

ENVIRONMENTAL ASSESSMENT

FOR

MACS-23 FACILITY IMPROVEMENT PROJECTS

BUCKLEY AIR FORCE BASE, COLORADO



Prepared by

Headquarters Air Force Center for Environmental Excellence

Environmental Analysis Division

August 2002

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COVER SHEET
ENVIRONMENTAL ASSESSMENT
FOR
MACS-23 FACILITY IMPROVEMENT PROJECTS
BUCKLEY AIR FORCE BASE, COLORADO

- a. Responsible Agency: Department of the Air Force
- b. The Proposed Action analyzed in this Environmental Assessment (EA) includes several improvement projects at the Marine Air Control Squadron (MACS)-23 Sites at Buckley AFB.
- c. Written comments and inquiries regarding this document should be directed to:
- Chief, Environmental Management
460 CES/CC
660 South Aspen Street (Stop 86)
Buckley Air Force Base, Colorado, CO 80011-9551
303-677-9402
- d. Designation: Environmental Assessment (EA)
- e. Abstract: This EA evaluates the potential environmental impacts from implementing the Proposed Action. The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The United States Air Force (USAF) has prepared this EA to assess the potential environmental effects resulting from the proposed improvement and construction projects at the MACS-23 facility necessary to improve the facility for current and future use and to better meet environmental requirements. Specific activities associated with the Proposed Action include the following projects:
- Project 1
1. Installation of roll-up door for two AN/TPS-63 radomes (Bldg 1613 and 1614).
 2. Installation of an asphalt parking lot (approximately 100 ft by 200 ft) at the old wastewater leach field adjacent to Building 1612.
 3. Installation of a concrete walkway adjacent to the existing walkway (i.e., widen the walkway) and install two (2) walkways crossing the adjacent ditch at Building 1610.

4. Installation of a concrete walkway perpendicular to the existing walkway leading from Building 1610 to the road.
5. Installation of concrete Pad A between Building 1610 and the restrooms.
6. Installation of concrete Pad B to be used as a foundation/base for storage sheds.
7. Installation of a concrete Pad C (40 ft by 40 ft) to be used as a foundation/base for the maintenance sheds and vans.

Project 2

1. Removal of existing roll-up door at the MT maintenance facility (Building 1302), raise height of door opening, and install new roll-up door.
 2. Removal of asphalt and installation of concrete paving adjacent to Building 1302.
 3. Removal of asphalt and installation of concrete paving adjacent to Building 1303.
 4. Installation of asphalt paving adjacent to Building 1302.
 5. Construction of two (2) prefabricated storage buildings to replace an existing storage shed. The proposed buildings would be used to store SL-3 equipment and hazardous materials.
 6. Construction of a 6-inch curb and installation of doors at the wash rack.
 7. Construction of a concrete swale adjacent to the existing tactical parking lot.
 8. Installation of an underground storm water drain system.
 9. Construction of an aluminum canopy (20 ft by 10 ft) at the MT maintenance facility (Building 1302).
 10. Construction of an aluminum canopy (30 ft by 16 ft) at MT maintenance facility (Building 1302).
 11. Installation of an 8 ft chain-link fence separating the MACS-23 area from the A-Battery.
 12. Construction of a concrete pad in front of the proposed howitzer gun storage shed and storage building.
 13. Construction of a six (6) bay howitzer gun shed (50 ft by 100 ft) with six (6) roll-up doors.
- f. Comments must be received by December 2, 2001.

FINDING OF NO SIGNIFICANT IMPACT
MACS-23 FACILITY IMPROVEMENT PROJECTS
BUCKLEY AIR FORCE BASE, COLORADO

AGENCY: United States Air Force, 460th Air Base Wing

BACKGROUND: Pursuant to the National Environmental Policy Act, the Council on Environmental Quality regulations implementing the Act (40 Code of Federal Regulations [CFR] 1500-1508), Department of Defense Directive 6050.1, Regulation 5000.2-R and Air Force Instruction 32-7061, *The Environmental Impact Analysis Process* as promulgated in 32 CFR Part 989, and other applicable federal regulations, the USAF conducted an assessment of the potential environmental consequences of the Proposed Action and the No Action Alternative. The Proposed Action includes twenty construction improvement projects located at the Marine Air Squadron (MACS)-23 facilities at Buckley Air Force Base (AFB) required to improve the site for current and future use as well as help meet environmental requirements.

PROPOSED ACTION: The Proposed Action consists of 20 improvement projects, which are listed and described below. The projects are divided into two projects (Project 1 and Project 2) based on their location within Buckley AFB.

Project 1

1. Installation of roll-up door for two AN/TPS-63 radomes (Bldg 1613 and 1614).
2. Installation of an asphalt parking lot (approximately 100 ft by 200 ft) at the old wastewater leach field adjacent to Building 1612.
3. Installation of a concrete walkway adjacent to the existing walkway (i.e., widen the walkway) and install two (2) walkways crossing the adjacent ditch at Building 1610.
4. Installation of a concrete walkway perpendicular to the existing walkway leading from Building 1610 to the road.
5. Installation of concrete Pad A between Building 1610 and the restrooms.
6. Installation of concrete Pad B to be used as a foundation base for storage sheds.
7. Installation of a concrete Pad C (40 ft by 40 ft) to be used as a foundation/base for the maintenance sheds and vans.

Project 2

1. Removal of existing roll-up door at the MT maintenance facility (Building 1302), raise height of door opening and install new roll-up door


2. Removal of asphalt and installation of concrete paving adjacent to Building 1302
3. Removal of asphalt and installation of concrete paving adjacent to Building 1303.
4. Installation of asphalt paving adjacent to Building 1302.
5. Construction of two (2) prefabricated storage buildings to replace an existing storage shed. The proposed buildings would be used to store SL-3 equipment and hazardous materials.
6. Construction of a 6-inch curb and installation of doors at the wash rack.
7. Construction of a concrete swale adjacent to the existing tactical parking lot.
8. Installation of an underground storm water drain system.
9. Construction of an aluminum canopy (20 ft by 10 ft) at the MT maintenance facility (Building 1302).
10. Construction of an aluminum canopy (30 ft by 16 ft) at the MT maintenance facility (Building 1302).
11. Installation of an 8 ft chain-link fence separating the MACS-23 area from the A-Battery.
12. Construction of a concrete pad in front of the proposed howitzer gun storage shed and storage building.
13. Construction of a six (6) bay howitzer gun shed (50 ft by 100 ft) with six (6) roll-up doors.

FACTORS CONSIDERED IN DETERMINING THAT NO ENVIRONMENTAL IMPACT STATEMENT IS REQUIRED: The EA analyzed the environmental impacts of the Proposed Action and potential alternatives, including No Action, taking into account all relevant environmental resource areas and conditions. The Air Force has examined numerous resource areas and conditions and found that the Proposed Action would have either no or non-significant adverse impacts on air quality, biological resources, geology, soils and topography, hazardous waste and hazardous material management, noise, prime and unique farmlands, and health and safety issues. The Environmental Assessment for MACS-23 Facility Improvement Projects, Buckley Air Force Base, Colorado, dated November 2001, is incorporated by reference. In coming to a conclusion of no significant impact I have considered the alternative of completing some but not all construction activity. While doing less than all projects would certainly have less impact on the environment, I find that difference insignificant. Additionally, after examining the overall planned paving areas, future erosion does not appear to be a significant factor. Paving the old parking area potentially moves the drainage erosion further from the buildings and does not appear to create a worse situation. Currently,

erosion effect is very minor as there is little elevation variation to cause runoff concerns. Furthermore, I have determined that moving Prairie Dogs should be accomplished by live removal in accordance with our Prairie Dog management practices plan.

PUBLIC NOTICE: The National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations, and the U.S. Air Force Environmental Impact Analysis Process require public review of the EA prior to Finding of No Significant Impact (FONSI) approval and implementation of the proposed action. The public had 30 days to review and submit comments on the EA. The public comment period ended on December 3, 2001. The comments and concerns submitted by the public are incorporated into the analysis of potential environmental impacts as part of the EA.

