are the Toxic Substances Control Act (15 U.S.C. Sections 2601-2671), the Emergency Planning and Community Right to Know Act (42 U.S.C. Sections 11001-110505), Department of Transportation regulations found within 49 CFR, RCRA and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, 42 U.S.C. Sections 9601-9675). The CDPHE, HMWMD and the Colorado Department of Public Safety oversee compliance with state regulations governing hazardous materials and wastes. Colorado has been authorized by the EPA to implement its own hazardous waste program and Colorado's Hazardous Waste Regulations are found in 6 CCR 1007-3. Federal statutes and Colorado Department of Public Safety rules and regulations regarding transportation primarily regulate hazardous materials.

Waste materials presently generated at the AASF are primarily associated with aircraft maintenance activities and include used oil, waste fuel, spent solvents and waste paint-related materials. Guidance for managing and disposing the waste materials would be described in the facility's Hazardous Waste Management Plan, which should comply with AR 200-1 as well as all other applicable federal and state regulations. Elements that should be contained in the plan include: responsibilities, waste inventory, waste analysis plan, hazardous waste management procedures, reporting, training, contingency plan, preparedness and spill prevention, and pollution prevention.

4.12.1 Environmental Restoration Program

There are ten ERP sites on Buckley AFB (Buckley AFB General Plan, 2002). The ERP is a USAF program and was established to identify, investigate, characterize, remediate or monitor past disposal sites to control contaminant migration and potential hazards to human health and the environment. There are three ERP sites that were determined to be sufficiently close to impact the project site. Two of the sites are located immediately west (topographically down-gradient) of the project site (oil pit and former landfill) and one is located approximately 3,000 feet east (topographically cross-gradient) of the project site (former fire training area no. 2). The oil pit site is undergoing technical review, the former landfill is in long-term groundwater monitoring and the former fire training area is under remedial investigation (Buckley AFB General Plan, 2002).

The CDPHE, HMWMD reported that the groundwater flow direction in the vicinity of the former fire training area is to the northeast, away from the project site, and that the project site is up-gradient from the oil pit and former landfill (Larock, pers. comm.). The HMWMD was not aware of any past or present activities that would suggest shallow groundwater contamination at the project site.

As indicated on Map 4A-1 in the Buckley AFB General Plan (copy attached as Figure 6), the boundary of the former landfill extends to the area immediately south of Sunlight Way, which is into the southwest corner of the project site (Buckley AFB General Plan, 2002). If construction activities for the preferred alternative are to be performed south of Sunlight Way, then an assessment of the ground areas would need to be conducted for landfilled materials prior to starting ground disturbing activities.

4.12.2 Asbestos

The proposed action would not include the use of asbestos containing materials during construction, nor does the preferred alternative appear to involve modifying or demolishing existing buildings, which would disturb asbestos containing materials, if any exist.

However, as reported in the Buckley AFB General Plan, during the 1970s, several World War II era buildings were demolished and asbestos containing materials in the buildings were not mitigated to today's standards. If the area for the preferred alternative is in the vicinity of the former buildings, an assessment of the ground areas would need to be conducted for asbestos prior to starting ground disturbing activities (Buckley AFB General Plan, 2002). As reported by Buckley AFB, the area for the preferred alternative is not within the footprint of former World War II era buildings (Buckley AFB, 2003).

4.12.3 Lead-Based Paint

The proposed action would not include the use of lead-based paint during construction, nor does the preferred alternative appear to involve modifying or demolishing existing buildings, which would disturb lead-based paint, if any exists.

5.0 ENVIRONMENTAL CONSEQUENCES

This section identifies and evaluates the potential environmental and socioeconomic consequences associated with implementing the preferred alternative (the proposed action) and the no action alternative on each resource previously described in Section 4.0. As appropriate, anticipated direct and indirect effects are expressed as the qualitative or quantitative change in the environmental condition or resource that would be caused by the proposed action as compared to the environmental condition or resource that exists or would exist under the no action alternative. Both beneficial and adverse effects are identified and described.

Mitigation measures are not anticipated for the resources analyzed in this EA. However, where appropriate, Best Management Practices (BMPs) are described that would be incorporated into the project to reduce or eliminate potential adverse effects associated with implementation of the preferred alternative.

In general, the preferred alternative proposes constructing a new helicopter maintenance, air operations and office facility, constructing two new aircraft storage buildings and replacing the old asphalt-paved helicopter parking areas with rigid concrete at the AASF. The aircraft maintenance, air operations and office facility would be a permanent building. More specific details regarding the facilities to be constructed are discussed in Section 3.6.

5.1 Land Use

The ROI for land use is considered to be Buckley AFB, the areas of the City of Aurora that immediately surround the AFB, and the open space located next to the south end of the AFB, which is at the end of the main AFB runway. Impacts to land use would be considered potentially significant if by implementing the preferred alternative the ROI land use off the AFB would be forced to change.

5.1.1 Effects of the Preferred Alternative

The AASF Complex is located approximately one-half mile from the nearest boundary of the AFB and the city limits of Aurora, Colorado. Land use surrounding Buckley AFB includes developed land, open space and outdoor recreation areas. The majority of the area around the AFB is developed or planned for development. Development around the AFB includes residential, commercial, office and light industrial. Because of the distance from the AASF Complex to the nearest boundary of the AFB and because the combined aerial extent of the proposed facilities are not anticipated to be larger than the combined aerial extent of the existing COARNG nearby/adjacent structures, construction of the preferred alternative would not change land use or planned development off the AFB. Therefore, implementing the preferred alternative would not be considered significant for this resource.

Land use at and around the AASF is airfield operations, aircraft operation and maintenance, administrative, community service and open space. Because the open or vacant area being proposed as part of the project site is located immediately adjacent to existing AASF facilities, its land use is classified as airfield operations and aircraft operation and maintenance. However, construction of the preferred alternative would convert an approximate fifteen-acre parcel of land from mostly open, unimproved land to a new aircraft maintenance, air operations and office facility with an expanded helicopter parking area. This change would be considered a direct, minor adverse impact, both in the short-term and long-term, because this open land is not used for any activities other than infrequent local military training activities. In addition, existing land use surrounding the AASF is changing from historically open to airfield operations, aircraft operation and maintenance, office/administrative, community commercial, community service and light industrial as the AFB and its tenants continue to grow and expand.

Visual Resources. The preferred alternative would be located adjacent to the existing AASF and the combined aerial extent of the proposed facilities are not anticipated to be larger than the combined aerial extent of the existing COARNG nearby/adjacent structures. Although natural landscapes are present near the project site, it is the existing urban landscape that dominates most views either away from or toward the project site. Because of the surrounding urban setting, and the similarity and compatibility of the proposed structures with the existing environment at Buckley AFB and the AASF, construction and operation of the preferred alternative would not affect visual resources.

5.1.2 Effects of the No Action Alternative

Land use and visual resources would remain the same and would not be impacted directly or indirectly under the no action alternative.

5.2 Air Quality

The ROI for air quality is considered to be the Denver metropolitan area. Impacts to air quality would be considered significant if total direct and indirect criteria pollutant emissions associated with implementing the preferred alternative, or associated with the cumulative impacts from implementing all projects at Buckley AFB, caused a violation of the NAAQS or represents an increase of ten percent or more of a pollutant in the AQCR's emission inventory.

5.2.1 Effects of the Preferred Alternative

Implementation of the preferred alternative would adversely affect air quality primarily in two ways: fugitive dust from ground-disturbing activities; and, emissions from construction equipment and vehicles generated during construction. Because the AASF would have to remain in operation during construction, the work activities would not be able to occur all at once and would have to be appropriately scheduled so as not to interfere with flight operations. However, the fugitive dust and emissions generated during construction would

result in a minor, temporary adverse impact on air quality in the vicinity of the AASF and the Metropolitan Denver Intrastate AQCR.

The following air quality analysis examined impacts from direct and indirect emissions (PM_{10}, CO, VOCs, SO_2, NO_X) associated with construction of the preferred alternative to ensure that the proposed action would be in conformance with applicable CAA requirements. The air quality analysis did not examine impacts related to the operation of the new facilities because, in general, implementation of the preferred alternative would not affect activities or the number of personnel assigned to the AASF, even though new structures are being added.

The general conformity rule exempts certain federal actions from conformity determinations and assumes most other federal actions conform if total direct and indirect project emissions are below the criteria pollutant threshold levels (de minimis thresholds) found in 40 CFR Part 93.153 and if the emissions are deemed not to be regionally significant. The criteria pollutant threshold levels depend upon the nonattainment or the attainment/maintenance status of an area and the Denver metropolitan area is considered as attainment/maintenance status for CO, PM_{10} and O_3. The air conformity process is split into two parts. The first part is the applicability analysis, which requires federal agencies to determine if a proposed action would increase emissions of criteria pollutants above the de minimis threshold levels. The de minimis threshold levels that apply to the Metropolitan Denver Intrastate AQCR and Buckley AFB are listed in the following table.

Table 7
Applicability Threshold Levels

Criteria Pollutants	Tons per Year
O_3 (NO_X or SO_2) All Maintenance Areas	100
O_3 (VOCs) Maintenance Areas inside an O_3 transport region Maintenance Areas outside an O_3 transport region	 50 100
CO All Maintenance Areas	100
PM_{10} All Maintenance Areas	100
Pb All Maintenance Areas	25

(40 CFR Part 93.153)

Additionally, an action can be subject to the general conformity rule if the total direct and indirect emissions of any criteria pollutant are deemed to be regionally significant (i.e., represents ten percent or more of an AQCR's total emissions of that pollutant), even if the total direct and indirect emissions are less than the de minimis thresholds. The second part is the conformity determination. If the total direct and indirect emissions from an action are less than the de minimis threshold levels and are not determined to be regionally significant,

the project is presumed to conform. However, if the emissions exceed the de minimis threshold levels or are deemed to be regionally significant, the EPA provides several methods to determine if an action conforms to the SIP.

The following calculations of fugitive dust from ground-disturbing activities (i.e., PM_{10}) and emissions from construction equipment and vehicles generated during construction were based on an estimated six months of construction activity. The predicted emissions that would be produced from construction equipment and vehicles are summarized in the following table.

Table 8

Predicted Emissions from Construction Equipment[1]

Equipment	Estimated Hours of Equipment Operation During Construction Period	Approximate Pounds of Pollutant Emitted				
		CO	VOCs	NOx	SO_2	PM_{10}
Hydraulic Excavator (321B)	480	508	132	935	N/A	30
Articulated Dump Truck (725)	640	1,106	410	2,908	N/A	63
Track-type Tractor (Dozer-D6R)	1,000	1,356	353	2,495	N/A	81
Scraper (615C)	160	243	90	639	N/A	14
Compactor (CP-533)	160	171	44	315	N/A	10
Wheel Loader (950G)	160	168	62	441	N/A	10
Motor Grader (140H)	200	190	71	499	N/A	16
Paver (BG-225)	400	396	104	730	N/A	24
Crane	480	476	124	876	N/A	29
Concrete Trucks	872	538	76	990	N/A	28
Twenty Construction Vehicles (1994 & newer light truck)	2,600	3,440	688	1,548	N/A	N/A
Total Emissions in Six Month Period (pounds)	--	8,592	2,154	12,376	N/A	305
Average Emissions (pounds/hour)	--	1.20	0.30	1.73	N/A	0.04
Total Construction Emissions (tons/year)	--	4.30	1.08	6.19	N/A	0.15

[1]Exhaust emission estimates for construction equipment are based on the tier 1 and tier 2 required emission standards from 40 CFR Part 89.112. No emission standards were available for SO_2. All PM emissions considered PM_{10}. N/A = Not Available. Exhaust emission factors for concrete trucks (>60,001 lbs. GVR) and construction vehicles were obtained from the APCD. Used one hour per day, five days per week for 26 weeks at an average speed of 30 miles per hour for each construction vehicle. Used two hours for each concrete truck.

Fugitive dust from ground-disturbing activities would be generated during clearing of vegetation, soil excavation, placement and grading. These emissions would be greatest during initial site preparation and would vary from day to day depending on construction activities and prevailing weather conditions. Uncontrolled fugitive dust emissions from ground-disturbing activities associated with construction has been estimated to be 80 pounds of total suspended particulates (TSP) and 36 pounds of PM_{10} per acre of disturbed area per day (USEPA, 1995 and Draft Housing EA, 2002). These emissions would produce slightly elevated short-term PM_{10} concentrations. This dust estimate is based on heavy construction projects involving building and road construction and also assumes a moderate soil silt content of approximately 30 percent and a semiarid climate. Assuming that the approximate 30-acre project site would be disturbed in phases, most likely three phases because the AASF would have to remain in operation during construction, and ground-disturbing activities in each phase would occur over a two month period, up to 32.4 tons of PM_{10} dust could be generated during construction activities. However, the impact would only be temporary and would fall off rapidly with distance from the construction site. In addition, preparing and implementing a fugitive dust control plan that incorporates appropriate BMPs (e.g., watering, covering or vegetating soil stockpiles that are exposed for long periods of time, spraying water on temporary haul roads and other disturbed areas at least twice each day to minimize dust generation, and re-establishment of vegetation after construction), could significantly reduce fugitive dust emissions, reportedly by as much as 50 percent, and sometimes more.

As shown in the following table, total criteria pollutant construction emissions associated with implementing the preferred alternative do not exceed the CO, PM_{10} and O_3 levels specified for attainment/maintenance areas or represent an increase of ten percent or more of a pollutant in the AQCR's emission inventory.

In summary, overall ambient air quality at the AASF, Buckley AFB and the within the region would be slightly impacted by construction of the preferred alternative. Increased emissions associated with construction activities and equipment would produce slightly elevated air pollutant concentrations. However, the increases are expected to be minor, short-term and as shown, would not be considered regionally significant because criteria pollutant emissions would not cause a violation of the NAAQS or represent an increase of ten percent or more of a pollutant in the AQCR's emission inventory. The effects would be temporary, would fall off rapidly with distance from the construction site and would not result in long-term adverse impacts.

Table 9
Total Construction Emissions Compared to Applicability Threshold Levels

Criteria Pollutant	Applicability Threshold Level (tons/year)	Total Construction Emissions (tons/year)	Metropolitan Denver Intrastate AQCR Emission Inventory – (tons/year)[1]	Percent of Metropolitan Denver Intrastate AQCR Emission Inventory
O_3 (NO_X)	100	6.19	128,955	0.005%
O_3 (SO_2)	100	N/A	N/A	N/A
O_3 (VOCs)	50 (100)	1.08	129,662	0.0008%
CO	100	4.30	697,515	0.0006%
PM_{10}	100	32.55	31,500	0.10%
Pb	25	N/A	N/A	N/A

[1]Source: Most Recent CDPHE Attainment/Maintenance Plans for Denver and Final EA of Conversion to General Support Aviation Battalion at Buckley AFB, Colorado (VOCs).
N/A = Not Available.

According to the APCD, a construction air permit would be required if the project disturbs more than 25 acres or if the construction duration would be more than six months. Depending if there are new emission sources, an operating permit from the APCD may be required.

Radon. The USAF requires testing all buildings for radon if the structure is to be occupied by personnel for more than eight hours per day (e.g., housing). At this time, it is not anticipated that radon testing of the new structures would be required. However, because most of Colorado is located in an area considered to have high radon potential, if it is determined that any of the new facilities may be occupied by personnel for more than eight hours per day, then those structures should be designed with a radon mitigation system or be designed to incorporate a radon mitigation system after construction. Appropriate radon testing would also be required following construction of all structures occupied by personnel for more than eight hours per day. Therefore, construction and operation of the preferred alternative would not affect radon.

5.2.2 Effects of the No Action Alternative

Air quality would remain the same and would not be impacted directly or indirectly under the no action alternative.

5.3 Noise

The ROI for noise is considered to be Buckley AFB, the areas of the City of Aurora that immediately surround the AFB, and the open space located next to the south end of the AFB, which is at the end of the main AFB runway. Impacts to noise would be considered potentially significant if by implementing the preferred alternative noise would cause an annoyance within the ROI off the AFB.

5.3.1 Effects of the Preferred Alternative

The primary source of noise resulting from implementing the preferred alternative would be generated by construction equipment and vehicles. Construction noise would be intermittent, limited to normal working hours and short-term in duration. Noise levels generated by construction equipment and activities typically range from 70 to 96 dBA at 50 feet from the source. Approximate noise levels at 50 feet typically range from 80 to 93 dBA for scrapers and graders, 76 to 87 dBA for cranes, 82 to 94 dBA for trucks and tractors, and 76 to 96 dBA for backhoes (DOD, 1995).

There is a 6 dB reduction in noise level with the doubling of distance from the source (DOD, 1995). Since the AASF Complex is located approximately one-half mile from the nearest boundary of the AFB and off-site residential areas, the predicted peak noise level off the AFB during construction would be less than 66 dBA (96 at 50 feet from source, 90 at 100 feet, 84 at 200 feet, etc). As presented in Section 4.4, typical background noise levels in a dense urban area with heavy traffic is 64-74 dBA and typical background noise levels in an urban area is 57-67 dBA. Therefore, predicted peak construction noise off the AFB would fall within typical background noise levels and implementing the preferred alternative would not be considered significant for this resource. Peak construction noise levels at the existing AASF and other nearby COARNG facilities would be higher than off the AFB, but this direct, minor adverse effect would not be significant because: the majority of AASF and COARNG activities occur indoors during the work day; there are no sensitive receptors located near the proposed construction site; noise impacts would be temporary and short-term in duration; and, they are consistent with acceptable noise levels on the AFB.

Because implementing the preferred alternative would not be expected to significantly change aircraft maintenance activities or the overall number of aircraft, noise associated with operating the new facility would not be expected to change. There is the potential that future helicopter operations would generate higher noise levels, and thus more noise complaints, under present flight paths while entering/exiting the AASF. A closer look at anticipated future missions and available flight corridors would need to be performed to determine maximum ground noise levels and to minimize community annoyance. Noise impacts associated with anticipated future helicopter operations are addressed in the *Final Environmental Assessment of Conversion to General Support Aviation Battalion at Buckley Air Force Base, Colorado.*

5.3.2 Effects of the No Action Alternative

Noise would remain the same and would not be impacted directly or indirectly under the no action alternative.

5.4 Geology and Soils

The ROI for geology and soils is considered to be the project site. Impacts to geology and soils would be considered potentially significant if by implementing the preferred alternative there would be long-term erosion of site soils.

5.4.1 Effects of the Preferred Alternative

Construction activities for the preferred alternative would require clearing of vegetation, soil excavation, placement and grading. Much of the construction activity would occur within areas that have been previously disturbed by past earth-moving (cut and fill) activities.