FINDING OF NO SIGNIFICANT IMPACT: Based on requirements of the National Environmental Policy Act, the Council on Environmental Quality, and CFR Part 989, I conclude that the environmental effects of the Proposed Action are not significant, and therefore, an environmental impact statement will not be prepared. A notice indicating that the EA was available for public review for a 30-day period was published in the Denver Post, a Denver, CO newspaper, on 2 November 2001. Printed copies of the EA and draft FONSI were placed in the public libraries in Aurora, and Denver, CO where they are available for review.



JAMES A. SANDS
Colonel, USAF
Installation Commander

7-17-02
Date

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SECTION 1

PURPOSE OF AND NEED FOR PROPOSED ACTION

The United States Air Force (USAF) has prepared this Environmental Assessment (EA) to assess environmental effects resulting from the implementation and operation of the Proposed Action at the Marine Air Control Squadron-23 (MACS-23) Facility at Buckley Air Force Base (AFB), Colorado.

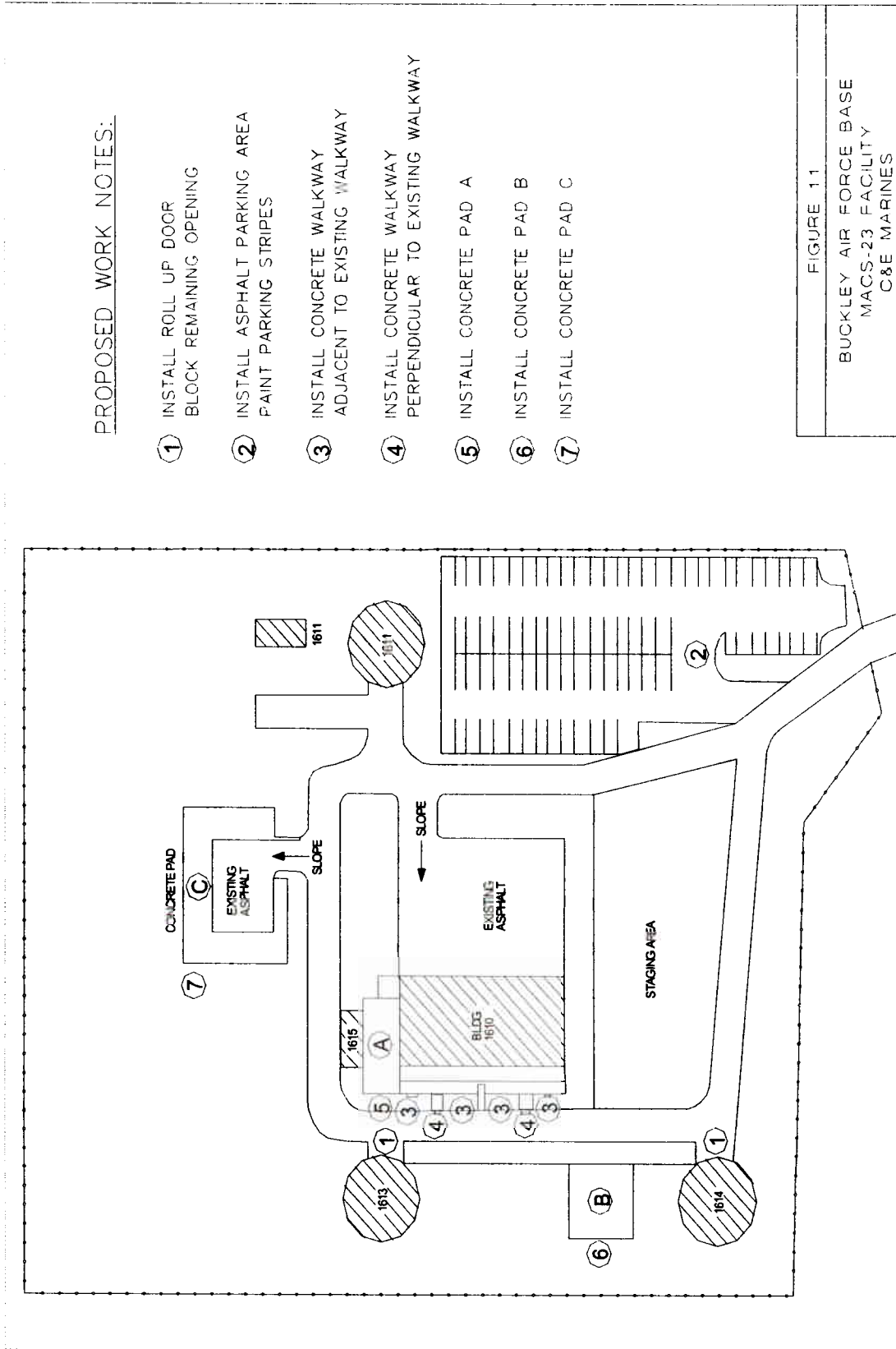
1.1 BACKGROUND

This section summarizes information on the purpose of and the need for the Proposed Action including several improvement projects at the MACS-23 Sites at Buckley AFB. The location of the proposed improvement projects, the scope of the environmental review, applicable regulatory requirements, and agency coordination are presented herein. In addition, the scope and organization of the EA are described.

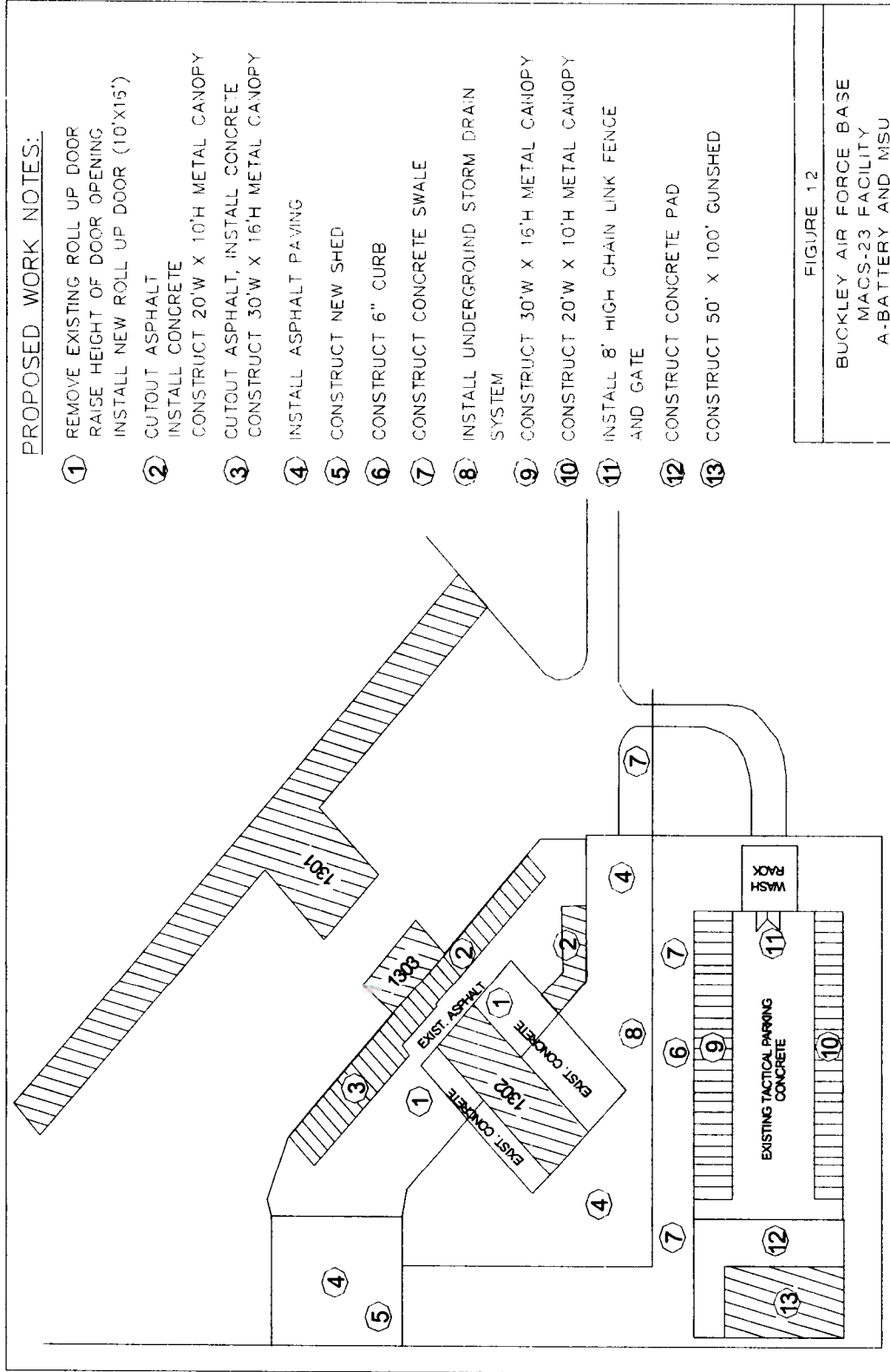
1.2 PURPOSE OF AND NEED FOR PROPOSED ACTION

Several improvement projects have been identified at the MACS-23 sites that are required to improve the sites for current and future use and to better meet environmental requirements. In total, 20 improvement projects have been identified, divided into two project numbers (Project 1 and Project 2) based on location of the project. Figures 1.1 and 1.2 illustrate the two project locations and the individual improvement projects within each area.

The Proposed Action improvement projects are listed below with their associated purpose and need explained below the project description.



Purpose and Need for Proposed Action



Project 1

1. Installation of roll-up door for two AN/TPS-63 radomes (Bldgs 1613 and 1614).

Purpose and Need: The installation of the doors would provide protection for the antenna housed inside the radomes. The antennae are currently exposed to the weather and wildlife, which has resulted in an increase in preventative and corrective maintenance to the antennae such as cleaning bird and animal wastes, motor cleaning, and lubrication. The doors would prevent such exposure and provide additional security during hours when the facility is unmanned.

2. Installation of an asphalt parking lot (approximately 100 feet [ft] by 200 ft) at the old wastewater leach field adjacent to Building 1612.

Purpose and Need: The parking lot currently located at this site was constructed to accommodate 15 active duty Marine vehicles. There are approximately 75 Marines on site during the weekends; therefore the current lot is inadequate to accommodate all the vehicles. Currently, the Marines are parking off-road, which causes damage to the vegetation and produces hazards to the vehicles during inclement weather (e.g., vehicles get stuck, increase in flat tires). An asphalt parking lot would alleviate these problems.

3. Installation of a concrete walkway adjacent to the existing walkway (i.e., widen the walkway) at Building 1610.

Purpose and Need: The existing walkway is too narrow and only allows room for one person.

4. Installation of concrete walkway perpendicular to existing walkway leading from Building 1610 to the road.

Purpose and Need: No walkway currently exists at the building entrance, therefore personnel are walking across the ditch and rocks that surround the building. Walking

over the rocks poses a health risk because they do not provide a stable walking surface.

5. Installation of concrete Pad A between Building 1610 and the restrooms.

Purpose and Need: The concrete pad would provide a walkway between Building 160 and the restrooms. The pad would also serve as a level and safe surface for a picnic and basketball area.

6. Installation of concrete Pad B to be used as a foundation/base for storage sheds.

Purpose and Need: The concrete pad would replace the current dirt/rock area with a foundation for the storage sheds. This would elevate the sheds and prevent damage from the elements. The sheds are used to store various equipment such as lawn equipment and batteries.

7. Installation of a concrete Pad C (40 ft by 40 ft) to be used as a foundation/base for the maintenance sheds and vans.

Purpose and Need: The concrete pad would replace the current dirt/rock area with a concrete foundation for the storage sheds and storage of the vans. This would elevate the sheds and prevent damage from the elements as well as prevent leakage from the vans from being deposited directly onto the ground.

Project 2

1. Removal of existing roll-up door at the Motor Transport (MT) maintenance facility (Building 1302), raise height of door opening, and install new roll-up door.

Purpose and Need: The size of the bay doors is inadequate to house the 5-ton trucks housed in the building. Currently the rear of the modified trucks have to be disassembled by removing the canvas and bows in order to fit the trucks into the building for regular maintenance.

Purpose and Need for Proposed Action

2. Removal of asphalt and installation of concrete paving adjacent to Building 1302 and construction of a 20 ft wide by 10 ft high metal canopy.

Purpose and Need: Large equipment and vehicles are stored in this area and the asphalt under the storage area is cracked. The concrete paving would provide a more stable surface for storage.

Currently all equipment stored at the lot is exposed and uncovered. Drip pans for recovery of petroleum, oil, and lubricants (POL) have been placed beneath the equipment for compliance with environmental regulations. However, after a rain, personnel have to spend time on preventative and corrective maintenance cleaning out the drip pans for potentially contaminated material. The awning would cover the equipment and keep rainwater out of the POL drip pans.

3. Removal of asphalt and installation of concrete paving adjacent to Building 1303 and construction of a 30 ft wide by 16 ft high metal canopy.

Purpose and Need: Large equipment and vehicles are stored in this area and the asphalt under the storage area is cracked. The concrete paving would provide a more stable surface for storage. As described in number 2 above, the canopy would cover the equipment and keep rainwater out of the POL drip pans.

4. Installation of asphalt paving adjacent to Building 1302.

Purpose and Need: Equipment storage sheds are located in this area and the asphalt within the area is cracked. The concrete paving would provide a more stable surface for storage.

5. Construction of two (2) prefabricated storage buildings to replace an existing storage shed. The proposed buildings would be used to store heating, ventilation, and air conditioning (HVAC) equipment and hazardous materials.

Purpose and Need: The existing storage building is in a state of disrepair and is in need of replacement. The existing shed is not of sufficient quality or size to accommodate all of the items that require storage. Because of this, some materials such as batteries are stored outside of the building, a potential environmental hazard. The construction of the two prefabricated buildings would provide adequate storage space for the equipment and potentially hazardous materials.

6. Construction of a six (6) inch curb and installation of doors at the wash rack.

Purpose and Need: The wash rack is used to wash vehicles and howitzer guns. The wash rack has an oil/water separator, but currently, drainage occurs through the open doors. The addition of a 6-inch curb to the driveway would prevent water from draining onto the surrounding soil. The curb would also prevent storm water runoff, which is currently causing erosion of the soil surrounding the wash rack.

7. Construction of a concrete swale adjacent to the existing tactical parking lot.

Purpose and Need: Storm water runoff from this area is causing soil erosion. A concrete swale would prevent erosion.

8. Installation of an underground storm water drain system.

Purpose and Need: An underground storm water drainage system is required in this area to prevent excessive soil erosion.

9. Construction of an aluminum canopy (20 ft by 10 ft) at the MT maintenance facility (Building 1302).

Purpose and Need: Currently all equipment stored at the MT lot is exposed and uncovered. Drip pans for recovery of POL have been placed beneath the equipment for compliance with environmental regulations. However, after a rain, personnel have to spend time on preventative and corrective maintenance cleaning out the drip

pans for potentially contaminated material. The awning would cover the equipment and keep rainwater out of the POL drip pans.

10. Construction of an aluminum canopy (30 ft by 16 ft) at MT maintenance facility (Building 1302).

Purpose and Need: Same as number 9 above.

11. Installation of an 8 ft chain-link fence separating the MACS-23 area from the A-Battery.

Purpose and Need: The chain-link fence would provide additional security and convenience. Currently, the area shared by the MACS-23 unit and A Battery is under the control of the A Battery. MACS-23 personnel can only enter the area when A Battery personnel are available. The addition of the fence would separate the area into two portions and give MACS-23 personnel access to the area whenever necessary.

12. Construction of a concrete pad in front of the proposed howitzer gun storage shed and storage building.

Purpose and Need: The construction of the concrete pad would provide easy access to the buildings/structures. If the concrete is not installed, travel to and from the buildings will remain via dirt and rock, causing soil erosion and making transport of the howitzer guns difficult.