Direct, minor, short-term soil erosion from stormwater runoff and wind on disturbed soils is possible during construction. The rate and amount of soil erosion should be minimized as much as possible since erosion typically results in sedimentation of streams and other water bodies possibly adversely impacting aquatic life. Because the project site is located in a relatively level area, the anticipated adverse impact on the rate and severity of erosion would be minor. Additionally, adverse impacts can be further minimized by requiring the use of appropriate erosion control methods (i.e., BMPs) during and after construction until vegetation is established, other landscape materials are installed and all roads and parking areas are paved. The erosion control methods would include installing silt fencing around all disturbed areas, covering or vegetating soil stockpiles that are exposed for long periods of time and spraying water on temporary haul roads to minimize dust generation. Prior to beginning any construction activities, a construction stormwater permit and SWPPP would be required if the construction activities disturb one or more acres of land. Implementing the preferred alternative would not be considered significant for this resource if a SWPPP is prepared and followed and appropriate BMPs are utilized.

No long-term adverse impact or geologic hazards were identified. Considered geologic hazards include: the project site is not located in an area with known unstable geologic formations; the project site is not located in an area with steep slopes; and, the project site is not located in an area commonly considered high risk for seismic events.

Prime and Unique Farmland. Soils located on the project site would not be considered as prime or unique farmland because they are not irrigated or used for the production of specialty crops. Therefore, construction and operation of the preferred alternative would not affect prime and unique farmland resources.

5.4.2 Effects of the No Action Alternative

Geology and soils would remain the same and would not be impacted directly or indirectly under the no action alternative.

5.5 Water Resources

The ROI for water resources, except for surface water and wetlands, is considered to be the East Toll Gate Creek drainage between the project site and East Toll Gate Creek. The ROI for surface water and wetlands is considered to be the project site. Impacts to water resources would be considered potentially significant if by implementing the preferred alternative there would be a measurable change in water quality for any of the water resources.

5.5.1 Effects of the Preferred Alternative

The preferred alternative has the potential to affect and be affected by water resources.

Surface Water and Wetlands. One surface water feature is located on the project site. The surface water feature is a small stormwater retention basin adjacent to the south helicopter paved parking area. As discussed in Section 4.6.3, a wetland delineation conducted in January 2004 determined that there was not any wetland within the stormwater retention basin. Based upon the site concept plan shown in the RPMP, construction activities for the preferred alternative would not require filling in the retention basin. No long-term or short-term adverse impacts were identified because new stormwater collection and control systems (e.g., retention and/or detention basins) would be designed and constructed as part of implementing the preferred alternative.

Stormwater. Construction activities for the preferred alternative would require soil excavation, placement and grading. Direct, minor, short-term soil erosion on disturbed soils, resulting in an increase in suspended solids in stormwater runoff and sediment transport, is possible during construction unless appropriate erosion control methods are utilized. The suspended solids and sediment could be transported to East Toll Gate Creek. As a result, the water in the creek could become muddy and the channel could partially fill with sediment, possibly adversely impacting aquatic life. Sediment should not be allowed to enter East Toll Gate Creek, which would possibly violate the MSGP for Buckley AFB. Because the project site is located in a relatively level area, the anticipated adverse impact on the rate and severity of erosion would be minor. Additionally, potential adverse impacts can be further minimized by requiring the use of appropriate erosion control methods (i.e., BMPs) during and after construction until vegetation is established, other landscape materials are installed and all roads and parking areas are paved. The erosion control methods or BMPs would include installing silt fencing around all disturbed areas, covering or vegetating soil stockpiles that are exposed for long periods of time and controlling stormwater runoff. Prior to beginning any construction activities, a construction stormwater permit and SWPPP would be required if the construction activities disturb one or more

acres of land. Implementing the preferred alternative would not be considered significant for this resource if a SWPPP is prepared and followed and appropriate BMPs are utilized.

The preferred alternative would permanently increase stormwater runoff and alter local drainage patterns at the project site. The changes in drainage patterns would be minimal and have little, if any, impact, because the project site is located in a relatively level area and the majority of the existing runoff from the project site and surrounding area flows toward East Toll Gate Creek, neither of which would be affected by the preferred alternative. The increase in stormwater runoff would result from the addition of new impervious surfaces (i.e., approximately fifteen acres of new building roofs, expanded aircraft parking, paved roads and paved POV parking areas). Large increases in runoff can decrease groundwater recharge, cause stream bank erosion and habitat destruction, and deposit sediment from cleared or disturbed areas, and, as a result, adversely impact aquatic life. These long-term, direct impacts would not be considered significant because new flow rates would be calculated and new stormwater collection and control systems (e.g., retention and/or detention basins and channels) would be incorporated into the final facility design. As commonly required, the stormwater design would be performed to maintain historical (present) runoff rates and volumes following development.

The potential for stormwater contamination would increase slightly with the construction and operation of the preferred alternative. Contamination from vehicle and aircraft fluids is possible as stormwater flows across the expanded aircraft and POV parking areas and new roads. This direct, minor adverse impact would not be considered significant because appropriate management practices (e.g., repairing leaks and/or installing an oil/water separator at the discharge of new stormwater basins) would be incorporated as part of the new stormwater design. At this time, wash water from the new aircraft wash rack will flow through an oil/water separator and be discharged to the City of Aurora's sanitary sewer system and a wash water recycling system would not be incorporated in the facility design.

Prior to beginning operations at the new facility, the existing SWPPP that covers the AASF would be amended. The SWPPP should, at a minimum, include all of the elements listed in the stormwater permit, including: identifying potential sources of pollution which would reasonably be expected to affect the quality of stormwater discharges from the facility; describing and ensuring implementation of practices which would be used to reduce the pollutants in stormwater discharges from the facility; and assuring compliance with the terms and conditions of the permit.

Wild and scenic rivers, floodplains and groundwater would not be impacted by the preferred alternative.

5.5.2 Effects of the No Action Alternative

Water resources would remain the same and would not be impacted directly or indirectly under the no action alternative.

5.6 Biological Resources

The ROI for biological resources is considered to be the project site and immediately adjacent property. Impacts to biological resources would be considered potentially significant if by implementing the preferred alternative there would be a loss of rare, sensitive or protected vegetation communities, there would be a loss of high quality or unique wildlife habitat, there would be a proportionally large loss of a biological resource relative to its occurrence in the region, or if the viability of a threatened or endangered species would be impacted.

5.6.1 Effects of the Preferred Alternative

Vegetation. Development of the project site would only affect the non-native grassland community and existing disturbed areas. No rare or unique vegetation communities or potential habitat for threatened or endangered plant species would be impacted by development of the project site.

Implementation of the preferred alternative would result in a long-term loss of approximately fifteen acres of existing undeveloped land and vegetated area. The loss would be considered a direct, minor adverse impact because of existing adjacent development and the project site consists of non-native grassland community and existing disturbed areas. The preferred alternative would also have a short-term, direct, minor adverse impact to the surrounding area during construction. However, vegetation would be reestablished in these surrounding areas following construction. Implementing the preferred alternative would not be considered significant for this resource (vegetation) because the project site and adjacent areas support primarily non-native grassland communities in areas not previously developed or disturbed. The existing vegetation cover is sparse and much of the grass stands are closely cropped to the ground. There are no areas of rare, unique or high quality habitat in the area of the project site.

Wildlife. The preferred alternative would have a short-term, direct, minor adverse impact to wildlife, primarily during construction. Development of the project site would only affect non-native grassland and existing disturbed area habitats. No rare or unique habitats would be affected, but there would be some loss of existing black-tailed prairie dogs and habitat when development occurs in the non-native grassland habitat. At this project site, resident wildlife species are limited because the project site is adjacent to an urban environment at the existing COARNG AASF, which results in a high human disturbance factor, and the habitat conditions are of low quality.

Black-tailed prairie dogs in areas to be disturbed on Buckley AFB must be trapped and relocated or humanely eliminated prior to construction disturbance in accordance with the referenced EA supplement (USAF, 2001). As described in the EA supplement, in the event an action affects a black-tailed prairie dog colony, the EA supplement prefers to capture and remove the black-tailed prairie dogs on an as-needed basis. The black-tailed prairie dogs

would be relocated to either on-base or off-base locations or transferred to a black-footed ferret breeding facility. The last option would be to use lethal control measures. A permit from the CDOW would be required if live black-tailed prairie dogs were to be trapped on the project site and relocated.

The USFWS is currently requesting that black-tailed prairie dog town removal efforts be coordinated with the USFWS so that captured black-tailed prairie dogs can be used for feeding black-footed ferrets in a captive breeding program rather than being relocated (Leachman, pers. comm.).

Prior to commencement of construction activities, a site survey would be conducted to ensure there are no biological impacts in the project area. If black-tailed prairie dogs are found to be in the area, they would be removed using procedures outlined in the EA supplement.

Loss of non-native grassland habitat and associated black-tailed prairie dog areas would result in a relatively minor loss of potential hunting habitat for raptors and mammalian predators such as coyote and red fox. However, a minor reduction in hunting habitat would have no measurable effect on populations of these highly mobile and wide-ranging predators.

Implementing the preferred alternative would not be considered significant for this resource (wildlife) because resident wildlife species are limited at the project site and adjacent areas. In addition, there would not be a proportionally large loss of black-tailed prairie dogs on the approximately fifteen acres of land to be developed when considering that black-tailed prairie dogs are found on a large portion of the 3,293-acre AFB and on undeveloped land in the region.

Threatened and Endangered Species. Loss of areas occupied by black-tailed prairie dogs could also adversely impact populations of burrowing owls if this species is present. The Migratory Bird Treaty Act and state threatened species law prohibits killing, injuring or harassing these birds during nesting or the destruction of nests during earth moving for construction or by black-tailed prairie dog poisoning or removal projects. The CDOW recommends that black-tailed prairie dog towns be surveyed on two consecutive mornings for burrowing owl presence if a black-tailed prairie dog town is to be disturbed between March 1 and October 31. If burrowing owls are determined to be present, or within 150 feet of the area to be disturbed, construction and black-tailed prairie dog removal activities should be completed between November 1 and the end of February, or after young have left the nest in the fall, to ensure burrowing owls are not inadvertently killed. If owls have nested on the site during construction, all construction should be halted within 150 feet of the nest until the young have left the nest (Appendix B).

The COARNG consulted with the USFWS and provided them with an opportunity to review and comment on the EA to determine if the proposed action would have the potential to significantly affect biological resources. The USFWS reviewed the Draft EA and found an adequate discussion of impacts and concurred with the findings (letter from USFWS included in Appendix C).

Implementing the preferred alternative would not be considered significant for this resource (threatened and endangered species) because threatened and endangered species are not known to occupy the project site and adjacent areas. As discussed above, prior to commencement of construction activities, a site survey would be conducted to ensure there are no biological impacts in the project area, which includes conducting a survey for borrowing owls. No long-term or permanent impacts to wildlife or threatened or endangered species are anticipated under the preferred alternative.

5.6.2 Effects of the No Action Alternative

Biological resources would remain the same and would not be impacted directly or indirectly under the no action alternative.

5.7 Cultural and Historic Resources

The ROI for cultural and historic resources is considered to be the project site. Impacts to cultural and historic resources would be considered potentially significant if by implementing the preferred alternative there would be a loss of cultural or historic resources.

5.7.1 Effects of the Preferred Alternative

As requested, the Colorado Historical Society completed a file search and indicated that the project site has been surveyed for cultural resources and that no known historic properties are located within the area of the preferred alternative (Colorado Historical Society, 2002 (Appendix B)). A survey of the entire AFB not covered by structures or paving was conducted in 1990. Based on the survey, it was determined that seven historic archaeological resources were recorded on Buckley AFB (USAF, 2003). The information is reported in the 2000 Draft Final Cultural Resource Management Plan. The COARNG consulted with Native American tribes and provided them with an opportunity to review and comment on the EA. The Ute Mountain Tribe responded to the COARNG's information request and reported that they did not have any concerns or questions regarding any of the COARNG's proposed projects (memorandum included in Appendix C). The Southern Ute Tribe did not respond to the COARNG's information request (memorandum included in Appendix C). Therefore, at this time, implementation of the preferred alternative would not have an impact on cultural and historic resources.

5.7.2 Effects of the No Action Alternative

Cultural and historic resources would remain the same and would not be impacted directly or indirectly under the no action alternative.

5.8 Socioeconomics

The ROI for socioeconomics is considered to be Buckley AFB and the areas of the City of Aurora that surround the AFB. Impacts to socioeconomics would be considered potentially significant if by implementing the preferred alternative there would be appreciable benefits or adverse impacts to the regional economy or a proportionally large gain/loss of long-term jobs on the AFB or within the surrounding area.

5.8.1 Effects of the Preferred Alternative

Implementing the preferred alternative would provide a direct, short-term, minor benefit of expenditures and employment associated with design and construction jobs in the local economy and the Denver metropolitan area. The benefit would only be temporary lasting for the duration of the project and changes to employment and economic characteristics for the affected areas would be expected to fall into normal yearly growth patterns. In addition, it is not expected that the total number of military and civilian personnel associated with the AASF would significantly change following implementation of the preferred alternative; therefore, implementing the preferred alternative would not be considered significant for this resource.

The preferred alternative would also have a direct, long-term, minor benefit. A modern facility with up-to-date equipment enables AASF personnel to work and train efficiently to maintain mission readiness, retains existing AASF personnel, attracts new recruits and creates a positive relationship with the local community. There would be no adverse impacts to socioeconomics under the preferred alternative.

Implementing the preferred alternative would not affect protection of children. During construction of new facilities, children would not be permitted at the construction site and contractors would be required to remove keys and lock construction vehicles and storage trailers when not in use. Once the new structures are in operation, as is presently the case at the AASF, on the infrequent occasions when children are present they would be required to be under the supervision of an adult and would be prohibited from entering areas that could pose an environmental health or safety risk.

5.8.2 Effects of the No Action Alternative

Under the no action alternative, a direct, short-term and long-term, minor adverse impact to mission readiness and the survival of future operations at the AASF would be expected. The readiness of the COARNG depends on having modern and well-maintained facilities that enable personnel to work and train effectively and efficiently.

5.9 Environmental Justice

The ROI for environmental justice is considered to be Buckley AFB and the areas of the City of Aurora that immediately surround the AFB. Impacts to environmental justice would

be considered potentially significant if by implementing the preferred alternative there would be disproportionately high adverse human health, economic, social or environmental effects on minority and low-income populations.

5.9.1 Effects of the Preferred Alternative

The preferred alternative would be located adjacent to the existing AASF on Buckley AFB. As determined in the 2000 Realignment EA for Buckley AFB, there did not appear to be a disproportionately high low-income population surrounding the AFB and only one of the surrounding zip code areas had a disproportionately high minority population (USAF, 2000). As a result, it was concluded that construction and operation of the preferred alternative would not have an adverse human health, economic, social or environmental impact on minority or low-income populations within the surrounding communities.

5.9.2 Effects of the No Action Alternative

Environmental justice would not be impacted directly or indirectly under the no action alternative.

5.10 Infrastructure

5.10.1 Effects of the Preferred Alternative

Regulations governing the extension of utilities and other services have been set by Buckley AFB operational rules, local utility standards, and state and local building codes and ordinances, as appropriate. Utilities are either provided by a commercial company (Xcel Energy) or a municipality (City of Aurora). In summary, the expected increase in utilities and services needed would represent a direct, minor adverse impact on the respective utility system or service and would be expected to fall into normal yearly growth patterns. In addition, the increase in utilities and services would not be expected to result in the need for additional support infrastructure or supply facilities.

Water. The ROI for potable water is considered to be the City of Aurora's water supply and distribution system. Impacts to this resource would be considered potentially significant if by implementing the preferred alternative the supply of water made available to Buckley AFB would be limited, or other development either on the AFB or off the AFB in the City of Aurora would be impacted. Buckley AFB and the COARNG AASF obtain potable water from the City of Aurora. In fiscal year 2002 Buckley AFB and its tenant facilities used 102,448,000 gallons of water (Buckley AFB, 2003). At present, there are no water use limits or restrictions for Buckley AFB.

There would be a direct, minor, short-term increase in water usage during construction (e.g., dust control and contractor employee usage) and a direct, minor, long-term increase when the new aircraft wash rack and new aircraft maintenance, air operations and office structures are placed into operation. The amount of the short-term increase in water usage

would depend upon the time of year construction occurred and the BMPs implemented by the contractor during construction; however, construction water usage could range from 500 to 10,000 gallons per day.

The long-term increase in water usage associated with the new aircraft wash rack should be expected because following modernization of the helicopter systems at the AASF the new helicopters would be larger than the ones presently assigned to the AASF. This increase would be expected to be minor, if any increase at all, because the total number of airframes assigned to the AASF would decrease following modernization. At this time, wash water will flow through an oil/water separator and be discharged to the City of Aurora's sanitary sewer system and a wash water recycling system would not be incorporated as part of the new aircraft wash rack. Until the design of the wash rack is completed and an estimated frequency of washing the new helicopters is determined, the water usage can not be estimated. However, a typical pressure washer uses four gallons per minute, therefore, a 30-minute wash would use approximately 120 gallons of water.

The long-term increase related to the new aircraft maintenance, air operations and office facility would be expected to be minor, if any increase at all, because implementation of the preferred alternative would not significantly affect activities or the number of personnel assigned to the AASF, even though new structures are being added. For an office type facility, the average water usage can be estimated at approximately 40 gallons of water per person per day.

Until the recent drought, the City of Aurora had forecasted that there would be sufficient water to meet expected growth demands. If current drought conditions do not improve in the near future, the City of Aurora may place restrictions on water connections for new development. At this time, it is unknown how future restrictions would affect new construction on Buckley AFB, if at all. Because the expected increase in water consumption is not unusual and would be expected to fall into normal yearly growth patterns for the City of Aurora, implementing the preferred alternative would not be considered significant for this resource.

Wastewater. The ROI for wastewater is considered to be the City of Aurora's sanitary sewer system and the Metro Wastewater Reclamation District. Impacts to this resource would be considered potentially significant if by implementing the preferred alternative the capacity of the sewer system or the treatment facility made available to Buckley AFB would be limited, or other development either on the AFB or off the AFB in the City of Aurora would be impacted. There would be a direct, minor, long-term increase in wastewater discharge when the new aircraft wash rack and the new aircraft maintenance, air operations and office facility is placed into operation. The increase related to the new facilities would be expected to be minor, if any increase at all, because implementation of the preferred alternative would not significantly affect activities or the number of personnel assigned to the AASF, even though new structures are being added. For an office type facility, the

average wastewater discharge can be estimated at approximately 40 gallons of water per person per day.

Presently, the treatment plant processes approximately 160 million gallons of wastewater a day and has a current capacity to process 185 million gallons of water per day. The City of Aurora and the Metro Wastewater Reclamation District have forecasted that there should be sufficient capacity in the system to meet expected growth demands (Metro Wastewater Reclamation District). Because the expected increase in wastewater is not unusual and would be expected to fall into normal yearly growth patterns for the City of Aurora and the Metro Wastewater Reclamation District, implementing the preferred alternative would not be considered significant for this resource.