13. Construction of a six (6) bay howitzer gun shed (50 ft by 100 ft) with six (6) roll-up doors.

Purpose and Need: Currently the howitzer guns are stored outside and are exposed to the elements. The proposed gunshed would protect the howitzer guns from the elements, reduce the amount of preventative maintenance required, and provide added security.

1.3 LOCATION AND DESCRIPTION OF BUCKLEY AIR FORCE BASE

Buckley AFB is located in Arapahoe County, Colorado. Figure 1.3 illustrates the location of Buckley AFB and Figure 1.4 illustrates that location of the Proposed Action projects on base.

The 460th Air Base Wing is the current host for Buckley AFB. The base supports the following civilian and Department of Defense (DoD) tenants: 2nd Space Warning Squadron, Air Force Office of Special Investigations, Aerospace Data Facility, United States Property and Fiscal Office for Army and Air Force, Army Industrial Hygiene Midwest, 743rd Army Military Intelligence Battalion, Air National Guard (140th Wing), Army National Guard [2nd/35th Aviation Battalion, First Battalion, 89th Troop Command, 101st Army Band Detachment 1, 128th Military Public Affairs HQ, STARC (Detachment 5 Medical Support, 8th Weapons of Mass Destruction Civil Support Team), and Army Aviation Support], Navy/Marines (Navy/Marine Training Center, A-Battery, 5th Battalion, 14th Marines, Marine Air Control Squadron), and Civil Air Patrol.

1.4 SCOPE OF THE ENVIRONMENTAL REVIEW

This EA has been conducted in accordance with the President's Council on Environmental Quality (CEQ) regulations, Title 40 of the Code of Federal Regulations (CFR) §§1500-1508, as they implement the requirements of the National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. §4321, *et seq.*, and Air Force Instruction (AFI) 32-7061, *The Environmental Impact Analysis Process*, as promulgated in 32 CFR Part 989. 32 CFR 989 addresses implementation of NEPA and directs Air Force officials to consider environmental consequences as part of the planning and decision-making process.

Purpose and Need for Proposed Action

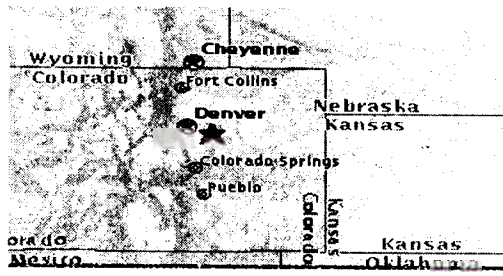
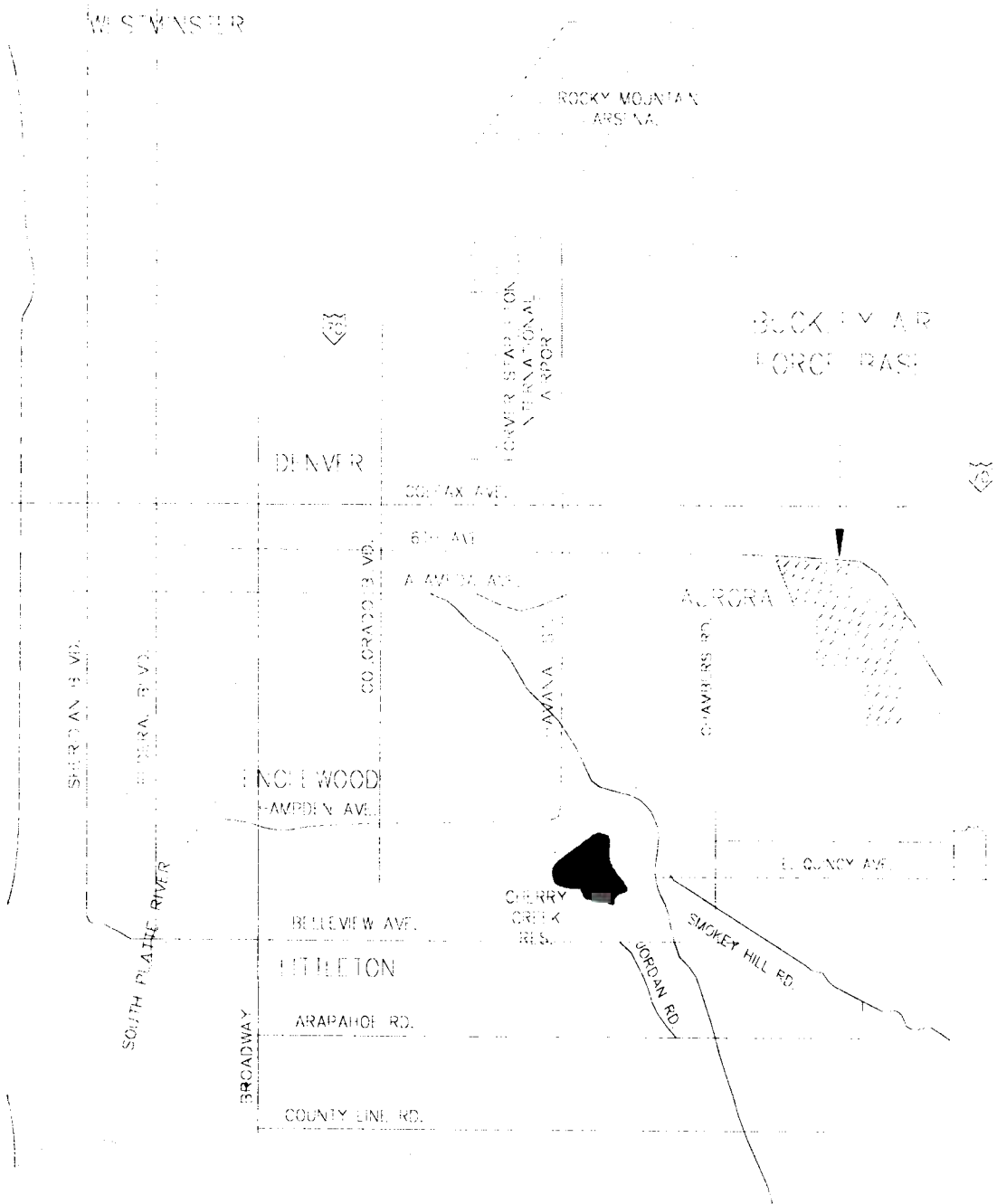


FIGURE 13
 BUCKLEY AIR FORCE BASE
 MACS-23 FACILITY
 SITE LOCATION

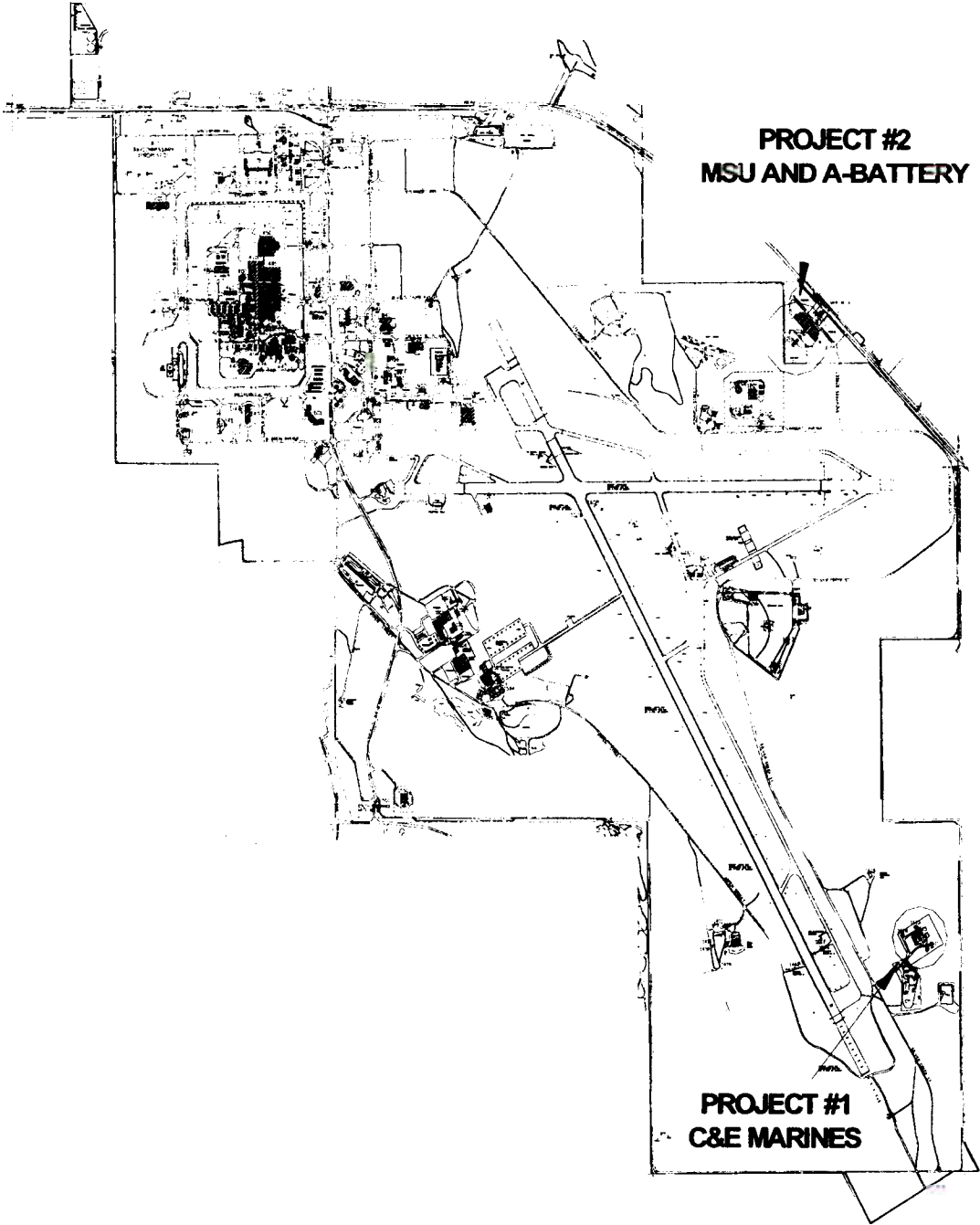


FIGURE 14
BUCKLEY AIR FORCE BASE
MACS-23 FACILITY
PROJECT LOCATIONS

The study area for this EA includes Buckley AFB and its region of influence (ROI). The ROI determines the geographical area to be addressed as the affected environment. Although the facility boundary may constitute the ROI limit for some resources, potential effects associated with certain issues (e.g., transportation and air quality) transcend these limits. This EA describes and addresses the potential environmental and socioeconomic effects of the Proposed Action.

1.4.1 Resources Not Analyzed in this EA

Several resource areas and conditions have been examined and it has been determined that the Proposed Action would have no, or an inconsequential, effect to these resources (see Table 1.1). These resources include air space, land use, socioeconomics, cultural resources, environmental justice, transportation, utilities, wetlands, and visual resources. Table 1.1 summarizes the resources and the associated rationale for no further analysis in this EA.

1.4.2 Resources Analyzed in this EA

Resources that have a potential to be affected were considered in detail to provide sufficient evidence for determining whether or not additional analysis is required per 40 CFR Part 1508.9. The resources analyzed in detail were air quality, biological resources, geology, hazardous material and hazardous waste management, noise, stormwater, radon, prime and unique farmland, and health and safety issues.

1.5 ORGANIZATION OF THE EA

The completed EA includes: Section 1.0, containing a statement of the purpose and need for the Proposed Action, definitions of the sites and locations for the Proposed Action, a presentation of the scope of the environmental review, and an outline of the organization of the EA. Section 2.0 describes the Proposed Action, the No Action Alternative, and presents a comparison of any potential environmental consequences from these alternatives. Section 3.0 contains a general description of the environmental

resources that potentially could be affected by the Proposed Action and No Action Alternative. Section 4.0 analyzes the environmental consequences of the Proposed Action and No Action Alternative; identifies any unavoidable environmental effects; identifies any mitigation measures required to offset adverse effects; and describes any irreversible commitment of resources. Section 5.0 lists the preparers of the EA, and Section 6.0 identifies the persons and agencies consulted in the preparation of the EA. Section 7.0 lists source documents relevant to the preparation of the EA. Section 8.0 includes a complete list of acronyms used in the EA.

TABLE 1.1
RESOURCES ELIMINATED FROM FURTHER CONSIDERATION

RESOURCE	REASON ELIMINATED FROM ANALYSIS
Air Space	The Proposed Action does not involve any flying missions and therefore would have no effect on any of the flying missions at Buckley AFB or any other airspace; therefore, effects on air space are not analyzed.
Land Use	The Proposed Action would have no effect on the current land use of the facility. The land use during and after the Proposed Action would remain the same and would be consistent with existing facility operations.
Socioeconomics	The Proposed Action would have no effect on the socioeconomics of the area. The Proposed Action would be consistent with existing facility operations, therefore no social or economic changes would occur due to the Proposed Action.
Cultural Resources	The Proposed Action would have no effect on the cultural resources of the area. The base has been surveyed for archeological artifacts and historic buildings, including Cold War Era, and no cultural resources have been identified within the project areas. The Proposed Action would not effect cultural resources and the operations would be consistent with existing facility operations.
Environmental Justice	The ROI surrounding Buckley AFB includes one low income/minority neighborhood (as defined by zip codes). Although the Proposed Action would occur in close proximity to this area, the action would not change the land use or operations of the MACS-23 sites at Buckley AFB. Therefore the Proposed Action would not introduce environmentally consequential changes to this area. The Proposed Action would have no adverse effect relating to environmental justice.
Transportation	No effects on the local transportation systems (including air and ground transportation) would result from the Proposed Action. The Proposed Action would be consistent with existing facility operations.
Utilities	No effects on the local utilities (including water, wastewater, solid waste, electricity, and natural gas) would result from the Proposed Action. The Proposed Action does not require the installation or conversion of any utilities within the MACS-23 sites.
Wetlands	No wetlands are identified within or adjacent to the Proposed Action facility boundaries, therefore the Proposed Action would have no effect on wetlands.
Visual Resources	The Proposed Action would not have adverse effects with regard to the area's visual resources. The Proposed Action would be consistent with existing facility operations and layout.

SECTION 2

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This section includes a detailed description of the Proposed Action and a description of the No Action Alternative.

2.1 DETAILED DESCRIPTION OF THE PROPOSED ACTION

The Proposed Action consists of 20 improvement projects, which are listed and described below. The projects are divided into two projects (Project 1 and Project 2) based on their location within Buckley AFB (Figures 1.1 and 1.2).

Project 1

1. Installation of roll-up door for two AN/TPS-63 radomes (Bldg 1613 and 1614).
2. Installation of an asphalt parking lot (approximately 100 ft by 200 ft) at the old wastewater leach field adjacent to Building 1612.
3. Installation of a concrete walkway adjacent to the existing walkway (i.e., widen the walkway) and install two (2) walkways crossing the adjacent ditch at Building 1610.
4. Installation of a concrete walkway perpendicular to the existing walkway leading from Building 1610 to the road.
5. Installation of concrete Pad A between Building 1610 and the restrooms.
6. Installation of concrete Pad B to be used as a foundation/base for storage sheds.

7. Installation of a concrete Pad C (40 ft by 40 ft) to be used as a foundation/base for the maintenance sheds and vans.

Project 2

1. Removal of existing roll-up door at the MT maintenance facility (Building 1302), raise height of door opening, and install new roll-up door.
2. Removal of asphalt and installation of concrete paving adjacent to Building 1302.
3. Removal of asphalt and installation of concrete paving adjacent to Building 1303.
4. Installation of asphalt paving adjacent to Building 1302.
5. Construction of two (2) prefabricated storage buildings to replace an existing storage shed. The proposed buildings would be used to store SL-3 equipment and hazardous materials.
6. Construction of a 6-inch curb and installation of doors at the wash rack.
7. Construction of a concrete swale adjacent to the existing tactical parking lot.
8. Installation of an underground storm water drain system.
9. Construction of an aluminum canopy (20 ft by 10 ft) at the MT maintenance facility (Building 1302).
10. Construction of an aluminum canopy (30 ft by 16 ft) at MT maintenance facility (Building 1302).