Solid Waste. The ROI for solid waste is considered to be the non-hazardous solid waste landfills in the Denver metropolitan area. Impacts to this resource would be considered potentially significant if by implementing the preferred alternative the estimated life of the solid waste landfills would be noticeably shortened. Solid waste collection and disposal at Buckley AFB and the AASF is handled by a private contractor. There would be a direct, minor, short-term increase in solid waste generation as a result of disposing construction debris; however, nothing that would be considered out of the ordinary for a landfill. At this time, it is anticipated that there would not be any change in the quantity of solid waste generated when the new aircraft maintenance, air operations and office facility is placed into operation because implementation of the preferred alternative would not significantly affect activities or the number of personnel assigned to the AASF. Several of the non-hazardous solid waste landfills in the Denver metropolitan area have many years of available capacity (approximately 40 to 50 years). Because the expected increase due to construction debris is not unusual and would be expected to fall into normal yearly growth for solid waste landfills, implementing the preferred alternative would not be considered significant for this resource.

Electricity. The ROI for electricity is considered to be the available capacity and supplies. Impacts to this resource would be considered potentially significant if by implementing the preferred alternative electricity made available to Buckley AFB would be limited, or other development either on the AFB or off the AFB in the City of Aurora would be impacted. Electricity supplied to facilities at Buckley AFB is provided by Xcel Energy. There would be a direct, minor, short-term increase in electricity usage during construction and a direct, minor, long-term increase when the new aircraft maintenance, air operations and office facility is placed into operation. The increase related to the new facilities would be expected to be minor because implementation of the preferred alternative would not significantly affect activities or the number of personnel assigned to the AASF. The increase would be expected to be a fraction of the approximately 99 million kilowatt-hours of electricity used in fiscal year 2002 at Buckley AFB. Xcel Energy has forecasted that there would be sufficient capacity and available electricity to meet expected growth demands. Because the expected increase in electricity is not unusual and would be expected to fall into normal yearly growth

for the utility, implementing the preferred alternative would not be considered significant for this resource.

Natural Gas. The ROI for natural gas is considered to be the available capacity and supplies. Impacts to this resource would be considered potentially significant if by implementing the preferred alternative natural gas made available to Buckley AFB would be limited, or other development either on the AFB or off the AFB in the City of Aurora would be impacted. Natural gas supplied to facilities at Buckley AFB is provided by Xcel Energy. There would be a direct, minor, long-term increase in natural gas usage (e.g., heating) when the new aircraft maintenance, air operations and office facility is placed into operation. The increase related to the new facilities would be expected to be a fraction of the approximately 1.35 million cubic feet of natural gas used in fiscal year 2002 at Buckley AFB. Currently, Xcel Energy has forecasted that there would be sufficient capacity and available natural gas to meet expected growth demands. Because the expected increase in natural gas is not unusual and would be expected to fall into normal yearly growth for the utility, implementing the preferred alternative would not be considered significant for this resource.

The preferred alternative would implement an energy resource efficient design (e.g., a southeast orientation to the building would allow for solar exposure to the hangar doors and apron area, which would minimize snow and ice buildup and accelerate melting). This design could be considered to provide a long-term minor benefit of incorporating solar effects into the design.

Communications. Buckley AFB is well served by fiber-optic lines and other communication facilities. There would be a direct, minor, long-term increase for communication services when the new aircraft maintenance, air operations and office facility is placed into operation. The expected increase in the demand for communication services would represent a direct, minor, adverse impact on the existing system but would not be considered significant.

Law Enforcement and Fire Protection. Law enforcement and fire protection services for facilities on the AFB are provided by Buckley AFB. These services would be extended to new construction at the project site. There would be a direct, minor, long-term increase for services when the new aircraft maintenance, air operations and office facility is placed into operation. The increase would be minor because implementation of the preferred alternative would not significantly affect activities or the number of personnel assigned to the AASF. The expected increase in services would represent a direct, minor, adverse impact on law enforcement and fire protection but would not be considered significant.

Transportation and Traffic. The ROI for transportation and traffic is considered to be Buckley AFB and the areas of the City of Aurora that immediately surround the AFB. Impacts to this resource would be considered potentially significant if by implementing the preferred alternative development either on the AFB or off the AFB in the City of Aurora would be impacted. The development of the project site would cause a temporary increase

in construction-related traffic on the AFB and in the vicinity of the AASF. The traffic increase would be considered a temporary direct, minor, adverse impact. The traffic increase would be the least at the beginning and end of the project, and the highest during a several month span in the middle of the project. All commercial vehicles are required to enter the AFB through the South Gate off East Mississippi Avenue, which is gate nearest the AASF complex.

The effects of vehicle transportation and traffic associated with the AFB during peak travel times were previously analyzed in the Buckley Realignment EA (USAF, 2000). The Realignment EA assessed impacts of increasing base traffic by 90 government vehicles and 380 personal vehicles on base roads and main local roads near the AFB (East 6th Avenue and East Mississippi Avenue). The Buckley Realignment EA concluded there would not be a significant impact on average daily traffic on base and peak hour traffic on main local roads resulting from the proposed action. As reported in the Buckley Realignment EA, the average daily traffic on base and the peak hour traffic on main local roads was obtained from *Environmental Assessment for the Construction of a Base Exchange and Commissary Complex Buckley Air National Guard Base, Colorado, December 1998.*

Main Local Roads (East 6th Avenue and East Mississippi Avenue). The reported capacity of each road was listed as 2,000 vehicles per hour. The afternoon peak hour traffic on East 6th Avenue, west of the North Gate was approximately 1,300 vehicles and the peak hour traffic east of the North Gate was approximately 400 vehicles. The peak hour traffic on East Mississippi Avenue, west of the South Gate was approximately 700 vehicles.

Average Daily Traffic On Base. The average daily traffic on the AFB was approximately 3,000 vehicles on Aspen Street in the central base area. The average daily traffic on the AFB near the South Gate was approximately 4,000 vehicles on Aspen Street. As can be seen, percent increases in average daily traffic would be very small, even under worst case scenarios.

As concluded from above, it is anticipated that a temporary increase in construction-related traffic resulting from constructing the preferred alternative would only have a minor adverse impact on peak hour traffic on the main local roads and average daily traffic on the AFB. The roads appear to have sufficient capacity.

Additionally, during construction activities for the preferred alternative, heavy construction equipment and other construction equipment and vehicles would enter the AFB through the South Gate, which is nearest the AASF, and would park in designated areas that would not present interference to the AASF or other AFB operations. The project site is located in an area not heavily crossed by vehicles or pedestrians. Access to and from the project site during construction would be either from Aspen Street or Sunlight Way. At the present time, except for several other COARNG facilities, this area of the AFB is sparsely developed

and not heavily utilized. Careful planning of project activities would help reduce potential traffic impacts during construction of the preferred alternative.

There would not be a long-term adverse impact on traffic because implementation of the preferred alternative would not significantly affect the number of personnel assigned to the AASF, even though new structures are being added. Implementing the preferred alternative would not be considered significant for this resource.

5.10.2 Effects of the No Action Alternative

Infrastructure would remain the same and would not be impacted directly or indirectly under the no action alternative.

5.11 Hazardous and Toxic Materials/Wastes

The ROI for hazardous and toxic materials/wastes is considered to be the project site. Impacts to this resource would be considered potentially significant if by implementing the preferred alternative the quantity of materials/wastes generated would be noticeably increased or decreased or if the preferred alternative would impact an ERP site or disturb areas containing hazardous materials.

5.11.1 Effects of the Preferred Alternative

There are no known hazardous and toxic materials/wastes associated with the project site. If any hazardous wastes are encountered during construction of the preferred alternative, the waste materials would be removed and disposed in accordance with appropriate federal and state regulations. Also see discussion below regarding the ERP landfill site.

It is anticipated that implementing the preferred alternative would generate negligible amounts of hazardous wastes and non-hazardous or other regulated waste materials during construction. All waste materials generated would be handled and disposed according to the facility's Hazardous Waste Management Plan and Colorado's hazardous and solid waste regulations.

Waste materials presently generated at the AASF are primarily associated with aircraft maintenance activities and include used oil, waste fuel, spent solvents and waste paint-related materials. Guidance for managing and disposing the waste materials would be described in the facility's Hazardous Waste Management Plan. Because the preferred alternative would not be expected to significantly change the aircraft maintenance activities or the overall number of aircraft, generation of new waste materials or a net increase or decrease in the quantities generated is not expected.

As discussed above, implementation of the preferred alternative would not affect hazardous materials, hazardous wastes, non-hazardous wastes and regulated wastes at the AASF.

Therefore, it was concluded that the preferred alternative would not create an impact to hazardous materials and wastes and would not be considered significant for this resource.

Environmental Restoration Program. There are three ERP sites that were determined to be close to the project site. Two of the sites are located immediately west (topographically down-gradient) of the project site (oil pit and former landfill) and one is located approximately 3,000 feet east (topographically cross-gradient) of the project site (former fire training area no. 2).

As indicated on Map 4A-1 in the Buckley AFB General Plan (copy attached as Figure 6), the boundary of the former landfill extends to the area immediately south of Sunlight Way, which is into the southwest corner of the project site (Buckley AFB General Plan, 2002). If construction activities for the preferred alternative are to be performed south of Sunlight Way, which at the present time there are none, then an assessment of the ground areas would need to be conducted for landfilled materials prior to starting ground disturbing activities.

At this time, because implementation of the preferred alternative would not involve disturbance at any ERP site and it does not appear the project site has been affected by an ERP site, it was concluded that the preferred alternative would not create an impact to the ERP.

Asbestos. It is anticipated that the preferred alternative would not include the use of asbestos containing materials during construction, nor does it appear to involve modifying or demolishing existing buildings, which would disturb asbestos containing materials, if any exist. Therefore, no adverse effects are anticipated with asbestos.

Lead-Based Paint. It is anticipated that the preferred alternative would not include the use of lead-based paint during construction, nor does it appear to involve modifying or demolishing existing buildings, which would disturb lead-based paint, if any exists. Therefore, no adverse effects are anticipated with lead-based paint.

5.11.2 Effects of the No Action Alternative

Hazardous and toxic materials/wastes would remain the same and would not be impacted directly or indirectly by the no action alternative.

5.12 Mitigation Measures

Mitigation measures would not be necessary for any of the resources analyzed in this EA. Adverse impacts associated with implementation of the preferred alternative are expected to be minor and mostly temporary. This is primarily due to the construction activities occurring at an existing airfield facility in the middle of a large government-owned AFB. In general, expected minor adverse impacts to soil, air quality and water resources during construction

would be minimized through the use of BMPs such as dust control, erosion control, revegetation of disturbed areas and stormwater runoff containment. Specific BMPs to be incorporated would be shown on the final construction plans and described in the permits obtained prior to construction. Adverse impacts due to potential fuel spills, during construction and operation of the facility, could be avoided through use of spill containment measures and adherence to existing facility plans such as a Spill Prevention Control and Countermeasure Plan. For these reasons, no mitigation measures will be necessary to reduce any impacts to below significant levels. A summary of the BMPs suggested for implementation of the preferred alternative are summarized in Table 9.

As discussed previously, prior to commencement of construction activities, a site survey would be conducted to ensure there are no biological impacts in the project area. If black-tailed prairie dogs are found to be in the area, they would be removed using procedures outlined in the referenced EA supplement prepared for the management of black-tailed prairie dogs on Buckley AFB (USAF, 2001). Black-tailed prairie dogs may not be captured and removed between March 1 and July 15 because young are being raised and the young would not be able to survive on their own. The USFWS is currently requesting that black-tailed prairie dog town removal efforts be coordinated with the USFWS so that captured black-tailed prairie dogs can be used for feeding black-footed ferrets in a captive breeding program rather than being relocated (Leachman, pers. comm.). The COARNG consulted with the USFWS and provided them with an opportunity to review and comment on the EA to determine if the proposed action would have the potential to significantly affect biological resources. The USFWS reviewed the Draft EA and found an adequate discussion of impacts and concurred with the findings (letter from USFWS included in Appendix C).

In addition, the CDOW recommends that black-tailed prairie dog towns be surveyed on two consecutive mornings for burrowing owl presence if a black-tailed prairie dog town is to be disturbed between March 1 and October 31. If burrowing owls are determined to be present, or within 150 feet of the area to be disturbed, construction and black-tailed prairie dog removal activities should be completed between November 1 and the end of February, or after young have left the nest in the fall, to ensure burrowing owls are not inadvertently killed. If owls have nested on the site during construction, all construction should be halted within 150 feet of the nest until the young have left the nest.

Table 10
Summary of Best Management Practices

Resource	Proposed Action
Geology and Soils	BMPs would include installing silt fencing around all disturbed areas, covering or vegetating soil stockpiles that are exposed for long periods of time, spraying water on temporary haul roads, and revegetating or installing other landscape materials in disturbed areas.
Water Resources	Prior to beginning any construction activities, a construction stormwater permit and SWPPP would be required if the construction activities disturb one or more acres of land. BMPs would include installing silt fencing around all disturbed areas, covering or vegetating soil stockpiles that are exposed for long periods of time, and revegetating or installing other landscape materials in disturbed areas. Other BMPs and design requirements would include: incorporating new stormwater collection and control systems (e.g., retention and/or detention basins, channels, oil/water separators) into the final facility design to maintain historical runoff rates and water quality; and, using spill containment structures to minimize adverse impacts from possible fuel spills.
Air Quality	Prepare and implement a fugitive dust control plan. BMPs that would be described in the plan would include watering, covering or vegetating soil stockpiles that are exposed for long periods of time, spraying water on temporary haul roads and other disturbed areas at least twice each day, and re-establishing vegetation or installing other landscape materials in disturbed areas.

5.13 Cumulative Effects

5.13.1 Definition of Cumulative Effects

NEPA defines cumulative impact as the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative effects are most likely to arise when a proposed action occurs in a similar location and time period as other similar actions. This EA assesses the potential for the preferred alternative to contribute to cumulative impacts in the area of the project site.

5.13.2 Past, Present, and Reasonably Foreseeable Actions

Construction activities to implement the preferred alternative are planned for 2005 or 2006. At this time, no other large construction projects have recently occurred or are in progress by the COARNG or Buckley AFB in the vicinity of the AASF (within approximately one-

quarter mile). However, several construction projects have recently been completed or are in progress on other portions of the AFB.

On-going and reasonably foreseeable future actions (i.e., capital improvement projects) planned on Buckley AFB over the next five years include construction and operation of the following facilities (Buckley AFB, 2003):

Proponent – 460th Air Base Wing

1) Hydrazine Plant - Fiscal Year 2003
2) Civil Engineering Warehouse - Fiscal Year 2003
3) Driving Range - Fiscal Year 2003
4) Expand Fire Station - Fiscal Year 2003
5) 460th Air Base Wing Headquarters - Fiscal Year 2003
6) Car Wash - Fiscal Year 2003
7) Visitor Quarters/Temporary Lodging Facility - Fiscal Year 2003
8) Entomology Building - Fiscal Year 2003
9) Reroute Steamboat Avenue - Fiscal Year 2004
10) Alert Crew Shelter - Fiscal Year 2004
11) Potential Athletic Field Sites - Fiscal Year 2005
12) Military Gas Station - Fiscal Year 2005
13) Potential Athletic Field Sites - Fiscal Year 2005
14) Hazardous Waste Facility - Fiscal Year 2005
15) Chapel - Fiscal Year 2005
16) Outdoor Recreation Supply - Fiscal Year 2005
17) Hazardous Materials Storage - Fiscal Year 2005
18) Expand Clinic - Fiscal Year 2005
19) Child Development Center - Fiscal Year 2005
20) Pharmacy - Fiscal Year 2006
21) Logistics Complex - Fiscal Year 2006
22) Buckley Leadership Development Center - Fiscal Year 2006
23) Consolidated Services Center - Fiscal Year 2006
24) Consolidated Fuel Storage - Fiscal Year 2006
25) Athletic Field Concessions - Fiscal Year 2006
26) Youth Center - Fiscal Year 2006
27) FamCamp - Fiscal Year 2006
28) Outdoor Arms Range - Fiscal Year 2006
29) Education Center - Fiscal Year 2006
30) Security Forces Operations Center - Fiscal Year 2006
31) Military Vehicle Fuel Station - Fiscal Year 2006
32) Expanded Comm Center - Fiscal Year 2007
33) Automotive Skills Center - Fiscal Year 2007
34) Consolidate Warehouse - Fiscal Year 2008

35) Vehicle Maintenance - Fiscal Year 2008
36) Fire Training Center - Fiscal Year 2008
37) Fitness Center Addition - Fiscal Year 2009
38) 3rd Dormitory - Fiscal Year 2009

Proponent – Colorado Air National Guard

39) Control Tower - Fiscal Year 2003
40) 140th Civil Engineering Services Complex - Fiscal Year 2004
41) Alert Shelters - Fiscal Year 2004
42) Permanent Air Shelters - Fiscal Year 2005
43) West Taxiway - Fiscal Year 2009
44) High Speed Taxiway - Fiscal Year 2009

Several of the above listed projects are planned for construction near the AASF and may have similar ROIs as the preferred alternative (Nos. 2, 8, 12, 14, 16, 17, 21, 22, 24, 33, 34, 35, 39 and 44). Potentially, construction of the preferred alternative could overlap with one or more of the other projects and result in a cumulative impact.

5.13.3 Analysis of Cumulative Impacts

Implementation of the preferred alternative would not be expected to result in long-term cumulative effects because the existing COARNG AASF helicopter maintenance and operational flight activities would remain generally unchanged even after new helicopters are assigned to the facility. Impacts associated with anticipated future helicopter operations are addressed in the *Final Environmental Assessment of Conversion to General Support Aviation Battalion at Buckley Air Force Base, Colorado* (Conversion to General Support Aviation Battalion EA). As described in the Conversion to General Support Aviation Battalion EA, the 31 UH-1 Huey helicopters stationed at the AASF would be removed from Buckley AFB. The six existing UH-60 Black Hawk helicopters would be retained, with an additional ten Black Hawk helicopters fielded for supporting the new General Support Aviation Battalion's units. In addition, seven CH-47 Chinook helicopters would be assigned to the COARNG. As a result of implementing the proposed action, the inventory of all aircraft assigned to COARNG units at Buckley AFB would decrease from 37 to 23 aircraft upon completion of all fielding. In addition, the total number of military and civilian personnel assigned to the AASF would decrease by three.

As described herein, adverse impacts associated with implementation of the preferred alternative are expected to be minor and mostly temporary. This is primarily due to the construction activities occurring at an existing airfield facility in the middle of a large government-owned AFB. It should be expected that potential adverse impacts from other construction projects on the AFB or in the region would also be minor and would cease upon completion of the project and would have appropriate mitigation measures or BMPs applied.

The preferred alternative, combined with other plans and projects at Buckley AFB and in the surrounding area, would have no, or negligible cumulative effects on the environmental resources and socioeconomic conditions evaluated in this EA with possibly the exception of land use, air quality, soils, water resources (stormwater), biological resources (vegetation and wildlife) and infrastructure.

Land Use. Land use at and around the AASF is airfield operations, aircraft operation and maintenance, administrative, community service and open space. Construction of the preferred alternative would contribute to the cumulative impact on land use in the area by converting an approximate fifteen-acre parcel of land from mostly open, unimproved land to a new aircraft maintenance, air operations and office facility with an expanded helicopter parking area. Existing land use surrounding the AASF is changing from historically open to airfield operations, aircraft operation and maintenance, office/administrative, community commercial, community service and light industrial as the AFB and its tenants continue to grow and expand. It is difficult to state whether this change in land use represents an adverse or beneficial effect because of differing perspectives regarding the value of development. Some state the open space is a beneficial land use with development being an adverse impact while others declare that development and economic growth is a beneficial land use change. Whichever, the change in land use at the project site combined with other surrounding development does contribute to a cumulative impact on land use in the region.

Air Quality. The preferred alternative would contribute to the cumulative impact on air quality in the area primarily in two ways: fugitive dust from ground-disturbing activities; and, emissions from construction equipment and vehicles generated during construction. When the proposed site activities are combined with other development and construction at Buckley AFB, there would be a cumulative impact on air quality in the area. However, because the total criteria pollutant construction emissions associated with implementing the preferred alternative are well below the CO, PM_{10} and O_3 de minimis threshold levels specified for attainment/maintenance areas and several orders of magnitude below being considered regionally significant, and it would appear that the other projects planned at Buckley in the same time period are not as large (year 2005 or 2006), overall ambient air quality at the AASF, Buckley AFB and within the region would only be slightly impacted by the proposed construction projects. In addition, air quality impacts associated with construction would be temporary, would fall off rapidly with distance from the construction site and in most cases would not result in long-term adverse impacts. Based on the estimated total construction emissions associated with the preferred alternative, the total direct and indirect emissions resulting from constructing 10 to 15 projects of similar size in the same time period should not exceed de minimis threshold levels with the possible exception of PM_{10}. However, preparing and implementing a fugitive dust control plan for each project that incorporates appropriate BMPs would significantly reduce and control the fugitive dust emissions (PM_{10}).

Soils. The preferred alternative would contribute to the cumulative impact on soils in the area because temporary, short-term soil erosion from stormwater runoff and wind on disturbed soils is possible during construction. Because the project site is located in a relatively level area and appropriate BMPs would be used during construction, the impact on the rate and severity of erosion would be minor. When the proposed site activities are combined with other development and construction in the area, there would be a cumulative impact on soils and erosion in the region. However, potential adverse impacts would be minimized by requiring the use of appropriate erosion control methods at each project in accordance with federal, state and local requirements.

Water Resources. The preferred alternative would contribute to the cumulative impact on stormwater in the area because construction activities would require soil excavation, placement and grading. Temporary, short-term soil erosion on disturbed soils, resulting in an increase in suspended solids in stormwater runoff and sediment transport, is possible during construction. Because the project site is located in a relatively level area and specifically tailored BMPs would be developed and used during construction, the impact on the rate and severity of erosion by stormwater runoff would be minor. When the proposed site activities are combined with other development and construction in the area, there would be a cumulative impact on stormwater and erosion in the region. However, potential adverse impacts would be minimized by obtaining stormwater permits, incorporating stormwater collection and control systems into the design (i.e., retention and/or detention basins to maintain historical runoff rates following development) and requiring the use of appropriate and specifically tailored erosion control methods (i.e., BMPs) during construction of each project in accordance with federal, state and local requirements.

Vegetation. The preferred alternative would contribute to the cumulative impact on vegetation in the area that would be characterized by a long-term loss of approximately fifteen acres of existing undeveloped land and vegetated area. The loss would be considered a minor adverse impact because of existing adjacent development and the project site consists mostly of non-native grassland communities and existing disturbed areas with sparse vegetative cover. Existing property surrounding the AASF and Buckley AFB is changing from historically open, undeveloped prairie to office, light industrial and residential as the AFB, its tenants, and the City of Aurora continue to grow and expand. As with land use, it is difficult to state whether the loss of this vegetated land represents an adverse or beneficial effect because of differing perspectives regarding the value of development. Whichever, the long-term loss of undeveloped, vegetated land at the project site combined with other surrounding development does contribute to a cumulative impact on vegetation in the region.

Wildlife. The preferred alternative would contribute to the cumulative impact on wildlife in the area that would be characterized by a long-term loss of existing black-tailed prairie dogs and associated habitat. Loss of areas occupied by black-tailed prairie dogs could also adversely impact populations of burrowing owl if this species is present, and would also

result in a relatively minor loss of potential hunting habitat for raptors and mammalian predators such as coyote and red fox. An EA supplement has been prepared for the management of black-tailed prairie dogs on Buckley AFB (USAF, 2001). Cumulatively, as future land development in the area continues, both on and off the AFB, the undeveloped areas on the AFB would become more important to wildlife populations in the region. There is a plan to maintain some habitat areas for the black-tailed prairie dog on the AFB. These areas are located in the southwest corner and near the middle of the east boundary of the AFB (Buckley AFB General Plan, 2002).

Infrastructure. The preferred alternative would contribute to the cumulative impact on infrastructure in the area, primarily utilities, that would be characterized by an increase in water, wastewater, electrical and natural gas services. Existing land use surrounding the AASF and Buckley AFB is changing from historically open, undeveloped prairie to office, light industrial and residential as the AFB, its tenants, and the City of Aurora continue to grow and expand, which also places an increased demand on the infrastructure. However, the small increase in utilities needed would represent a minor adverse impact on the respective utility system and would be expected to fall within normal yearly growth for the City of Aurora and the other utilities. As more demand is place on these services, providers should be consulted to confirm their ability to meet these demands, which is usually done through the normal City zoning and permitting process.

5.14 Irreversible and Irretrievable Commitments of Resources

NEPA requires that an environmental analysis include identification of "...any irreversible or irretrievable commitments of resources which would be involved in the proposed action should it be implemented." Irreversible and irretrievable commitments of resources would be associated with the use of nonrenewable resources and the effects it would have on the resource.

The irreversible and irretrievable commitment of resources that would result from implementation of the proposed action include consumption of minor amounts of material resources, energy resources and human resources associated with constructing the proposed action, and energy resources associated with operation of the proposed action. Biological resources, water resources and land use could be considered restorable and not irreversibly lost.

The material resources that would be used during construction include various building materials and as applicable, the resources they are made from (e.g., wood, gravel, sand, concrete, asphalt, steel, glass, plastic, etc.). The materials that would be consumed are not in short supply and are usually readily available. Some of the materials and resources used would not be able to be recycled and therefore would be considered irretrievably lost. Use of these materials for the proposed action would not adversely impact other construction or non-construction activities and would not be considered significant.

The energy resources that would be used during construction and operation include various petroleum-based and energy-related products (e.g., oil, gasoline, diesel fuel, natural gas, electricity, etc.). At present, the energy resources that would be consumed are not in short supply and are usually readily available. The energy resources used would be considered irretrievably lost. Use of these energy resources would not adversely impact other construction or non-construction activities and would not be considered significant.

The human resources that would be used during construction preclude those resources from working on other activities. However, implementing the proposed action would provide a short-term minor benefit of expenditures and employment associated with design and construction jobs in the local economy and the Denver metropolitan area.

6.0 COMPARISON OF ALTERNATIVES AND CONCLUSIONS

6.1 Introduction

This EA has been prepared to evaluate the potential effects on the natural and human environment from the COARNG's proposal to accommodate Army helicopters. The EA has examined the preferred alternative for the proposed action and a no action alternative. The preferred alternative is to construct facilities at Buckley AFB.

6.2 Comparison of the Environmental Consequences of the Alternatives

The EA has considered the potential effects on the environmental resources and socioeconomic conditions that were determined to be most likely affected. A summary of the potential environmental effects associated with the significant issues of implementing either the preferred alternative or the no action alternative are presented in Table 10. To summarize, neither implementing the preferred alternative nor the no action alternative would result in a significant impact to natural or human environments. Adverse impacts are direct and are expected to be minor and mostly temporary. As presented in Table 10, implementation of the preferred alternative would most likely result in the following direct, minor, short-term and long-term impacts. No indirect impacts were identified.

- Short-term impacts: increase in soil erosion, noise levels, traffic, dust and emissions from equipment during construction; impact to wildlife and surrounding vegetation during construction; loss of undeveloped land and vegetated habitat under the footprint of the new structures; increase in the demand and consumption of utilities and services (electricity, natural gas, water and wastewater service); and, benefit of design and construction jobs.

- Long-term impacts: increase in stormwater runoff; loss of undeveloped land and vegetated habitat under the footprint of the new structures; increase in the demand and consumption of utilities and services (electricity, natural gas, water and wastewater service); and, benefit of a modern facility to maintain mission readiness for future operations of the COARNG.

Table 11
Summary of Impacts by Alternative

Type of Impact	Preferred Alternative	No Action
Geology and Soils	Possible short-term, direct, minor adverse impact of increase in soil erosion (stormwater runoff and wind blown) during construction; however, potential adverse impacts can be minimized with proper management practices. No long-term impact.	No project-related impact.
Water Resources	Possible short-term, direct, minor adverse impact of increase in soil erosion (stormwater runoff); however, potential adverse impacts can be minimized with proper management practices. Long-term, direct increase in stormwater runoff because of additional impervious surfaces (roofs and paving) contributing to runoff. However, no adverse impact because the new stormwater design would be performed to maintain present runoff rates and volumes.	No project-related impact.
Noise	Short-term, direct, minor adverse impact of increase in noise levels during construction next to the AASF. No off-site impact.	No project-related impact.
Air Quality	Possible, direct, short-term generation of particulates (dust) during construction; however, potential impacts can be minimized with proper management practices. Short-term, direct generation of emissions from equipment during construction. No long-term impact.	No project-related impact.
Biological Resources (Wildlife)	Short-term, direct, minor adverse impact on individuals during construction. No long-term or permanent impact to populations.	No project-related impact.
Biological Resources (Vegetation)	Short-term, direct, minor adverse impact to surrounding vegetation during construction. Vegetation would be reestablished following construction. Long-term (permanent) direct, minor, adverse impact (loss) of vegetated habitat under the footprint of the new structures.	No project-related impact.
Socioeconomics	Direct, short-term, minor benefit of design and construction jobs. Direct, long-term, minor benefit of modern facility for future operations of the COARNG.	Direct, short-term and long-term minor, adverse impact to mission readiness and future COARNG operations.
Land Use	Direct, minor, short-term and long-term adverse impact with loss of open land next to the AASF. No off-site impact.	No project-related impact.
Infrastructure	Direct, minor, short-term and long-term increase in the demand and consumption of water and energy resources. Direct, minor, short-term increase in traffic during construction.	No project-related impact.

No significant cumulative effects or mitigation measures have been identified. Expected minor adverse impacts to soil, air quality and water resources would be minimized through the use of BMPs such as dust control, erosion control, revegetation of disturbed areas and stormwater runoff containment.

Prior to commencement of construction activities, a site survey would be conducted to ensure there are no biological impacts in the project area. If black-tailed prairie dogs are found to be in the area, they would be removed using procedures outlined in the EA supplement that has been prepared for the management of black-tailed prairie dogs on Buckley AFB (USAF, 2001).

6.3 Unavoidable Adverse Effects

There would be several unavoidable adverse impacts to the natural and human environment resulting from implementation of the preferred alternative. However, none of the adverse impacts would be considered major or significant. Short-term impacts would include the following: minor increase in soil erosion, noise levels, traffic, dust and air pollutant emissions from equipment during construction; temporary impact to wildlife and surrounding vegetation during construction; loss of undeveloped land and vegetated habitat under the footprint of the new structures; and, an increase in the demand and consumption of utilities and services (electricity, natural gas, water and wastewater service). Long-term impacts would include the following: minor increase in stormwater runoff; loss of undeveloped land and vegetated habitat under the footprint of the new structures; and, an increase in the demand and consumption of utilities and services (electricity, natural gas, water and wastewater service).

6.4 Conclusions

The COARNG proposes to construct facilities to accommodate modern helicopter systems and replace undersized and aging structures with larger and modern ones in order to maintain readiness and proficiency in current aircraft systems operations. The COARNG planned for new facilities at the AASF located at Buckley AFB in the 2001 RPDP. Based on the analysis performed in this EA, implementation of the proposed action at the COARNG AASF located at Buckley AFB (preferred alternative) would not result in significant environmental or socioeconomic effects. Issuance of a FNSI is appropriate.

7.0 REFERENCES

American Ornithologists' Union. 1983. Check-list of North American birds, 6th ed. American Ornithologists' Union, Washington, D.C. 877 pp.

Aurora Colorado Demographics, 2002. Web site at www.hometodenver.com/stats_aurora.htm.

Booz Allen Hamilton. 2001 Air Emissions Inventory, Buckley Air Force Base, Colorado, Final Report. Booz Allen Hamilton, Greenwood Village, Colorado. October 2002.

Buckley AFB, 2002a. Web site at www.buckley.af.mil/welcome.htm.

Buckley AFB, 2002b. Utility usage data, demographic and other information provided by Buckley AFB. December 2002.

Buckley AFB General Plan, 2002. General Plan, Buckley Air Force Base, Colorado, Pre-Final. HB&A, Colorado Springs, Colorado. August 2002.

Buckley AFB, 2003. Utility usage data, demographic and other information provided by Buckley AFB. December 2003.

CDOW, 2002. Colorado Department of Natural Resources, Division of Wildlife. Letter November 2002.

Census, 2002. U.S. Department of Commerce, U.S. Census Bureau. Web site at www.census.gov.

City of Aurora, 2002. Web site at www.ci.aurora.co.us/index.cfm.

Colorado 2002 Air Quality Data Report. Colorado Department of Public Health and Environment, Air Pollution Control Division. 2002 Colorado Air Quality Data Report. October 2003.

Colorado Air Quality Control Commission, Report to the Public. Colorado Department of Public Health and Environment, Air Quality Control Commission and Air Pollution Control Division. October 2003.

Colorado by the Numbers, 1997. Aurora, web site at www.colorado.edu.

Colorado Department of Natural Resources, Division of Water Resources. Fax December 2002.

Colorado Historical Society, 2002. Colorado Historical Society. Letter November 2002.

Colorado Natural Heritage Program. November 2002.

Draft Housing EA, 2002. Draft Environmental Assessment for Housing Privatization at Buckley Air Force Base, Colorado. Headquarters Air Force Center for Environmental Excellence. July 2002.

DOD, 1995. Department of Defense, National Airspace System, Final Programmatic Environmental Assessment. Electronic systems Center, Hanscom AFB, Massachusetts. July 1995.

EA Western Tier Parcel, 1998. Rocky Mountain Arsenal. July 1998.

Environmental Engineering, 1992. Environmental Engineering and Sanitation, Fourth Edition. Joseph A. Salvato. 1992.

Fitzgerald, J.P., C.A. Meaney, and D.M. Armstrong. 1994. Mammals of Colorado. Denver Museum of Natural History and University Press of Colorado. 467 pp.

Flood Insurance Rate Map. City of Aurora, Colorado, Community-Panel Number 080002 0185 E. Map Revised August 16, 1995.

Larock, pers. comm. Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division. Personnel Communication with Ed Larock. 2002.

Leachman, pers. comm. Endangered Species Specialist, USFWS, Grand Junction, Colorado. Personnel Communication between Bob Leachman and Michael Phelan. September 23, 2002.

Metro Wastewater Reclamation District web site and pers comm.

Miller, pers. comm. Xcel Energy. Personnel Communication with Michael Miller. 2002.

Nationwide Rivers Inventory, 2002. U.S. Department of the Interior, National Park Service. Web site at www.nps.gov/rivers/. September 2002.

Pitts, pers. comm. City of Aurora, Public Works Department. Personnel Communication with Tim Pitts. 2002.

Price, pers. comm. U.S. Department of Agriculture, Natural Resources Conservation Service, Colorado State Office. Personnel Communication with Alan Price. 2002.

RPDP, 2001. Real Property Development Plan, Buckley Air Force Base – Army Aviation Support Facility, Colorado Army National Guard, Final. Nakata Planning Group, LLC, Colorado Springs, Colorado. November 2001.

The Noise Guidebook, 2002. Department of Housing and Urban Development.

USAF, 2000. Environmental Assessment for Buckley Air National Guard Base Realignment, Buckley Air National Guard Base, Colorado. Headquarters Air Force Center for Environmental Excellence, Environmental Analysis Division, Brooks Air Force Base, Texas. September 2000.

USAF, 2001. Supplement to Environmental Assessment of Proposed Prairie Dog Management Practices at Buckley Air Force Base. June 2001.

USAF, 2003. Draft Environmental Assessment for Buckley Air Force Base Air Traffic Control Tower and Fire Station. March 2003.

U.S. Army Corps of Engineers, 1987. Corps of Engineers Wetlands Delineation Manual.

U.S. Department of Agriculture, Soil Conservation Service, 1971. Soil Survey of Arapahoe County, Colorado. March 1971.

USDA, Farmland Protection Program. USDA, Natural Resources Conservation Service. January 2001.

USEPA, 1995. Compilation of Air Pollutant Factors, Volume 1: Stationary Point and Area Sources (AP-42), Fifth Edition. USEPA. January 1995.

U.S. Geological Survey, 1979. Geologic Map of Colorado. Compiled by Ogden Tweto and prepared in cooperation with the Geological Survey of Colorado.

U.S. Geological Survey 7.5 Minute Series Topographic Map of the Fitzsimons, Colorado Quadrangle. 1965 revised 1994.

U.S. Geological Survey Hydrologic Investigations Atlas, 1996. Geohydrology of the Shallow Aquifers in the Denver Metropolitan Area, Colorado. S. G. Robson.

Weber, W.A. and R.C. Wittman, 1996. Colorado Flora Eastern Slope, Revised Edition.

Xcel, 2003. Xcel Energy web site at www.xcelenergy.com.

8.0 LIST OF PREPARERS

The following persons participated in the preparation of the EA.

Douglas J. Camrud, P.E.
Environmental Engineer, Terracon
B.S., Construction Engineering Technology
M.S., Environmental Engineering

Doug Camrud, P.E., is a senior environmental engineer in Terracon's Denver office and has more than 16 years experience managing environmental and civil engineering projects and preparing EAs. Mr. Camrud has a comprehensive knowledge of environmental regulations and remediation methods and his work experience encompasses performing site characterizations, design engineering, construction management and quality assurance.

T. Michael Phelan
Wildlife Biologist, Cedar Creek Associates, Inc.
B.A., Zoology
Post-graduate Studies, Biology and Ecology

T. Michael Phelan is a Certified Wildlife Biologist (TWS) with over 30 years of environmental consulting experience providing expertise in environmental permitting; wetland delineation and habitat assessment (Habitat Evaluation Procedures certified-USFWS); wildlife population inventories/analyses; threatened, endangered and sensitive species evaluations; vegetation, ecology and wildlife impact assessments; and, mitigation/enhancement and planning, including habitat restoration plans. Primary or contributing author on over 40 Environmental Impact Statements as well as numerous EAs, Environmental Impact Reports, wildlife technical memoranda and technical reports.

John J. Bolders, CHMM
Associate Principal, Terracon
B.A., Biology
M.S., Wildlife Biology

Mr. Bolders has over 19 years experience in environmental consulting and has conducted environmental compliance audits for several mining, oil and gas facilities. He has developed numerous environmental management programs, including personnel training, contingency plans and spill prevention plans for industrial clients. Mr. Bolders is responsible for development of environmental management systems and electronic compliance management programs, and conducts lender liability audits, transactional audits and RCRA or CWA compliance audits. He specializes in hazardous waste regulatory compliance.