11. Installation of an 8 ft chain-link fence separating the MACS-23 area from the A-Battery.
12. Construction of a concrete pad in front of the proposed howitzer gun storage shed and storage building.
13. Construction of a six (6) bay howitzer gun shed (50 ft by 100 ft) with six (6) roll-up doors.

2.2 NO ACTION ALTERNATIVE

The No Action Alternative would be to continue to utilize the existing MACS-23 sites as they currently exist. No improvements would be completed on the parking lots, walkways or buildings, and no additional storage buildings or shelters would be constructed. MACS-23 personnel would continue to utilize the base buildings, storage, and infrastructure in the current configuration and condition.

2.3 IDENTIFICATION OF THE PREFERRED ALTERNATIVE

The Proposed Action is the preferred alternative because the needs identified in Section 1 would be met. Overall, the Proposed Action would also be the environmentally preferred alternative. The Proposed Action would be beneficial to the environment for the following reasons:

- Installation of concrete walkways and pads adjacent to buildings would reduce the impact (i.e., erosion) on the soils and vegetation near buildings.
- Construction of new storage buildings would allow hazardous materials to be stored properly, therefore reducing the risk of release to the environment.
- Construction of curbs, stormwater swales, and underground stormwater drain systems would control stormwater runoff and significantly reduce erosion of soil and impacts on the vegetation.

- Construction of aluminum canopies to cover equipment stored with POLs would protect the equipment and the drip pans that recover leaking POLs. There would be no potential for rainwater to enter the drip pans under the cover of the awnings, therefore overflow would be unlikely and no unnecessary wastes would be created.

2.4 COMPARISON OF THE ENVIRONMENTAL EFFECTS OF ALL ALTERNATIVES

Table 2.1 compares the environmental effects of the Proposed Action and the No Action Alternative.

**TABLE 2.1
COMPARISON OF ENVIRONMENTAL CONSEQUENCES**

Environmental Resource Areas	Proposed Action	No Action Alternative
Air Quality	Short term – Minor Adverse Impacts	Short term – No Impacts
	Long term – No Impacts	Long term – No Impacts
Biological Resources	Short term – Minor to Moderate Adverse Impacts	Short term – No Impacts
	Long term – No Impacts	Long term – No Impacts
Cultural Resources	Short term – No Impacts	Short term – No Impacts
	Long term – No Impacts	Long term – No Impacts
Geology and Soils	Short term – Minor Adverse Impacts	Short term – No Impacts
	Long term – Minor Beneficial Impacts	Long term – Minor Adverse Impacts
Hazardous Material and Waste Management	Short term – No Impacts	Short term – No Impacts
	Long term – Minor Beneficial Impacts	Long term – Minor Adverse Impacts
Noise	Short term – Minor Adverse Impacts	Short term – No Impacts
	Long term – No Impacts	Long term – No Impacts
Radon	Short term – No Impacts	Short term – No Impacts
	Long term – No Impacts	Long term – No Impacts
Stormwater	Short term – Minor Adverse Impacts	Short term – No Impacts
	Long term – Minor Beneficial Impacts	Long term – Minor Adverse Impacts
Prime and Unique Farmland	Short term – No Impacts	Short term – No Impacts
	Long term – No Impacts	Long term – No Impacts
Health and Safety Issues	Short term – Minor Adverse Impacts	Short term – No Impacts
	Long term – Minor Beneficial Impacts	Long term – Minor Adverse Impacts

SECTION 3

AFFECTED ENVIRONMENT

This section presents information on environmental conditions or resources potentially affected by the Proposed Actions and the No Action Alternative described in Section 2.0. The environmental components addressed include relevant natural or human environments that are likely to be affected.

Under NEPA, the analysis of environmental conditions should address only those areas and environmental resources with the potential to be affected by the Proposed Action or alternatives; locations and resources with no potential to be affected need not be analyzed. The environment includes all areas and lands that might be affected, as well as the cultural and natural resources they contain or support. This section establishes the basis for assessing impacts of the alternatives on the affected environment provided in Section 4.0.

The ROI to be studied is defined as the area affected by the proposed project. Although the site boundary may constitute the ROI limit for some resources, potential impacts associated with certain issues (e.g., transportation, and air quality) transcend these limits.

3.1 PHYSICAL AND DEMOGRAPHIC SETTING

Buckley AFB is located on a 3,250 acre parcel within the city of Aurora, in Arapahoe County, Colorado. Aurora is the second largest city in the Denver metropolitan area, and is approximately five (5) miles east of Denver (COANG, 1997). The 460th Air Base Wing is the host organization at Buckley AFB as of 01 October 2001.

In October 2000, the Air Force began providing infrastructure and quality of life services to it and more than twenty tenants. The Air Force (460th ABW) is responsible to provide multiple services to active-duty personnel at Buckley AFB and ultimately the entire Denver metropolitan military community including guard members, reservists, and retirees (USAF, 2001b).

3.2 AIR QUALITY AND REGULATIONS

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

The Clean Air Act (CAA) of 1970 directed the United States Environmental Protection Agency (USEPA) to develop, implement, and enforce strong environmental regulations that would ensure cleaner air. To do so, the USEPA developed concentration-based standards called National Ambient Air Quality Standards (NAAQS). The USEPA established both primary and secondary NAAQS under the provisions of the CAA. Primary standards define levels of air quality necessary to protect public health with an adequate margin of safety. Secondary standards define levels of air quality necessary to protect public welfare (i.e., soils, vegetation, property, and wildlife) from any known or anticipated adverse effects.

NAAQS are currently established for six air pollutants (known as “criteria air pollutants”) including carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), sulfur oxides (SO_x, measured as sulfur dioxide, SO₂), lead (Pb), and particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM₁₀).

SO₂ in the atmosphere is converted to various conjugated sulfur compounds, which form physically harmful vapors or micro droplets (e.g., sulfuric acid) when combined

with particulate matter and water. Most SO_x compounds are irritants to the upper respiratory tract, and prolonged exposure can cause permanent lung damage.

Although O₃ is considered one of the criteria air pollutants and is measurable in the atmosphere, it is considered a secondary pollutant because O₃ is typically not emitted directly from most emissions sources. O₃ is formed in the atmosphere by photochemical reactions involving previously emitted pollutants or ozone precursors; therefore, O₃ is not considered when calculating emissions. Ozone precursors consist primarily of nitrogen oxides (NO_x) and volatile organic compounds (VOCs) that are directly emitted from various emission sources. For this reason, an attempt is made to control O₃ through the control of NO_x and VOCs. On June 5, 1998 the USEPA issued the final rule identifying areas where the 1-hour NAAQS for ozone is no longer applicable. Under this rule, the 1-hour standard will not apply to areas in which no violation of the previous 1-hour ozone standards have occurred. However, in areas in which past violations have occurred, the 1-hour ozone standard will continue to apply.

The CAA does not make the NAAQS directly enforceable. However, the CAA does require each state to promulgate a state implementation plan (SIP) that provides for implementation, maintenance, and enforcement of the NAAQS in each air quality control region (AQCR) in the state. The CAA also allows states to adopt air quality standards that are more stringent than the Federal standards. The State of Colorado has adopted each of the NAAQS as the Colorado standards except for SO₂ as listed in Table 3.1. For SO₂, Colorado has adopted more stringent standards for each of the averaging times (COANG, 2000a).