9.0 AGENCIES AND INDIVIDUALS CONSULTED

The following agencies and persons were contacted during the preparation of this EA to obtain information or comments. Related correspondence is included in Appendices B and C.

Federal

Federal Emergency Management Agency
Jo Camrud

U.S. Department of Agriculture, Natural Resources Conservation Service
Colorado State Office, Alan Price

U.S. Department of the Interior, Fish and Wildlife Service
Bruce Rosenlund and Susan Linner

U.S. Department of the Interior, National Park Service
Hugh Osborne

U.S. Environmental Protection Agency, Region VIII
Vern Berry

Ute Mountain Tribe
Tom Rice

Southern Ute Tribe
Virgil Frazier

State

Colorado Department of Natural Resources
Division of Wildlife
Eric Odell

Colorado Department of Public Health and Environment
Air Pollution Control Division
William Hague and Nancy Chick

Colorado Department of Public Health and Environment
Hazardous Materials and Waste Management Division
Ed Larock

Colorado Department of Public Health and Environment
Water Quality Control Division
Nathan Moore

Colorado Historical Society
Georgianna Contiguglia

Local

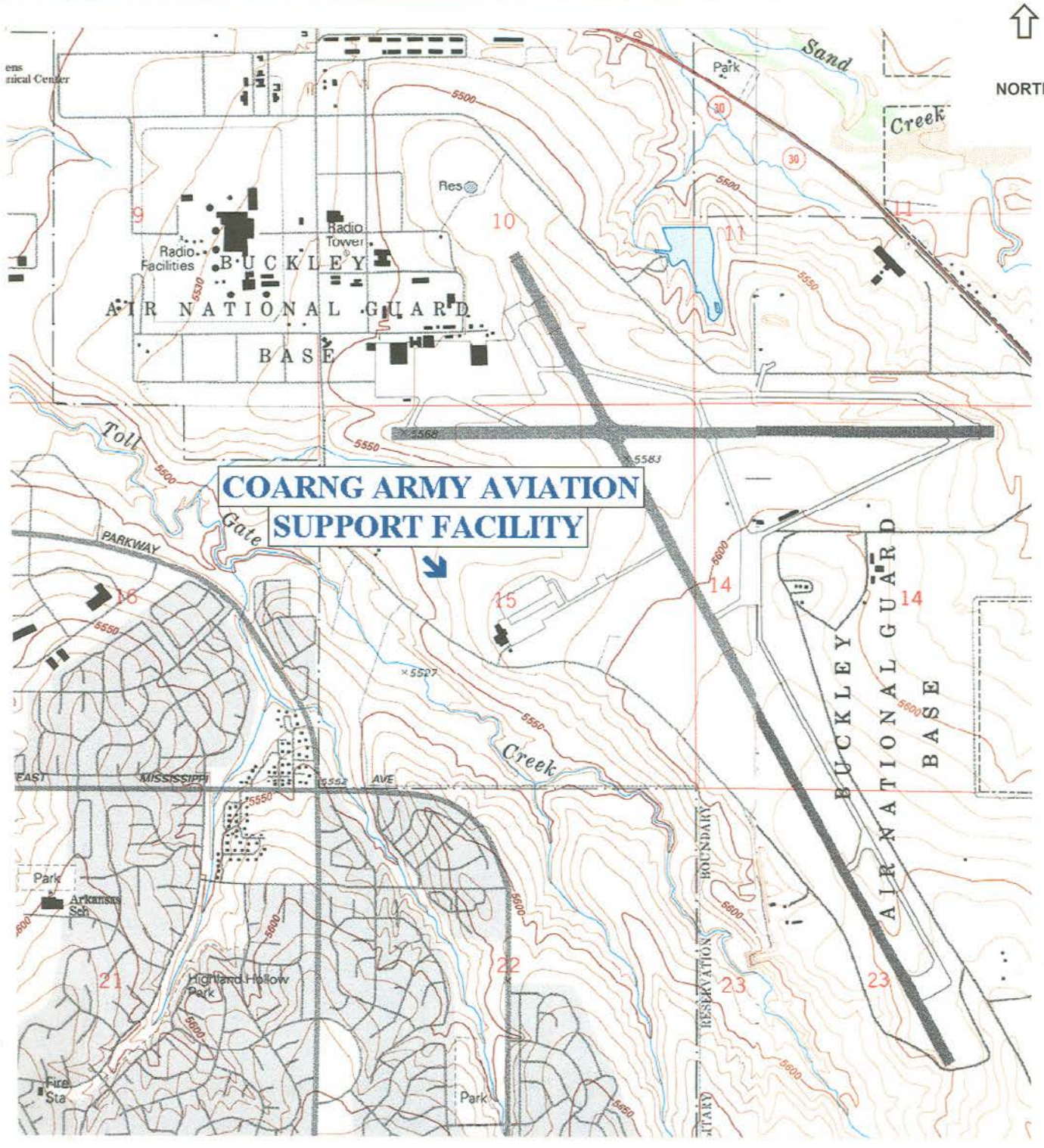
City of Aurora
Planning Department
Robert Watkins and Jim Ives

City of Aurora
Public Works Department
Tim Pitts

City of Aurora
Building Permits and Inspections
David Meyer

Xcel Energy
Michael Miller

FIGURES



Source: USGS 7.5-Minute Series Topographic Map: Fitzsimons, Colorado Quadrangle

Figure 1 **SITE LOCATION MAP** **Date: 1965** **Revised: 1994** **SCALE: 1" = 2000'**	Terracon	**Environmental Assessment** **COARNG AASF**

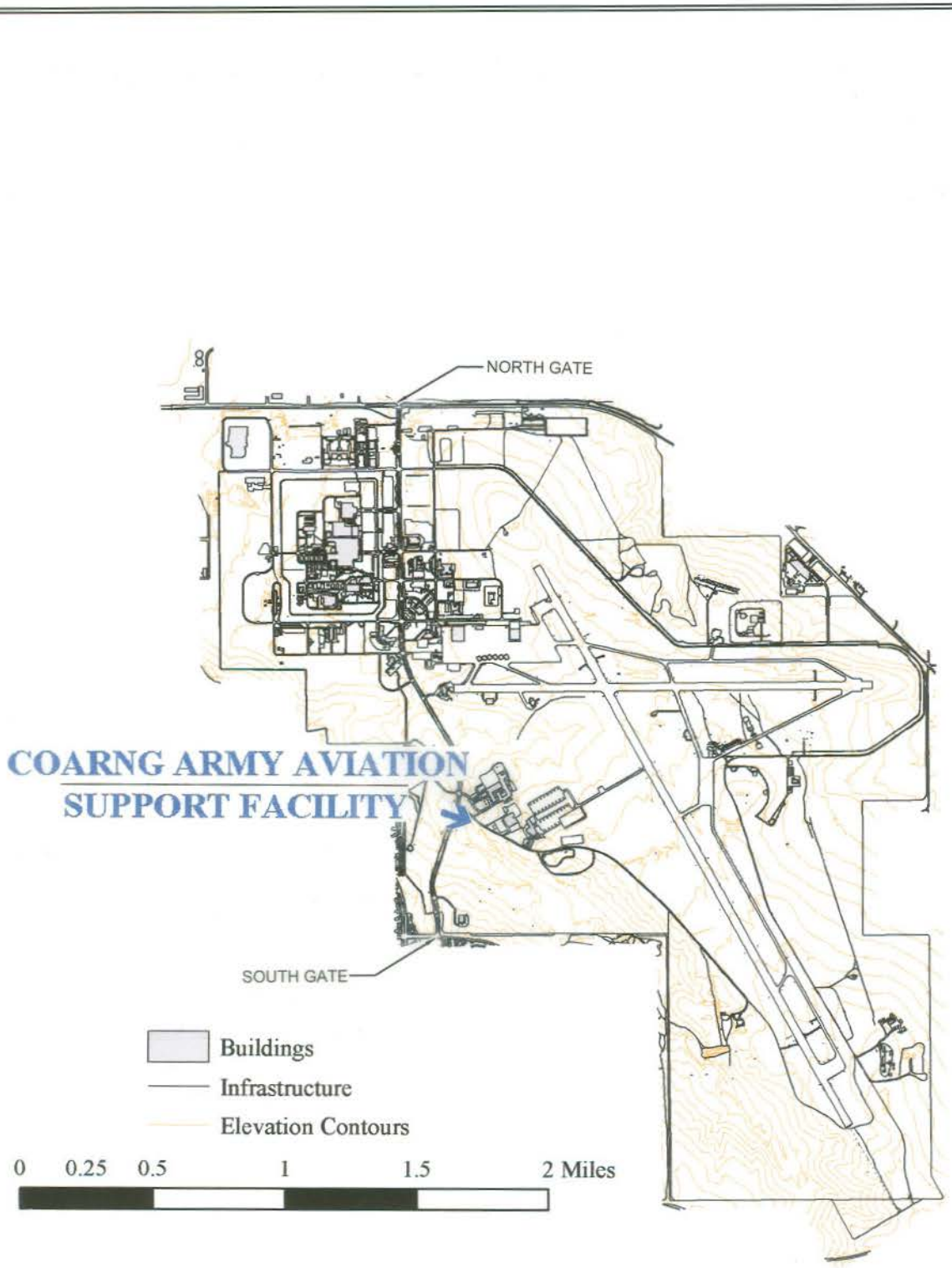


Figure 2
Buckley Air Force Base Map

SCALE: As Shown

Terracon

Environmental Assessment
COARNG AASF

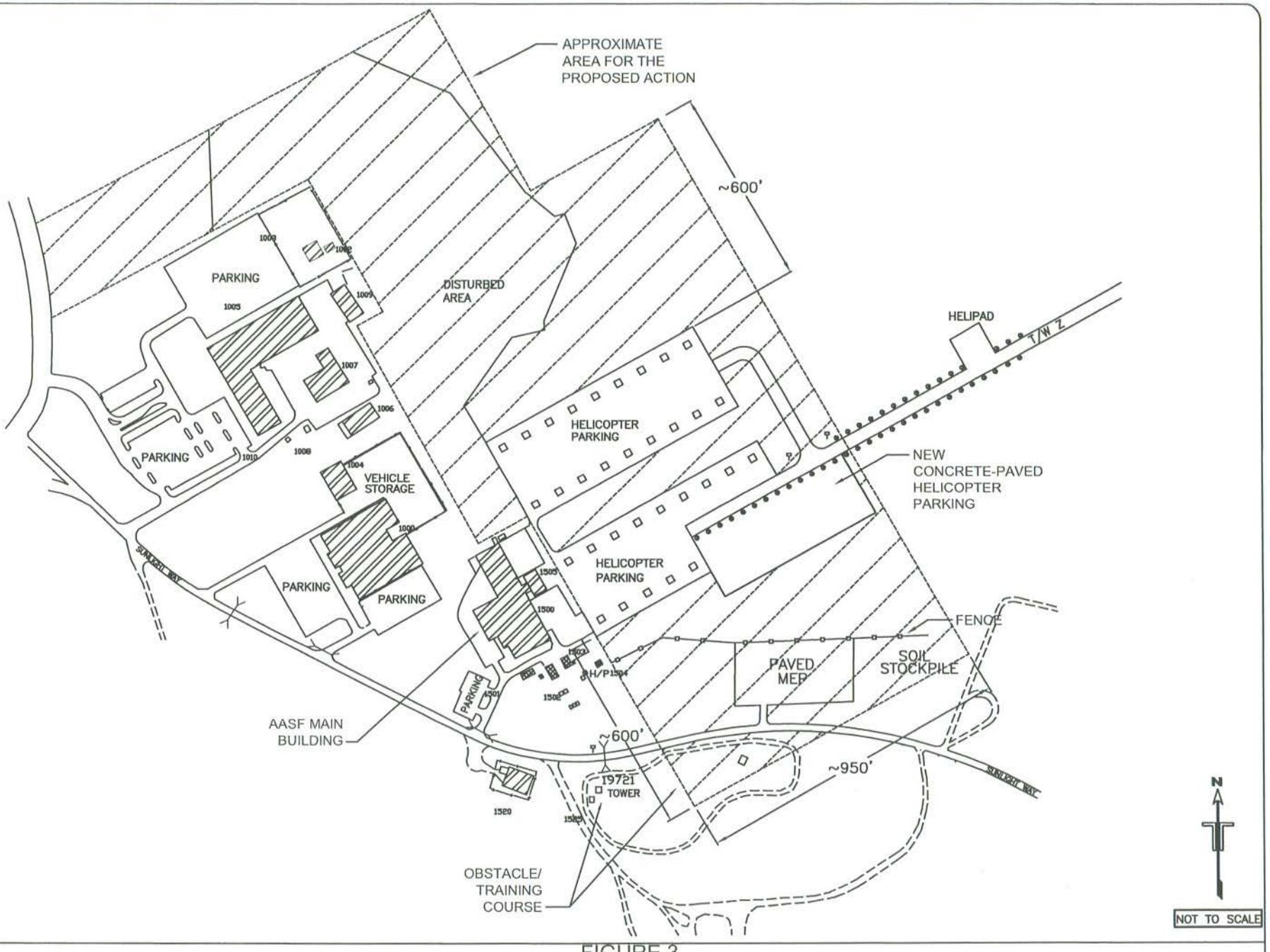


FIGURE 3
EXISTING SITE MAP
ENVIRONMENTAL ASSESSMENT
COARNG AASF
BUCKLEY AFB, COLORADO

Terracon

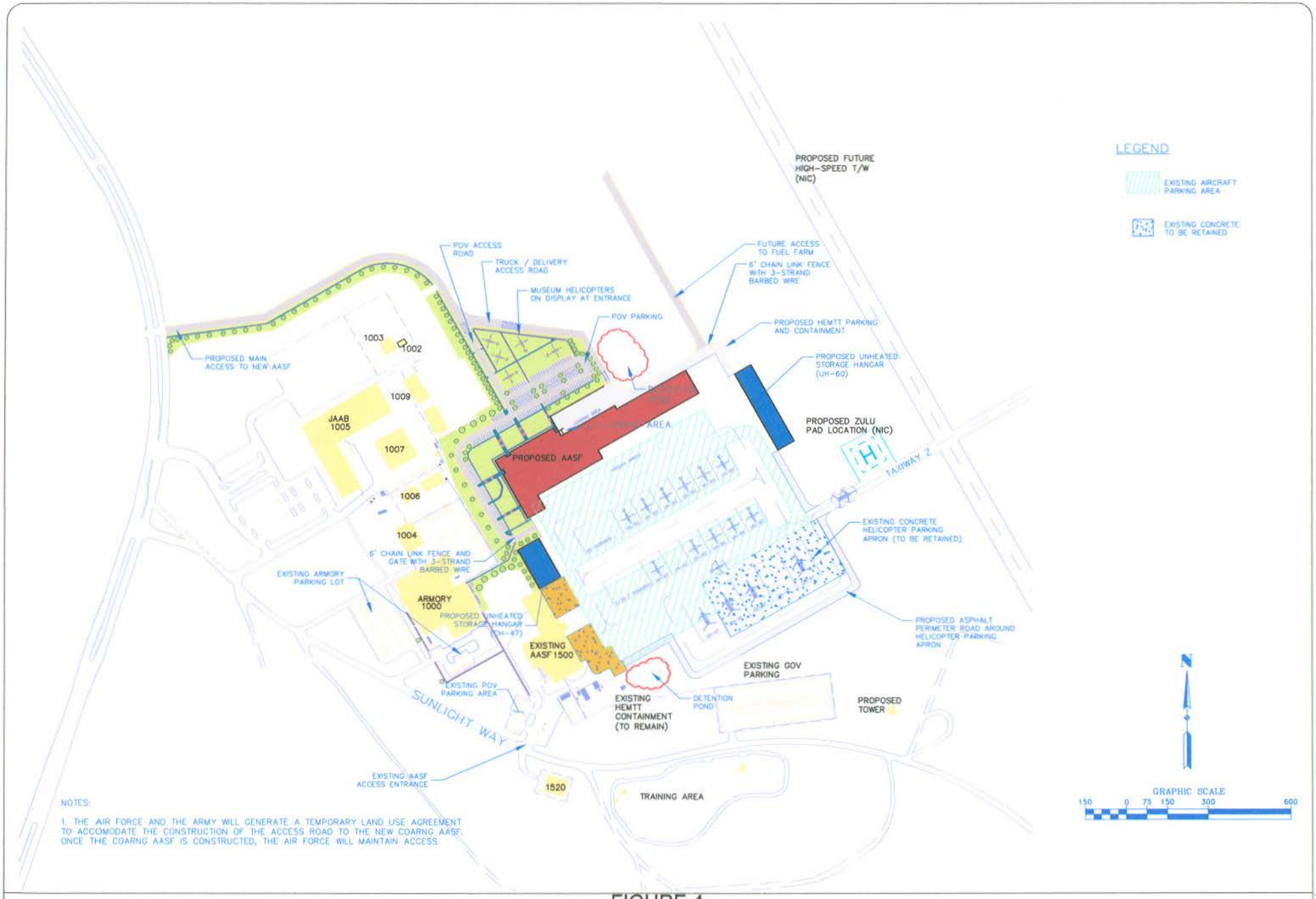


FIGURE 4
PROPOSED FACILITIES MAP
ENVIRONMENTAL ASSESSMENT
COARNG AASF
BUCKLEY AFB, COLORADO

Terracon

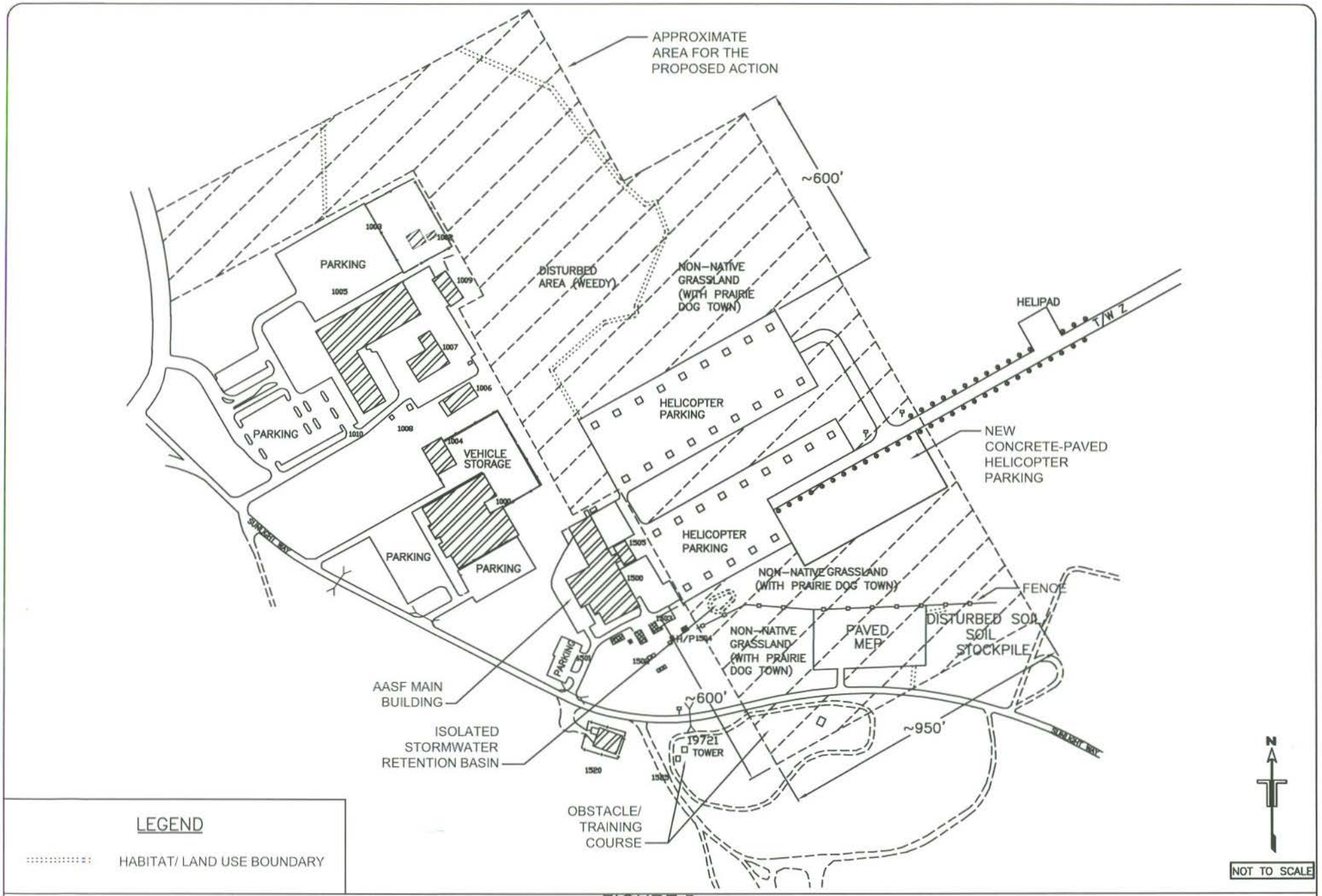
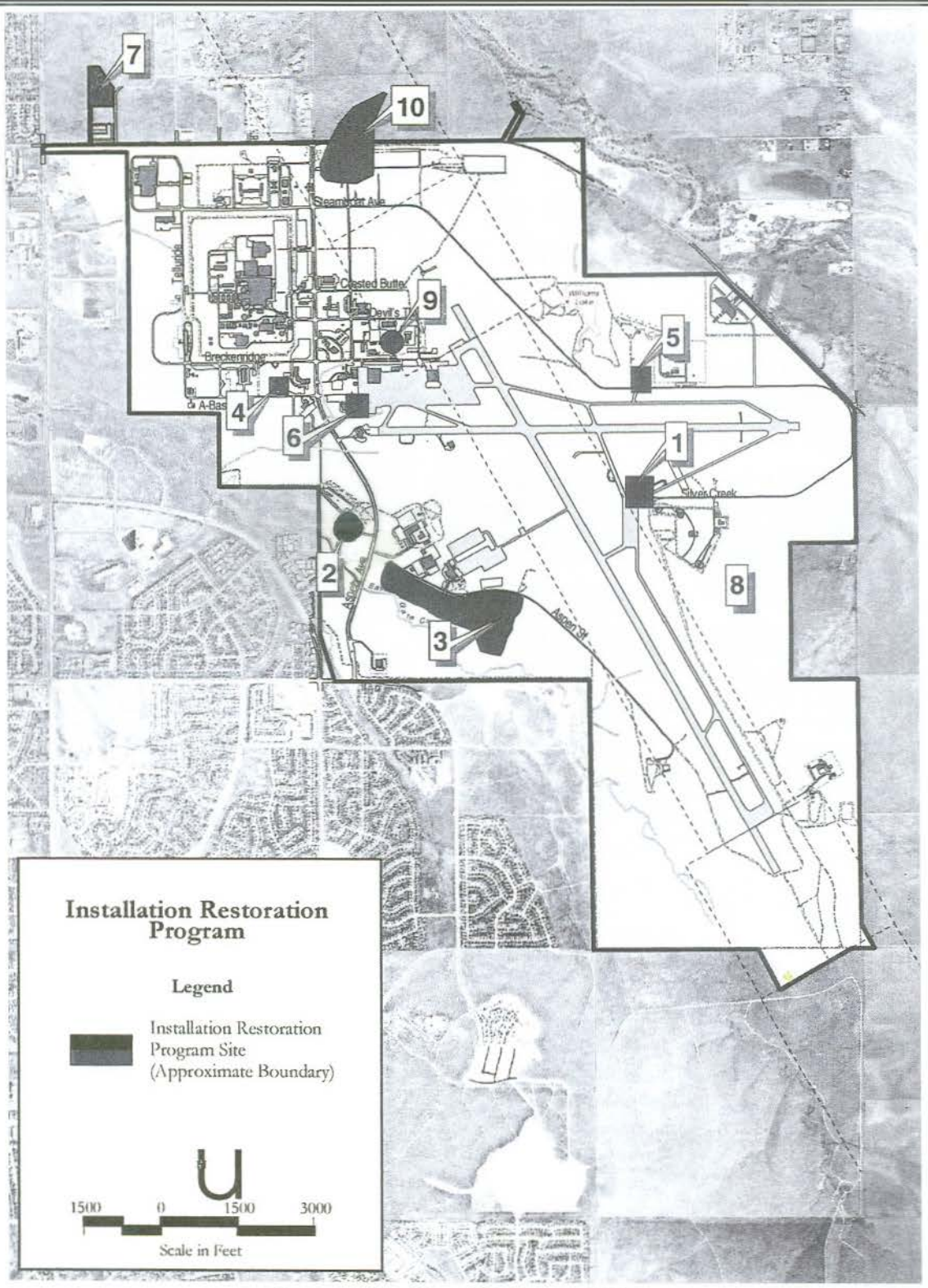


FIGURE 5
HABITAT MAPPING
ENVIRONMENTAL ASSESSMENT
COARNG AASF
BUCKLEY AFB, COLORADO

Terracon



Source: Buckley AFB General Plan

Figure 6 **Map 4A-1 from the Buckley AFB General Plan** **SCALE: As Shown**	Terracon	**Environmental Assessment** **COARNG AASF**

APPENDIX A

PHOTOGRAPHS



Photo #1 – View of the AASF and the helicopter parking area. Direction of view is southwest.



Photo #2 – View of the concrete-paved helicopter parking area and the land south of the helicopter parking area.



Photo #3 – View of the concrete-paved helicopter parking area and the land south of the helicopter parking area.



Photo #4 – View of the east end of the asphalt-paved helicopter parking area.



Photo #5 – View of the ground surface east of the helicopter parking area.



Photo #6 – View of the stormwater pond and the ground surface south of the helicopter parking area.



Photo #7 – View of the ground surface (south portion) north of the helicopter parking area.



Photo #8 – View of the ground surface (middle portion) north of the helicopter parking area.



Photo #9 – View of the ground surface (middle portion) north of the helicopter parking area.



Photo #10 – View of the ground surface (middle portion) north of the helicopter parking area.



Photo #11 – View of the ground surface (middle portion) north of the helicopter parking area.



Photo #12 – View of the ground surface (west portion) north of the helicopter parking area.



Photo #13 – View of the ground surface (north portion) north of the helicopter parking area.



Photo #14 – View of the ground surface (west portion) north of the helicopter parking area.

APPENDIX B

AGENCY CORRESPONDENCE

November 18, 2002

Terracon
Consulting Engineers & Scientists

10625 West I-70 Frontage Road North, Suite 3
Wheat Ridge, Colorado 80033
Phone 303.423.3300
Fax 303.423.3353
www.terracon.com

Colorado State Historical Preservation Office
1300 Broadway
Denver, Colorado 80203

Attn: Kaaren Hardy

RE: Environmental Assessment
COARNG AASF Complex
Buckley Air Force Base
Aurora, Colorado
Terracon Project No. 46027107

Dear Ms. Hardy:

Terracon is providing Environmental Assessment services for the proposed construction of several additional structures at the Colorado Army National Guard (COARNG) Army Aviation Support Facility (AASF) complex located at Buckley Air Force Base in Aurora, Colorado. The two 10 acre project areas are located adjacent to the aircraft asphalt-paved parking areas. The approximate location of this project is depicted on the attached topographic map.

This letter is to request your assistance in helping determine whether there are known historic or architecturally significant sites located in the project area that may be impacted by this project. In addition, we would appreciate any information you may be aware of regarding permits, licenses or other approvals that may be required for this project.

The project site is presently vacant and mostly undeveloped land. The project site is located within Section 15, Township 4 South, Range 66 West, in Arapahoe County, Colorado.

If you have any questions or require additional information, please contact me at (303) 423-3300. Thanks for your assistance.

Sincerely,
TERRACON

Douglas J. Camrud, P.E.
Environmental Engineer

Attachment

COLORADO
HISTORICAL
SOCIETY

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

REC'D NOV 22 2002

November 19, 2002

Douglas J. Camrud, P.E.
Terracon
10625 West I-70 Frontage Road North, Suite 3
Wheat Ridge, CO 80033

Re: Colorado Army National Guard, Army Aviation Support Facility

Dear Mr. Camrud:

This is to acknowledge receipt of your November 18, 2002 correspondence concerning the project listed above.

A search of our files indicates that the location of this project has been surveyed for cultural resources and that no historic properties are located within the area of potential effect. Therefore, we find that no historic properties will be affected by the project.

If unidentified archaeological resources are discovered in the course of the project, work must be interrupted until the resources have been evaluated in terms of the National Register of Historic Places eligibility criteria (36 CFR 60.4) in consultation with this office.

Thank you for the opportunity to comment. If we may be of further assistance, please contact Jim Green at 866-4674.

Sincerely,

Georgianna Contiguglia
State Historic Preservation Officer

GC/WJG

November 18, 2002

Terracon
Consulting Engineers & Scientists

10625 West I-70 Frontage Road North, Suite 3
Wheat Ridge, Colorado 80033
Phone 303.423.3300
Fax 303.423.3353
www.terracon.com

Colorado Department of Natural Resources
Division of Wildlife
6060 Broadway
Denver, Colorado 80216

Attn: Eric O'Dell

RE: Environmental Assessment
COARNG AASF Complex
Buckley Air Force Base
Aurora, Colorado
Terracon Project No. 46027107

Dear Mr. O'Dell:

Terracon is providing Environmental Assessment services for the proposed construction of several additional structures at the Colorado Army National Guard (COARNG) Army Aviation Support Facility (AASF) complex located at Buckley Air Force Base in Aurora, Colorado. The two 10 acre project areas are located adjacent to the aircraft asphalt-paved parking areas. The approximate location of this project is depicted on the attached topographic map.

This letter is to request your assistance in helping determine whether the proposed project area is within an officially designated wilderness area, wildlife preserve/refuge, critical habitat, park or recreation area; or whether there are any known or proposed threatened or endangered species that occur at or periodically use the referenced site. In addition, we would appreciate any information you may be aware of regarding permits, licenses or other approvals that may be required for this project.

The project site is presently vacant and mostly undeveloped land. The project site is located within Section 15, Township 4 South, Range 66 West, in Arapahoe County, Colorado.

If you have any questions or require additional information, please contact me at (303) 423-3300. Thanks for your assistance.

Sincerely,
TERRACON

Douglas J. Camrud, P.E.
Environmental Engineer

Attachment

STATE OF COLORADO
Bill Owens, Governor
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE
AN EQUAL OPPORTUNITY EMPLOYER

Russell George, Director
6060 Broadway
Denver, Colorado 80216
Telephone: (303) 297-1192

For Wildlife-
For People

November 22, 2002

Douglas Camrud
Terracon
10625 West I-70 Frontage Road North, Suite 3
Wheat Ridge, Colorado 800033

RE: Terracon Project 46027107

Dear Mr. Camrud:

I am in receipt of your letter dated November 18, 2002 requesting wildlife information for the above referenced project near Buckley Air Force Base (S15, T4S, R66W). I have not visited the site, but have the following information to share with you.

According to our maps, the project is not located within an officially designated wilderness area, wildlife preserve/refuge, critical habitat, or park or recreation area.

Additionally, you asked about threatened or endangered species. If there are Black-tailed prairie dogs on site, you may find the following species on site, as well.

Bald Eagle – (Federal Threatened) – Bald Eagles use the Denver area extensively as a feeding area during the winter, mostly hunting prairie dogs, but also fish and waterfowl. If prairie dogs do occur on this property, it is possible that bald eagles would hunt them on occasion.

Burrowing Owl – (State Threatened) – Burrowing owls live and nest in prairie dog holes. If prairie dogs are on this property, burrowing owls might use it during the summer. See the enclosed sheet for more information on them.

Note that we do not have information on threatened/endangered **plants** or **insects**. For plant or insect information, you might wish to contact:

Colorado Natural Heritage Program
254 General Services Building
Colorado State University
Fort Collins, CO 80523
PH: (970) 491-1309 FAX: (970) 491-0729

DEPARTMENT OF NATURAL RESOURCES, Greg E. Walcher, Executive Director
WILDLIFE COMMISSION, Rick Enstrom, Chair • Robert Shoemaker, Vice-Chair • Marianna Raftopoulos, Secretary
Members, Bernard Black • Tom Burke • Jeffrey Crawford • Philip James • Brad Phelps • Olive Valdez
Ex Officio Members, Greg E. Walcher and Don Ament

Please let me know if you have any questions.

Sincerely,

Eric Odell
Habitat Biologist

CC: Liza Moore, AWM

SUGGESTIONS FOR HANDLING BURROWING OWL ISSUES

This advice is intended as guidance for those intending to poison or otherwise impact a prairie dog town. It would also apply to projects involving the live capture of prairie dogs. Burrowing owls live in many prairie dog towns, using unoccupied prairie dog holes for nest sites as well as for roosting. The owls are only present in Colorado during the period from about March 1 through October 31. They migrate out of state during the winter.

Federal and state laws prohibit the killing of burrowing owls. It is quite possible to kill these birds inadvertently during prairie dog poisoning projects, removal of live prairie dogs, or during earth moving for construction. Since the owls usually hide in burrows when danger approaches, it is not practical to "chase them away" prior to prairie dog control. Because of this, the Division of Wildlife suggests checking prairie dog towns for burrowing owl presence if any of the above activities are planned between March 1 and October 31. Since they are migratory, it is safe to assume that no burrowing owls will be present during the November 1 to February 28 period. The following guidelines are intended as advice on how to determine if burrowing owls are present in a prairie dog town.

1) For Prairie Dog Towns Small Enough to be Easily Viewed from One Location:

On two consecutive mornings from sunrise until two hours after sunrise, view the prairie dog town from a good vantage point using high quality binoculars. The owls may be standing on the mound around a burrow, or often may be perched on fence posts or telephone poles on or near the town. The weather should be reasonably clear and calm with no precipitation since poor weather will cause the owls to be less active and stay below ground. If the weather interferes, the viewing mornings do not need to be consecutive.

If no burrowing owls are seen in two mornings of searching, it is likely that owls are not using the town.

2) For Prairie Dog Towns too Large to be Viewed from One Location:

Similar techniques to those described above should be used, but two or more stations may need to be used to view the entire town. It may be necessary to spend two mornings at each viewing point, but if there is considerable overlap in the area visible from the different points, less time could be spent at each point. The viewer can use judgement on this based on local conditions at the time. The bottom line is to devote enough time searching to assure that no burrowing owls are present.

What to do if Burrowing Owls are Present:

If burrowing owls are confirmed to be present in the dog town, there are two options.

(over)

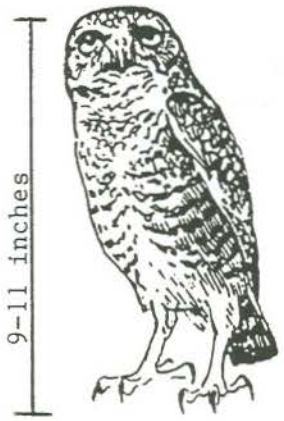
- Wait until November 1 or until it can be confirmed that owls have left the area before moving forward with the project; or

- Carefully monitor the activities of the owls, noting and marking which holes they are using. The owls may use several holes in a dog town. This is <u>not</u> easy to do and may take considerable time! When all the burrowing owl holes have been located and marked, prairie dog holes more than 150 feet away from the owl holes can be poisoned or disturbed with little danger to the burrowing owls. Poisoning or disturbing closer holes may endanger the birds.

Incidentally, bulldozing an active prairie dog town is not recommended for humane reasons, regardless of whether burrowing owls are present.

BURROWING OWL IDENTIFICATION

Adult burrowing owls are small, about 9-11 inches in total length. They are brown with white spotting and white barring on the chest. They have long legs in comparison to other owls. Juveniles are similar to the adults but smaller, and have a white to buff colored chest without barring.



December 12, 2002

Terracon
Consulting Engineers & Scientists

10625 West I-70 Frontage Road North, Suite 3
Wheat Ridge, Colorado 80033
Phone 303.423.3300
Fax 303.423.3353
www.terracon.com

Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80246

Attn: Ed Larock

RE: Environmental Assessment
COARNG AASF Complex
Buckley Air Force Base
Aurora, Colorado
Terracon Project No. 46027107

Dear Mr. Larock:

Terracon is providing Environmental Assessment services for the proposed construction of several additional structures (hangers, office/classroom building) at the Colorado Army National Guard (COARNG) Army Aviation Support Facility (AASF) complex located at Buckley Air Force Base in Aurora, Colorado. The two 10 acre project areas are located adjacent to the aircraft asphalt-paved parking areas. The approximate locations of the project areas are depicted on the attached topographic map.

This letter is to request your assistance in helping determine whether the proposed project areas are within a known environmental restoration or remediation area, or if the groundwater beneath the site could be impacted.

The project site is presently vacant and mostly undeveloped land. The project site is located within Section 15, Township 4 South, Range 66 West, in Arapahoe County, Colorado.

If you have any questions or require additional information, please contact me at (303) 423-3300. Thanks for your assistance.

Sincerely,
TERRACON

Douglas J. Camrud, P.E.
Environmental Engineer

Attachment

Follow-up telephone conversation. Details in BA

August 15, 2003

Terracon
10625 West I-70 Frontage Road North, Suite 3
Wheat Ridge, Colorado 80033
(303) 423-3300 Fax: (303) 423-3353

U.S. Army Corps of Engineers
9307 South Wadsworth Boulevard
Littleton, Colorado 80128

Attn: Terry McKee

RE: Environmental Assessment
COARNG AASF Complex
Buckley Air Force Base
Aurora, Colorado 80017
Terracon Project No. 46027107

Dear Mr. McKee:

Terracon is conducting an Environmental Assessment (EA) on an approximate 20-acre parcel of vacant land located at the Colorado Army National Guard (COARNG) Army Aviation Support Facility (AASF) complex located on Buckley Air Force Base in Aurora, Colorado. The COARNG is proposing to construct a new aircraft maintenance, air operations and office facility, construct two new storage buildings and replace the old asphalt-paved rotary wing aircraft parking areas at the facility. As part of the EA, a biologist assessed the site for the presence of wetland areas (see following paragraph for results). The project site is located near the center of Section 15, Township 4 South, Range 66 West of the 6th Principal Meridian in Arapahoe County, Colorado. See attached location map.