Buckley AFB is under the jurisdiction of the Colorado Department of Public Health and Environment (CDPHE), which is tasked with enforcing the CAA Title V Air Operating Permit (Permit No. 950PAR118 August, 1997). The permit expires August 28, 2002 and the installation has submitted a Title V renewal application per CDPHE regulations. The stationary sources of regulated emissions at Buckley AFB include 58

natural gas fired boilers, 33 dual fired boilers that primarily use natural gas but have diesel back-up, 34 diesel generators, 4 to 6 gasoline-fired arresting barrier engines, 31 regulated aboveground storage tanks (ASTs), 2 degreasing stations, and 1 abrasive paint removal station. Abrasive paint removal is performed in the Corrosion Control Hangar (Building 800) using hand-held sanders. While mobile sources are not considered under the CAA Title V operating permit or the Colorado operating permit program, they are significant components of total base emissions. Mobile sources include on- and off-road vehicles and equipment, aerospace ground equipment, and aircraft operations (COANG, 2000a).

The Denver metropolitan area, which includes most of Arapahoe County and Buckley AFB, is currently in full compliance with the National Ambient Air Quality Standards. Attainment status for ozone emissions was achieved on 11 October 2001, carbon monoxide (CO) on 14 January 2002, and for PM₁₀ on 9 August 2002.

The 2000 air emission inventory performed at Buckley AFB found that the installation is a major source of potential emissions from stationary sources exceeding 100 tons per year (tpy) of any criteria pollutants or 10 to 25 tpy of any single or combination of hazardous air pollutants (HAPs). The base is considered a major source of sulfur oxides (SO_x) and oxides of nitrogen (NO_x), which are regulated pre-cursor pollutants for particulate matter less than 10 microns (PM₁₀) within the Denver metropolitan PM₁₀ non-attainment area.

The Title V Air Operation Permit (No. 950PAR118) places basewide emission limits on all criteria pollutants, but does not impose operational restrictions. Buckley AFB's permit limits emissions to below major Prevention of Significant Deterioration (PSD) source thresholds effective for PM₁₀ attainment areas. (BAH, 2000). The Permit Engineering Review established base 1996 actual emissions levels for SO_x and NO_x of 142 and 23 tons per year (tpy), respectively. According the 1997 Permit Technical Review, a major modification of source emissions resulting in a net increase of at least 40

typy SO_x or NO_x above the base levels would subject Buckley AFB to Lowest Achievable Emission Rates (LAER), and require emission offsets. Emissions of SO_x and NO_x for CY 2000 were less than the base levels, therefore no PSD issues are identified for CY 2000 (BAH, 2000).

Buckley AFB has also developed its own operational restrictions as an internal strategy for compliance. The 2000 inventory shows Buckley AFB to be well below permit limits for all pollutants (COANG, 2000).

**TABLE 3.1
NATIONAL AND STATE AMBIENT AIR QUALITY STANDARDS**

Criteria Pollutant	Averaging Time	Primary NAAQS ^{a,b,c}	Secondary NAAQS ^{a,b,d}	Colorado Standards ^{a,b}
Carbon Monoxide	8-hour 1-hour	9 ppm (10 mg/m ³) 35 ppm (40 mg/m ³)	No standard No standard	9 ppm (10 mg/m ³) 35 ppm (40 mg/m ³)
Nitrogen Dioxide	Annual	0.0543 ppm (100 µg/m ³)	0.0543 ppm (100 µg/m ³)	0.0543 ppm (100 µg/m ³)
Ozone	1 hour ^e	0.12 ppm (235 µg/m ³)	0.12 ppm (235 µg/m ³)	0.12 ppm (235 µg/m ³)
PM ₁₀	Annual 24-hour	50 µg/m ³ 150 µg/m ³	50 µg/m ³ 150 µg/m ³	50 µg/m ³ 150 µg/m ³
Sulfur Oxides (measured as SO ₂)	Annual 24-hour 3-hour	80 µg/m ³ 365 µg/m ³ No standard	No standard No standard 1,300 µg/m ³	15 µg/m ³ 100 µg/m ³ 700 µg/m ³

- PM₁₀ Particles with aerodynamic diameters less than or equal to a nominal 10 micrometers
- ^a The 8-hour primary and secondary ambient air quality standards are met at a monitoring site when the average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to 0.08ppm.
- ^b The NAAQS and Colorado standards are based on standard temperature and pressure of 25degrees Celsius and 760 millimeters of mercury.
- ^c National Primary Standards: The levels of air quality necessary to protect the public health with an adequate margin of safety. Each state must attain the primary standards no later than three years after the state implementation plan is approved by the USEPA.
- ^d National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after the state implementation plan is approved by the USEPA.

3.2.1 Meteorology

Buckley AFB has a semiarid climate that is characteristic of the High Plains. It typically experiences low humidity, abundant sunshine, low precipitation, and large diurnal temperature fluctuations. The average annual temperature is 50.1 degrees

Fahrenheit (°F). July is the hottest month with an average maximum temperature of 88.8 °F, and the coolest is January with an average minimum temperature of 15.5 °F. Precipitation fluctuates throughout the year with the wettest months occurring in spring and summer. The average annual precipitation is 16.3 inches. Buckley AFB receives approximately 53 inches of snowfall per year. The prevailing winds within the local area are predominantly from the south and average 8.6 miles per hour (COANG, 1999).

3.2.2 Regional Air Quality

The fundamental method by which USEPA tracks compliance with the NAAQS is the designation of a particular region as “attainment” or “non-attainment.” Based on the NAAQS, each state is divided into four types of areas for each of the criteria pollutants:

- Those areas that are in compliance with the NAAQS (attainment),
- Those areas that don’t meet the ambient air quality standards (non-attainment),
- Those areas that were formerly non-attainment, but are currently in maintenance of attainment status, and
- Those areas where a determination of attainment/non-attainment cannot be made due to a lack of monitoring data (unclassifiable – treated as attainment until proven otherwise).

The Denver metropolitan area, which includes Buckley AFB, is presently designated by USEPA as in attainment for CO and for the 1-hour ozone standard, and moderate non-attainment for PM10.

3.2.3 Baseline Air Emissions

Buckley AFB is in the Denver Metropolitan Intrastate Air Quality Control Region 36. An air emissions inventory is an estimate of total mass emission of pollutants generated from a source or sources over a period of time, typically a year. The quantity of air

pollutants is generally measured in tons per year or tpy. Emission sources may be categorized as either mobile or stationary emission sources. Typically, mobile emission sources at Air Force installations include aircraft, surface vehicles, aerospace ground equipment, and weapons testing. Stationary emission sources may include boilers, generators, fueling operations, industrial processes, and burning activities among others. Accurate air emissions inventories are needed for estimating the relationship between emissions sources and air quality. The 2000 Air Emissions Inventory summary for Buckley AFB is presented in Table 3.2 and includes mobile and stationary sources.

TABLE 3.2
STATIONARY AIR EMISSIONS INVENTORY

Pollutant Emission Sources	CO (tpy)	VOC (tpy)	SO _x (tpy)	NO _x (tpy)	PM ₁₀ (tpy)
1998 AQCR 36 Emission Inventory ¹	4,761	13,727	34,732	37,079	3,211
Buckley AFB Mobile Emissions ²	403	222	6.32	105	3.62
Buckley AFB Stationary Emissions ²	31.91	8.99	14.85	101.49	70.59
Conformity Rule De Minimis Threshold	100	NA	NA	NA	100

1 Source: ANG 1999

2 Source: Buckley AFB 2000 Air Emissions Inventory

3.2.4 Radon Gas

Radon is an odorless, tasteless radioactive gas. It is released by the breakdown of uranium-bearing granite deposits. Overexposure to radon can cause lung cancer. Building materials or fill soils used in construction can emit this gas. Radon is a naturally occurring gas in Colorado soils. The level at which the USEPA recommends consideration of radon mitigation measures is 4 picocuries per liter (pCi/L).

Per 40 CFR Part 195, the USAF requires that buildings are tested for radon if the structure is occupied by personnel for more than 8 hours per day. Buckley AFB screens for radon in accordance with Air Force policy for structures occupied on a full time basis.

Radon sampling was conducted between 1993 and 1997 at four buildings on base. The results range from 0.2 to 6.9 pCi/L (COANG, 2000a). All of the sampling results, except one, were below the USEPA standard of 4.0 pCi/L. Building 600 was the exception with radon levels of 6.9 pCi/L.