Determination of wetland presence within the project site was based on the methods and techniques specified for "routine on-site delineations" in the publication *Corps of Engineers Wetlands Delineation Manual* (U.S. Army Corps of Engineers, 1987). Only one small wetland was located on the project site (NW ¼ of SE ¼ in Section 15). The wetland has become established in a small stormwater retention basin (approximately 35 feet by 75 feet) that appears to have been constructed, along with a drainage swale, to collect runoff from the adjacent south paved helicopter parking area. Stormwater runoff is collected by the swale and is discharged into the retention basin. Only a small, central portion of the retention basin exhibited suitable characteristics for classification as wetland. This portion of the basin supports a small pocket of narrow-leafed cattail (*Typha angustifolia*) and scattered individuals of curly dock (*Rumex crispus*). Check holes dug in this area indicated reducing conditions and a hydric (wetland) soil. The remaining portions of the basin did not exhibit hydric soil conditions and are vegetated primarily by upland vegetation species including leafy spurge (*Tithymalus uralensis*), yellow sweetclover, and Canada thistle. This wetland would not be classified as jurisdictional by the U.S. Army Corps of Engineers since it has no continuous wetland or defined channel connection to other waters of the U.S. See attached photographs.

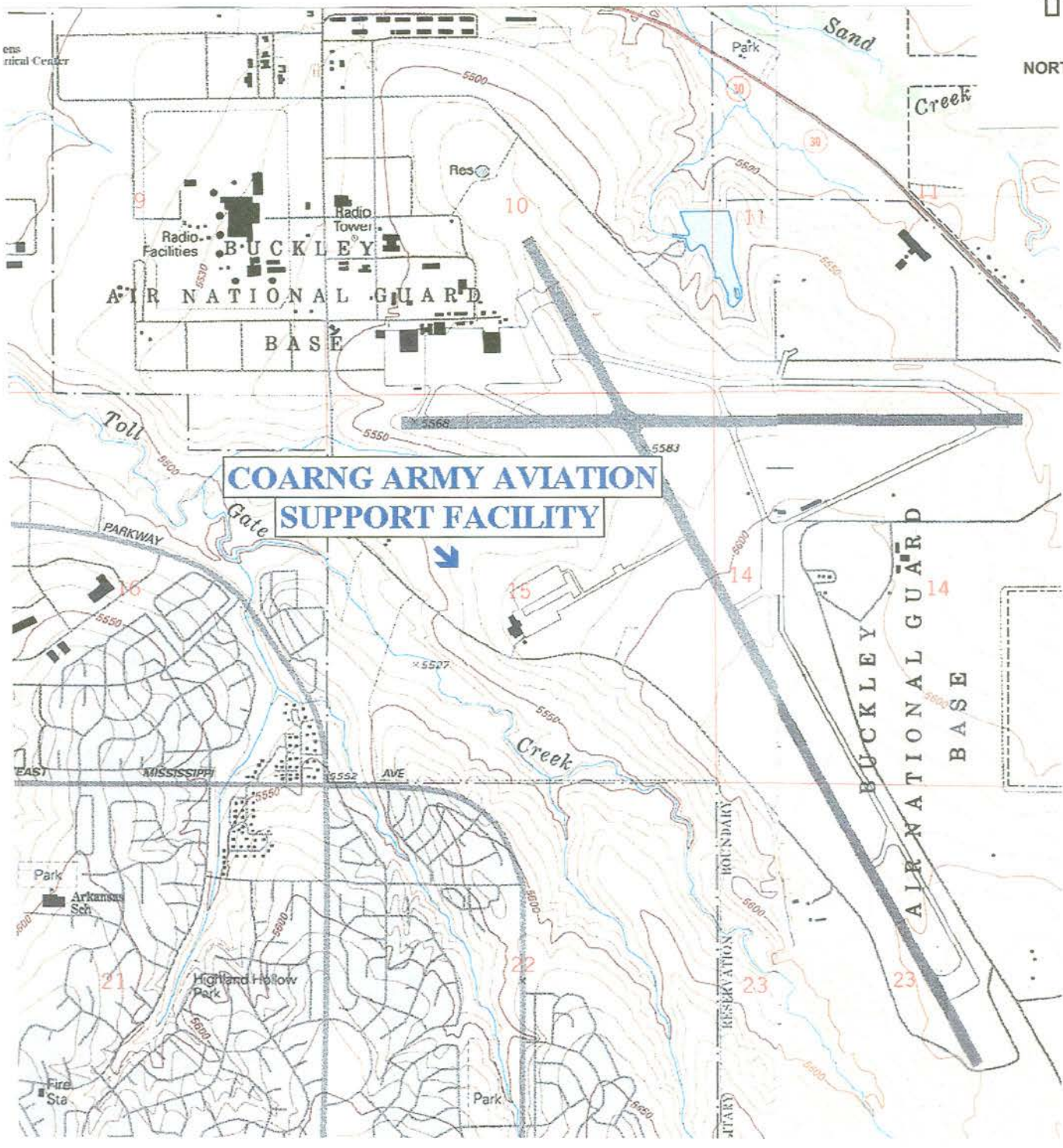
At this time, the wetland area will not be disturbed during future construction activities and will remain. However, we would like to confirm whether the wetland is regulated by the U.S. Army Corps of Engineers, and if it could be filled in to relocate the stormwater pond.

If you have any questions or require additional information, please contact me at (303) 423-3300. Thanks for your assistance.

Sincerely,
TERRACON

Douglas J. Camrud, P.E.
Environmental Engineer

Attachments



Source: USGS 7.5-Minute Series Topographic Map: Fitzsimons, Colorado Quadrangle

Figure 1 **SITE LOCATION MAP** **Date: 1965** **Revised: 1994** **SCALE: 1" = 2000'**	Terracon	**Environmental Assessment** **COARNG AASF** **Aurora, Colorado**





DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
DENVER REGULATORY OFFICE, 9307 SOUTH WADSWORTH BOULEVARD
LITTLETON, COLORADO 80128-6901

August 18, 2003

Mr. Douglas Camrud
Terracon
10625 West I-70 Frontage Road North, Suite 3
Wheatridge, CO 80033

RE: Isolated Waters Evaluation, Environmental Assessment, Buckley Air Force Base, New Aircraft Maintenance-Air Operations and Office Facility, Isolated Wetland in a Stormwater Retention Basin
Corps File No. 200380465

Dear Mr. Camrud:

Reference is made to the above-mentioned project located in the SE ¼ of Section 15, T4S, R66W, Arapahoe County, Colorado.

Based upon the ruling by the Supreme Court in the matter of Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, No. 99-1178 (January 9, 2001), the Department of the Army's (DA) regulatory authority over isolated, non-navigable, intrastate waters has been eliminated **if** the sole nexus to interstate commerce was use of the waters by migratory birds. It is apparent under the ruling above that the DA does not have the authority to regulate work in the isolated wetlands. No permit or other authorization by the DA is required for work in the isolated wetlands.

Although a DA permit will not be required for work at this site, this does not eliminate the requirement that you obtain any other applicable Federal, state, tribal or local permits as required. Please note that deviations from the original plans and specifications of your project **could** require other authorizations from this office.

If you have any questions concerning this verification, please call **Mr. Terry McKee** at (303) 979-4120 and reference **File No. 200380465**.

Sincerely,

Timothy T. Carey
Chief, Denver Regulatory Office

tm

Copies furnished:

EPA

REC'D AUG 19 2003

APPENDIX C

PUBLIC AND AGENCY COMMENTS AND RESPONSES

PUBLIC COMMENTS

NO PUBLIC COMMENTS

U.S. FISH AND WILDLIFE SERVICE

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
ENVIRONMENTAL OFFICE
6848 SOUTH REVERE PARKWAY
CENTENNIAL, COLORADO 80112-6709

12 May 2004

Memorandum for: Mr. Bruce Rosenlund
US Fish & Wildlife Service
755 Parfet Room 496
Lakewood, CO 80215

From: Colorado Army National Guard
6848 S. Revere Pkwy.
Centennial, CO 80112

Dear Mr. Rosenlund,

The Colorado Army National Guard has prepared a Draft Environmental Assessment (EA) (attached) for the Construction of a new Army Aviation Support Facility adjacent to the current facility located at Buckley Air Force Base, Colorado.

The proposed action is to construct facilities to accommodate modern helicopter systems and replace undersized and aging structures with larger and modern ones. This action is needed to provide space for adequate and appropriate helicopter maintenance and repair, as well as storage, administrative and training space. The action would enable the COARNG to maintain the Army aviation-related equipment and skills required to perform its federal military and state support missions. Specifically, the new facility would be constructed to meet the following requirements:

- Provide approximately 130,000 square feet (sf) of indoor space to be used for the following: helicopter maintenance (hangar) bays; a permanent air operations center; administrative offices for approximately 80 full-time and part-time COARNG and civilian personnel; and, storage space for parts, equipment and helicopters. Some of the indoor maintenance and storage space would be heated and some would be unheated.

- Provide two separate, approximately 15,000 sf each, helicopter and ground support equipment storage buildings. The buildings would be unheated.

- Provide an aircraft wash rack.

- Provide a parking and secondary containment structure for unit fuel trucks (i.e., heavy expanded mobile tactical trucks (HEMTTs)).

- Provide reinforced concrete-paved helicopter parking areas with sufficient tie-downs for new aircraft (approximately 100,000 square yards (sy)).

- Provide access/service roads and privately-owned vehicle (POV) parking areas (approximately 30,000 sy).

The Colorado Army National Guard is requesting the US Fish and Wildlife Service review and comment on the EA and, if appropriate, concur with the findings contained therein. Please provide written comments within thirty days of receipt of this letter. If more information is needed please feel free to contact me at 720-847-8902.

Sincerely,



Jeff M. Stalter
NEPA Coordinator,
Environmental Data Analyst
Colorado Army National Guard

Attachment:
Draft EA

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Colorado Field Office
755 Parfet Street, Suite 361
Lakewood, Colorado 80215

IN REPLY REFER TO:
ES/CO: Buckley/Construction Aviation Support EA
Mail Stop 65412

JUN 17 2004

Mr. Jeff Stalter
Colorado Department of Military Affairs
6848 South Revere Parkway
Centennial, Colorado 80112-6709

Re: Review of the Draft Environmental Assessment (EA) entitled Construction at the Colorado Army National Guard Army Aviation Support Facility Complex, Buckley Air Force Base, Colorado

Dear Mr. Stalter:

The U.S. Fish and Wildlife Service (Service) received the subject document and request for comments and concurrence from you via letter dated 12 May 2004. We reviewed the document under the provisions of the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4327) and the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et. seq.).

We have reviewed the document and find it well written with an adequate discussion of impacts. We therefore concur with the findings of the EA.

We have received several EAs for construction projects at Buckley Air Force Base and would like to make a suggestion. Is it possible to do a programmatic style EA to cover all proposed foreseeable National Guard projects in one comprehensive document? Those could also be combined with Air Force proposed projects for Buckley to make the document even more comprehensive. This would allow the Service to see a "big picture" of planned projects at Buckley, making it easier to analyze impacts and grant concurrence if warranted for the entire construction/activities plan, rather than to review several smaller EAs. The cumulative impacts would be easier to envision, and each project as it developed would only need to be reviewed for changes in species listings, environmental laws, etc., expediting our (and most likely other agencies) reviews. Buckley environmental staff could then determine when a specific project covered under the programmatic EA would need to come back to us for review.

Thank you for the opportunity to comment on the draft EA. If the Service can be of further assistance, please contact Bruce Rosenlund of the Colorado Fish and Wildlife Management Assistance Office at (303) 275-2393.

Sincerely,

Susan C. Linner
Colorado Field Supervisor

cc: FWS, B. Rosenlund
FWSR6/ES, S. Vana-Miller

CITY OF AURORA, COLORADO

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
ENVIRONMENTAL OFFICE
6848 SOUTH REVERE PARKWAY
CENTENNIAL, COLORADO 80112-6709

12 May 2004

Memorandum for: Ms. Denise Balkas
City of Aurora, Planning Dept.
15151 E. Alameda Pkwy.
Aurora, CO 80012

From: Colorado Army National Guard
6848 S. Revere Pkwy.
Centennial, CO 80112

Dear Ms. Balkas,

The Colorado Army National Guard has prepared a Draft Environmental Assessment (EA) (attached) for the Construction of a new Army Aviation Support Facility adjacent to the current facility located at Buckley Air Force Base, Colorado.

The proposed action is to construct facilities to accommodate modern helicopter systems and replace undersized and aging structures with larger and modern ones. This action is needed to provide space for adequate and appropriate helicopter maintenance and repair, as well as storage, administrative and training space. The action would enable the COARNG to maintain the Army aviation-related equipment and skills required to perform its federal military and state support missions. Specifically, the new facility would be constructed to meet the following requirements:

- Provide approximately 130,000 square feet (sf) of indoor space to be used for the following: helicopter maintenance (hangar) bays; a permanent air operations center; administrative offices for approximately 80 full-time and part-time COARNG and civilian personnel; and, storage space for parts, equipment and helicopters. Some of the indoor maintenance and storage space would be heated and some would be unheated.

- Provide two separate, approximately 15,000 sf each, helicopter and ground support equipment storage buildings. The buildings would be unheated.

- Provide an aircraft wash rack.

- Provide a parking and secondary containment structure for unit fuel trucks (i.e., heavy expanded mobile tactical trucks (HEMTTs)).

- Provide reinforced concrete-paved helicopter parking areas with sufficient tie-downs for new aircraft (approximately 100,000 square yards (sy)).

- Provide access/service roads and privately-owned vehicle (POV) parking areas (approximately 30,000 sy).

The Colorado Army National Guard is requesting the City of Aurora review and comment on the EA. Please provide written comments within thirty days of receipt of this letter. If more information is needed please feel free to contact me at 720-847-8902.

Sincerely,

Jeff M. Stalter
NEPA Coordinator,
Environmental Data Analyst
Colorado Army National Guard

Attachment:
Draft EA

City of Aurora

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

June 7, 2004

Mr. Jeff Stalter
Environmental Data Analyst
Colo. Dept. of Military and Veterans Affairs
6848 S. Revere Pkwy
Centennial, CO 80112-6709

Dear Mr. Stalter:

Re: Comments on Draft Environmental Assessment for Construction at the Colorado Army National Guard, Army Aviation Support Facility Complex, May 2004

Thank you for providing us the opportunity to comment on the subject document. We have the following comments for your consideration:

General Comment: Overall, the document was well-written and contained more detail and a better treatment of cumulative impacts than some of the previous EA's prepared for Buckley's proposed construction projects. Thank you for incorporating our prior comments into this document. Several specific comments follow.

Page 15, Section 4.3.3 – Suggest deleting the last sentence of the paragraph. Pollutants are not typically trapped by large buildings, but may become concentrated in mountain valleys or against mountain ranges.

Page 16, Section 4.3.4, 1st paragraph in this section – Suggest deleting "cooling towers" and "rock crushers" since these are typically classified as point sources by the APCD.

Page 16, Section 4.3.4, 2nd paragraph in this section – Buckley AFB is a "major" source for Title V purposes, but is designated a synthetic minor source for NOx and SOx for the purpose of PSD.

Page 39, Section 5.2 – Impacts to air quality would also be considered significant if impacts from the project or cumulative impacts from all projects on base exceed the General Conformity de minimis thresholds.

Page 40, 2nd full paragraph – The discussion on the applicability analysis is not quite correct. An action is also subject to the General Conformity Rule if the emissions are deemed to be regionally significant, even if the total direct and indirect emissions are less than the de minimis thresholds.

Page 40, 3rd full paragraph – The discussion on the conformity determination should be revised. If emissions from an action are less than the de minimis thresholds and are not regionally significant, the project is presumed to conform. However, if emissions exceed the de minimis levels or are regionally significant, the EPA provides several methods to determine if an

action conforms to an implementation plan. These methods include 1) ensuring that emissions from the project are specifically included in the State Emissions Budget, 2) providing emission offsets, and/or 3) conducting air quality modeling. A federal agency can use one or any combination of the methods to show positive conformity.

Page 41, Table 8 – Thank you for providing a detailed calculation of emissions from construction equipment.

Page 42, 1st paragraph – Emissions from construction worker vehicles should be incorporated into the impacts assessment. These emissions are considered to be direct emissions associated with the project. The Technical Support Division of the APCD can provide current year emission factors for motor vehicles. Emissions from concrete batching and haul trucks should also be added to the construction emissions inventory.

Page 42 2nd paragraph – According to section 2.2, the helicopter parking area will be approximately 100,000 square yards which equates to approximately 21.7 acres. However, the fugitive dust calculations are based on a disturbed area of only 15 acres. Please clarify the acreage to be disturbed in each year of construction and use those figures in the fugitive dust calculations.

Page 46, Section 5.5, Water Resources – Please describe the handling of wash water from the new aircraft wash rack.

Page 57, Section 5.11 – Another potentially significant impact to hazardous materials would occur if the preferred alternative would impact an ERP site or disturb areas containing hazardous materials (asbestos in soil, for example).

Pages 60 and 61, Cumulative Impacts – Thank you for providing a list of ongoing and projected construction projects at Buckley. In addition to listing the projects, emissions from the major projects, and possibly some of the minor projects, should be quantified. For example, the construction of a single building represents a minor air quality impact. However, the construction of 10 facilities in 2005 plus the proposed project may be significant and may exceed de minimis thresholds. Cumulative air quality impacts should include emissions from construction equipment and worker vehicles.

Again, thank you for the opportunity to comment on the draft EA. Please feel free to contact Jim Ives, Environmental Program Supervisor at 303-739-7220 if you have any questions.

Sincerely,

Robert Watkins, A.I.C.P.
Acting Planning Director

Rw/jv
C: Jim Ives, Environmental Program Supervisor

JOINT FORCE HEADQUARTERS – COLORADO
COLORADO NATIONAL GUARD
6848 SOUTH REVERE PARKWAY
CENTENNIAL, COLORADO 80112-6709

28 September 2004

Mr. Robert Watkins
Acting Planning Director
City of Aurora
15151 E. Alameda Pkwy.
Aurora, CO 80012

Dear Mr. Watkins,

Thank you for providing comments on the draft Environmental Assessment (EA) for the Construction of the Colorado Army National Guard's Army Aviation Support Facility located at Buckley Air Force Base. Attached is the response to your agency's individual comments.

A final EA and Finding of No Significant Impact (FNSI) will be mailed to your office. If you need any further information regarding this action or our agency's response to comments please contact me at 720-847-8902.

Sincerely,

Jeff M. Stalter
NEPA Coordinator,
Environmental Data Analyst
Colorado Army National Guard

Attachment:
1. Response Matrix

DOCUMENT REVIEW COMMENTS (3 pages)

DOCUMENT REVIEWED: DRAFT ENVIRONMENTAL ASSESSMENT FOR CONSTRUCTION AT THE COLORADO ARMY NATIONAL GUARD ARMY AVIATION SUPPORT FACILITY COMPLEX, BUCKLEY AIR FORCE BASE, COLORADO, MAY 2004

REVIEWER: CITY OF AURORA

DATE REVIEWED: JUNE 7, 2004 TELEPHONE NUMBER: (303) 739-7250

No.	Section	Pg.	Line	Comment	Response
1	4.3.3	15	--	Suggest deleting the last sentence of the paragraph. Pollutants are not typically trapped by large buildings, but may become concentrated in mountain valleys or against mountain ranges.	Incorporated – deleted the last sentence of the paragraph.
2	4.3.4	16	1st paragraph in this section	Suggest deleting "cooling towers" and "rock crushers" since these are typically classified as point sources by the APCD.	Incorporated – deleted cooling towers and rock crusher.
3	4.3.4	16	2nd paragraph in this section	Buckley AFB is a "major" source for Title V purposes, but is designated a synthetic minor source for NOx and SOx for the purpose of PSD.	Incorporated the additional text.
4	5.2	39	--	Impacts to air quality would also be considered significant if impacts from the project or cumulative impacts from all projects on base exceed the General Conformity de minimis thresholds.	Incorporated the additional text.
5	5.2.1	40	2nd full paragraph	The discussion on the applicability analysis is not quite correct. An action is also subject to the General Conformity Rule if the emissions are deemed to be regionally significant, even if the total direct and indirect emissions are less than the de minimis thresholds.	Incorporated the additional text.

No.	Section	Pg.	Line	Comment	Response
6	5.2.1	40	3rd full paragraph	The discussion on the conformity determination should be revised. If emissions from an action are less than the de minimis thresholds and are not regionally significant, the project is presumed to conform. However, if emissions exceed the de minimis levels or are regionally significant, the EPA provides several methods to determine if an action conforms to an implementation plan. These methods include 1) ensuring that emissions from the project are specifically included in the State Emissions Budget, 2) providing emission offsets, and/or 3) conducting air quality modeling. A federal agency can use one or any combination of the methods to show positive conformity.	Incorporated the additional text.
7	5.2.1	41	Table 8	Thank you for providing a detailed calculation of emissions from construction equipment.	Noted.
8	5.2.1	42	1st paragraph	Emissions from construction worker vehicles should be incorporated into the impacts assessment. These emissions are considered to be direct emissions associated with the project. The Technical Support Division of the APCD can provide current year emission factors for motor vehicles. Emissions from concrete batching and haul trucks should also be added to the construction emissions inventory.	Incorporated.
9	5.2.1	42	2nd paragraph	According to section 2.2, the helicopter parking area will be approximately 100,000 square yards which equates to approximately 21.7 acres. However, the fugitive dust calculations are based on a disturbed area of only 15 acres. Please clarify the acreage to be disturbed in each year of construction and use those figures in the fugitive dust calculations.	Incorporated.
10	5.5	46	--	Please describe the handling of wash water from the new aircraft wash rack.	Incorporated. The wash water will flow through an oil/water separator and be discharged to the sanitary sewer.
11	5.11	57	--	Another potentially significant impact to hazardous materials would occur if the preferred alternative would impact an ERP site or disturb areas containing hazardous materials (asbestos in soil, for example).	Incorporated the additional text. At this time, it does not appear that implementation of the preferred alternative would involve disturbance at an ERP site or disturb areas containing hazardous materials.

No.	Section	Pg.	Line	Comment	Response
12	5.13	60	--	Thank you for providing a list of ongoing and projected construction projects at Buckley. In addition to listing the projects, emissions from the major projects, and possibly some of the minor projects, should be quantified. For example, the construction of a single building represents a minor air quality impact. However, the construction of 10 facilities in 2005 plus the proposed project may be significant and may exceed de minimis thresholds. Cumulative air quality impacts should include emissions from construction equipment and worker vehicles.	Buckley has not provided us with cumulative air quality impact data for their projects. Incorporated some additional text.
End	--	--	--	--	--

UTE MOUNTAIN TRIBE

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
ENVIRONMENTAL OFFICE
6848 SOUTH REVERE PARKWAY
CENTENNIAL, COLORADO 80112-6709

12 May 2004

Memorandum for: Ute Mountain Tribe
Mr. Tom Rice
PO Box 448
Towaoc, CO 81334

From: Colorado Army National Guard
6848 S. Revere Pkwy.
Centennial, CO 80112

Dear Mr. Rice,

The Colorado Army National Guard is preparing Draft Environmental Assessments on the following proposed actions:

1. Construction of a new Army Aviation Support Facility adjacent to the existing facility located at Buckley Air Force Base, Colorado. The proposed action involves the following:

   - Provide approximately 130,000 square feet (sf) of indoor space to be used for the following: helicopter maintenance (hangar) bays; a permanent air operations center; administrative offices for approximately 80 full-time and part-time COARNG and civilian personnel; and, storage space for parts, equipment and helicopters. Some of the indoor maintenance and storage space would be heated and some would be unheated.

   - Provide two separate, approximately 15,000 sf each, helicopter and ground support equipment storage buildings. The buildings would be unheated.

   - Provide an aircraft wash rack.

   - Provide a parking and secondary containment structure for unit fuel trucks (i.e., heavy expanded mobile tactical trucks (HEMTTs)).

   - Provide reinforced concrete-paved helicopter parking areas with sufficient tie-downs for new aircraft (approximately 100,000 square yards (sy)).

- Provide access/service roads and privately-owned vehicle (POV) parking areas (approximately 30,000 sy).

2. Re-construction of Range 49 located at Ft. Carson, Colorado. Range 49 will be re-constructed for the Colorado Army National Guard and is located in the vicinity of other firing ranges located at Ft. Carson.

   The proposed Range 49 QTR would have various modifications to meet COARNG firing requirements (number of firing lanes), to site the three ranges within a single complex, and to meet downrange topography constraints. The pistol range would be 10 lanes; the Modified Record Fire Range would have 12 lanes; and the machine gun range would have four lanes, which would be overlaid on lanes 2, 5, 8, and 11 of the Modified Record Fire Range to compensate for limited target acquisition beyond 400 meters due to two hills downrange creating a small visibility window between them.

3. Construction of Phase II and III of the Centennial Training Site located at Ft. Carson, Colorado. The Centennial Training Site is a battalion size training complex. The proposed action includes the following.

   - Administrative support complex, mess hall, barracks, schoolhouse and possibly an Armory.
   - A vehicle motor pool.

Pursuant to the National Historic Preservation Act, the Colorado Army National Guard is requesting information regarding any concerns you have about the projects or known archaeological sites or traditional resources within the potentially affected area. This information will be coordinated with the Colorado Office of Archaeology and Historic Preservation according to the steps outlined in 36 CFR 800.3 through 36 CFR 800.7.

If you need any further information please contact me at 720-847-8902.

Sincerely,

Jeff M. Stalter
NEPA Coordinator,
Environmental Data Analyst
Colorado Army National Guard

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
ENVIRONMENTAL OFFICE
6848 SOUTH REVERE PARKWAY
CENTENNIAL, COLORADO 80112-6709

COARNG-ENV

02 June 2004

MEMORANDUM FOR RECORD

SUBJECT: Response from the Ute Mountain Tribe regarding Environmental Assessments

1. On 12 May 2004 I sent a memorandum via email to Mr. Tom Rice of the Ute Mountain Tribe Environmental Office regarding Environmental Assessments the Colorado Army National Guard (COARNG) is preparing for the following projects:

    a. Construction of a new Army Aviation Support Facility adjacent to the existing facility located at Buckley Air Force Base.

    b. Re-Construction of Range 49 located at Ft. Carson, Colorado.

    c. Construction of Phase II and III of the Centennial Training Site located at Ft. Carson, Colorado.

2. On 1 June 2004 I received a phone call from Mr. Rice informing me that the Ute Mountain Tribe did not have any concerns or questions regarding any of the proposals of the COARNG. Mr. Rice asked if the phone call could serve as the official response as he was extremely busy with other Tribal matters.

FOR THE CHIEF, ENVIRONMENTAL BRANCH:

Jeff M. Stalter
NEPA Coordinator,
Environmental Data Analyst
Colorado Army National Guard

SOUTHERN UTE TRIBE

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
ENVIRONMENTAL OFFICE
6848 SOUTH REVERE PARKWAY
CENTENNIAL, COLORADO 80112-6709

12 May 2004

Memorandum for: Southern Ute Tribe
Mr. Virgil Frazier
PO Box 737
Ignacio, CO 81137

From: Colorado Army National Guard
6846 S. Revere Pkwy.
Centennial, CO 80112

Dear Mr. Frazier,

The Colorado Army National Guard is preparing Draft Environmental Assessments on the following proposed actions:

1. Construction of a new Army Aviation Support Facility adjacent to the existing facility located at Buckley Air Force Base, Colorado. The proposed action involves the following:

   - Provide approximately 130,000 square feet (sf) of indoor space to be used for the following: helicopter maintenance (hangar) bays; a permanent air operations center; administrative offices for approximately 80 full-time and part-time COARNG and civilian personnel; and, storage space for parts, equipment and helicopters. Some of the indoor maintenance and storage space would be heated and some would be unheated.

   - Provide two separate, approximately 15,000 sf each, helicopter and ground support equipment storage buildings. The buildings would be unheated.

   - Provide an aircraft wash rack.

   - Provide a parking and secondary containment structure for unit fuel trucks (i.e., heavy expanded mobile tactical trucks (HEMTTs)).

   - Provide reinforced concrete-paved helicopter parking areas with sufficient tie-downs for new aircraft (approximately 100,000 square yards (sy)).

- Provide access/service roads and privately-owned vehicle (POV) parking areas (approximately 30,000 sy).

2. Re-construction of Range 49 located at Ft. Carson, Colorado. Range 49 will be re-constructed for the Colorado Army National Guard and is located in the vicinity of other firing ranges located at Ft. Carson.

   The proposed Range 49 QTR would have various modifications to meet COARNG firing requirements (number of firing lanes), to site the three ranges within a single complex, and to meet downrange topography constraints. The pistol range would be 10 lanes; the Modified Record Fire Range would have 12 lanes; and the machine gun range would have four lanes, which would be overlaid on lanes 2, 5, 8, and 11 of the Modified Record Fire Range to compensate for limited target acquisition beyond 400 meters due to two hills downrange creating a small visibility window between them.

3. Construction of Phase II and III of the Centennial Training Site located at Ft. Carson, Colorado. The Centennial Training Site is a battalion size training complex. The proposed action includes the following.

   - Administrative support complex, mess hall, barracks, schoolhouse and possibly an Armory.
   - A vehicle motor pool.

Pursuant to the National Historic Preservation Act, the Colorado Army National Guard is requesting information regarding any concerns you have about the projects or known archaeological sites or traditional resources within the potentially affected area. This information will be coordinated with the Colorado Office of Archaeology and Historic Preservation according to the steps outlined in 36 CFR 800.3 through 36 CFR 800.7.

If you need any further information please contact me at 720-847-8902.

Sincerely,

Jeff M. Stalter
NEPA Coordinator,
Environmental Data Analyst
Colorado Army National Guard

JOINT FORCE HEADQUARTERS – COLORADO
COLORADO NATIONAL GUARD
6848 SOUTH REVERE PARKWAY
CENTENNIAL, COLORADO 80112-6709

COARNG-ENV

08 July 2004

MEMORANDUM FOR RECORD

SUBJECT: Consultation with the Southern Ute Tribe.

1. On 22 April 2004 I spoke with Mr. Virgil Frazier, Director for environmental programs for the Southern Ute Tribe, regarding various construction Environmental Assessments (EA's) that the Colorado Army National Guard (COARNG) is preparing. I emailed and faxed the correspondence (attached) to Mr. Frazier. Mr. Frazier mentioned that their email system was not functioning but the fax did report that the letter went through.

2. On 12 May 2004 I contacted Mr. Frazier again and asked if he had received the fax copy of the correspondence regarding the COARNG EA's. Mr. Frazier said that he had received it but would like for me to fax again and he would review it. I sent the correspondence via fax again and the fax verified that it did indeed go through.

3. On 14 June I followed up with Mr. Frazier. Mr. Frazier apologized for not getting back with me and thanked me for working so vigilantly to involve the Tribe. Mr. Frazier said that he had the information and would get something to me whenever he had a chance to get to it.

4. To date the COARNG has not received anything from Mr. Frazier or the Southern Ute Tribe. If the COARNG receives any comments prior to completion of the EA those comments will be incorporated and addressed in the EA. Should any archeological evidence be discovered during any of the construction projects proposed by the COARNG construction will cease and all Tribes will be contacted immediately.

FOR THE CHIEF, ENVIRONMENTAL BRANCH:

Jeff M. Stalter
NEPA Coordinator,
Environmental Data Analyst
Colorado Army National Guard

APPENDIX D

NEWSPAPER PUBLIC NOTICE AFFIDAVITS

AURORA SENTINEL
PROOF OF PUBLICATION

STATE OF COLORADO
COUNTY OF ARAPAHOE }ss.

I HARRISON COCHRAN, do solemnly swear that I am the PUBLISHER of the AURORA SENTINEL; that the same is a weekly newspaper published in the County of Arapahoe, State of Colorado and has a general circulation therein; that said newspaper has been published continuously and uninterruptedly in said County of Arapahoe for a period of more than fifty-two consecutive weeks prior to the first publication of the annexed legal notice or advertisement; that said newspaper has been admitted to the United States mails as second-class matter under the provisions of the Act of March 30, 1923, entitled "Legal Notices and Advertisements", or any amendments thereof, and that said newspaper is a weekly newspaper duly qualified for publishing legal notices and advertisements within the meaning of the laws of the State of Colorado.

That the annexed legal notice or advertisement was published in the regular and entire issue of every number of said weekly newspaper for the period of 1 consecutive insertions; and that the first publication of said notice was in the issue of said newspaper dated May 20 A.D. 2004 and that the last publication of said notice was in the issue of said newspaper dated May 20 A.D. 2004.

In witness whereof I have hereunto set my hand this 20 day of May.

J. Harrison Cochran

Subscribed and sworn to before me, a notary public in the County of Arapahoe, State of Colorado, this 20 day of May A.D. 2004.

NANCY J. TRIMBLE NOTARY PUBLIC STATE OF COLORADO

Notary Public
My Commission expires November 26, 2005

PUBLIC NOTICE
Notice of Availability
Draft Environment Assessment
for Construction at the Colorado Army National Guard Army Aviation Support Facility Complex at Buckley Air Force Base, Colorado

COLORADO ARMY NATIONAL GUARD - Colorado Army National Guard (COARNG) has prepared a Draft Environmental Assessment (EA) to construct new facilities to accommodate modern helicopter systems and replace undersized and aging structures with larger and modern ones in order to maintain readiness and proficiency in current aircraft systems operations. The preferred alternative is to construct the facilities at the COARNG's Army Aviation Support Facility Complex located at Buckley Air Force Base, Colorado. The analysis considered potential effects of the proposed action on eleven resource areas: land use, air quality, noise, geology and soils, water resources, biological resources, socioeconomics, infrastructure, cultural and historic resources, environmental justice, and hazardous and toxic materials/wastes.

Copies of the Draft EA showing the analysis and proposed approval are available for review at the following locations:

- Aurora Public Library
  14949 E. Alameda Parkway
  Aurora, CO 80012
  303-739-6600
- Denver Public Library
  10 W. Fourteenth Ave. Pkwy.
  Denver, CO 80204-2731
  720-865-1111

Public comments on the Draft EA will be accepted for 30 days from the date of this publication.

Written comments and inquiries on the Draft EA should be directed to the Colorado Army National Guard Public Affairs Office, Colorado Department of Military and Veterans Affairs, 6848 South Revere Parkway, Centennial, Colorado 80112-6709, (720) 847-8850.

Published: May 20, 2004
Aurora Sentinel

AURORA SENTINEL
PROOF OF PUBLICATION

STATE OF COLORADO
COUNTY OF ARAPAHOE }ss.

I HARRISON COCHRAN, do solemnly swear that I am the PUBLISHER of the AURORA SENTINEL; that the same is a weekly newspaper published in the County of Arapahoe, State of Colorado and has a general circulation therein; that said newspaper has been published continuously and uninterruptedly in said County of Arapahoe for a period of more than fifty-two consecutive weeks prior to the first publication of the annexed legal notice or advertisement; that said newspaper has been admitted to the United States mails as second-class matter under the provisions of the Act of March 30, 1923, entitled "Legal Notices and Advertisements", or any amendments thereof, and that said newspaper is a weekly newspaper duly qualified for publishing legal notices and advertisements within the meaning of the laws of the State of Colorado.

That the annexed legal notice or advertisement was published in the regular and entire issue of every number of said weekly newspaper for the period of 1 consecutive insertions; and that the first publication of said notice was in the issue of said newspaper dated November 25 A.D. 2004 and that the last publication of said notice was in the issue of said newspaper dated November 25 A.D. 2004.

In witness whereof I have hereunto set my hand this 25 day of November.

H. Harrison Cochran

Subscribed and sworn to before me, a notary public in the County of Arapahoe, State of Colorado, this 25 day of November A.D. 2004.

NOTARY PUBLIC STATE OF COLORADO

Notary Public
My Commission expires November 26, 2005

PUBLIC NOTICE
Notice of Availability
Final Environmental Assessment and Draft Finding of No Significant Impact for Construction at the Colorado Army National Guard Army Aviation Support Facility Complex at Buckley Air Force Base, Colorado

COLORADO ARMY NATIONAL GUARD - Colorado Army National Guard (COARNG) has prepared a Final Environmental Assessment (EA) and a Draft Finding of No Significant Impact (FNSI) to construct new facilities to accommodate modern helicopter systems and replace undersized and aging structures with larger and modern ones in order to maintain readiness and proficiency in current aircraft systems operations. The preferred alternative is to construct the facilities at the COARNG's Army Aviation Support Facility Complex located at Buckley Air Force Base, Colorado. The analysis considered potential effects of the proposed action on eleven resource areas: land use, air quality, noise, geology and soils, water resources, biological resources, socioeconomics, infrastructure, cultural and historic resources, environmental justice, and hazardous and toxic materials/wastes.

Copies of the Final EA and Draft FNSI showing the analysis and proposed approval are available for review at the following locations:

- Aurora Public Library
  14949 E. Alameda Parkway
  Aurora, CO 80012
  303-739-6600
- Denver Public Library
  10 W. Fourteenth Ave. Pkwy.
  Denver, CO 80204-2731
  720-865-1111

Public comments on the Final EA and Draft FNSI will be accepted for 30 days from the date of this publication.

Written comments and inquiries on the Final EA and Draft FNSI should be directed to the Colorado Army National Guard Public Affairs Office, Colorado Department of Military and Veterans Affairs, 6848 South Revere Parkway, Centennial, Colorado 80112-6709, (720) 847-8850.

Published: November 25, 2004
Aurora Sentinel