The buildings and storage sheds included in this EA are not occupied for 8 hours per day and therefore do not require testing under federal regulations or USAF policy.

3.3 BIOLOGICAL RESOURCES

Biological resources include the native and introduced plants and animals in the project area. For discussion purposes, biological resources are divided into vegetation, wildlife, sensitive species, and sensitive habitats. The ROI for discussion of biological resources and potential impacts on these resources include on-site (where construction is proposed) and adjacent property.

Buckley AFB is located in the Great Plains-Palouse Dry Steppe Province Ecoregion (Bailey, 1995). This region is characterized by steppes or prairies composed of short bunchgrass or sparsely distributed grasses. Buckley AFB is located within the lowlands of the South Platte River basin. Areas to the north, south, and east are largely undeveloped and support grazing and farming activities. Areas to the west are primarily urbanized (i.e., Denver metropolitan area). Historically, the native climax vegetation for the region was predominantly mixed bunchgrass prairie (USAF, 2000). The large acreage of open prairie, the riparian corridor associated with East Tollgate Creek, and the open water at Williams Lake on Buckley AFB provide a diversity of habitats that supports many animal species. Wildlife found on Buckley AFB is typical of the high plains of Colorado.

Numerous studies have been conducted for biological resources on and around Buckley AFB. These studies include the Colorado Natural Heritage Report (COANG, 2000b) and the archives search report findings conducted for the base. The Colorado

Division of Wildlife (CDOW) has species distribution results (including state-listed species) available for reptiles, amphibians, mammals, and birds, along with a data system containing element occurrence records (CDOW, 2001). The US Fish and Wildlife Service (USFWS) and the CDOW publish current lists of threatened and endangered species on their respective web sites (USFWS, 2001, and CDOW, 2001). All these data sources were used in the development of the biological resources section of this EA.

3.3.1 Vegetative Communities

Buckley AFB is characterized as a plains grassland ecosystem composed of a random assortment of grass communities. The crested wheatgrass (*Agropyron cristatum*) community is the dominant vegetative community occurring on base, particularly near developed portions of the base. The midgrass prairie, the second most common vegetation type, occurs primarily in the southern region of the base, and includes species such as western wheatgrass (*Agropyron smithii*).

Vegetation currently found at Buckley AFB is composed of both native and exotic species. The general plant communities consist of grassland prairie, riparian corridor, and exotic weed monocultures. The vegetative communities include bottomland meadow, cottonwood/willow, crested wheatgrass, meadow, midgrass prairie, ornamental trees, rubber rabbitbrush, weedy forb, and yucca stand (COANG, 1999). Typical vegetation types include buffalo grass (*Buchloe dactyloides*), grama (*Bouteloua* spp.), wheatgrass (*Agropyron* spp.), needlegrass (*Stipa* spp.), sunflower (*Helianthus* spp.), locoweed (*Oxytropis* spp.), prickly pear cactus (*Opuntia* spp.), yucca (*Yucca glauca*), and many wildflower species including blazingstar (*Nuttallia nuda*) and white prickly poppy (*Argemone polyanthemos*). Scattered shrubs such as sagebrush (*Seriphidium canum*), snakeweed (*Gutierrezia sarothrae*), and rubber rabbitbrush (*Chrysothamnus nauseosus*), provide additional cover along this grassland ecosystem.

The dominant vegetation found at both MACS-23 sites consists of the crested wheatgrass community, consisting mainly of native grasses and shrubs. Grasses such as

buffalo grass, grama, wheatgrass, and needlegrass are dominant within both fenced sites. Vegetation adjacent to both sites includes the aforementioned grasses and shrubs such as sagebrush, snakeweed, and rabbitbrush. No significant evidence of stressed vegetation is present within the Project 1 area.

Significant soil erosion is occurring at the Project 2 area due to stormwater runoff from the paved equipment storage areas. The soil and vegetation on the slopes surrounding the pavement have been subject to runoff and overland flow, therefore causing soil erosion and vegetation loss.

3.3.2 Wildlife

Buckley AFB maintains a large acreage of open grassland prairie, which is interspersed with several riparian corridors. A total of seven amphibian and 19 reptile species occur in Arapahoe County and may occur on Buckley AFB (USAF, 2000). Twelve of the reptile species are snakes, including the bullsnake (*Pituophis melanoleucus*), plains hognose snake (*Heterodon nasicus nasicus*), and the prairie rattlesnake (*Crotalus viridis viridis*). Other common reptiles include the western painted turtle (*Chrysemys picta belli*) and the northern prairie lizard (*Sceloporus undulatus garmani*). The great plains toad (*Bufo cognatus*) and plains spadefoot toad (*Scaphiopus bombifrons*) are among the amphibians that may be found at Buckley AFB.

Resident bird species found to occur near Buckley AFB include the western meadowlark (*Sturnella neglecta*), black-billed magpies (*Pica hudsonia*), horned lark (*Eremophila alpestris*), and lark bunting (*Calamospiza melanocorys*).

The burrowing owl (*Athene cunicularia*), American kestrel (*Falco sparverius*), Swainson's hawk (*Buteo swainsoni*), and prairie falcon (*Falco mexicanus*) are among the raptors found in the area. The wetland and riparian areas on base support ducks, geese, and shorebirds including northern shoveler (*Anas clypeata*), blue-winged teal (*Anas discors*), Canada goose (*Branta canadensis*), and great blue heron (*Ardea herodias*).

A number of small mammals exist on Buckley AFB. Common rodents may include fox squirrel (*Sciurus niger*), thirteen-lined ground squirrel (*Spermophilus tridecemlineatus*), prairie vole (*Microtus ochrogaster*), black-tailed prairie dog (*Cynomys ludovicianus*), and several species of mice (*Peromyscus* spp.). Predators include the badger (*Taxidea taxus*) and coyote (*Canis latrans*) (USAF, 2000).

The most prominent and abundant small mammal on Buckley AFB is the black-tailed prairie dog. The animals live in densely populated burrow colonies of 15 to 35 individuals per acre, and can contain up to 30 to 50 burrow entrances per acre. A tunnel network that is 3 to 6 ft deep and approximately 15 ft long generally results from colonies of this size. Black-tailed prairie dog burrows, when vacant, may be inhabited by burrowing owls, rabbits, small rodents, snakes, lizards, insects, and spiders (Clippinger 1989, Hoogland 1995).

An EA has been prepared for management practices of the black-tailed prairie dogs throughout the base (USAF, 2001a). In the event of an action directly affecting a prairie dog colony, the EA prefers 1) the relocation of the prairie dogs on-base or off-base, 2) the transfer to a USFWS black-footed ferret breeding facility, and 3) as a last resort, using a Buckley AFB- and USEPA-approved lethal rodent control along the flightline only. The EA proposes non-lethal relocation methods to the extent possible and lethal control measures as a “last resort” in certain control areas only. However, the EA also provides in Section 2.2.2 that new control zones may be established throughout base as necessary. Control zones may be established in cases where prairie dogs are located within construction areas and therefore lethal methods may be applied when necessary (USAF, 2001a).

The area within the Project 1 Proposed Action site provides habitat for open grassland species, including rattlesnakes, rabbits, western meadowlarks, black-billed magpies, and black-tailed prairie dogs. A colony of prairie dogs lives within the project area,

specifically where the 75 car parking lot is proposed. During a site reconnaissance survey, a total of 31 prairie dog burrows were found at this location.

During an initial site visit on 24 July 2001, burrowing owls were seen in the vicinity of the site. During a second site visit a week later, it was determined that no burrowing owls were using the prairie dog burrows at the proposed parking lot site. The absence of burrowing owls was determined based on the lack of owl droppings, feathers, and other nesting indicators at the prairie dog burrows. The owls onsite were observed outside of the site boundary, approximately 300 yards southwest of the site in shrub and grassland vegetation.

The area within the Project 2 Proposed Action site provides limited habitat for open grassland species including rattlesnakes, western meadowlarks, and black-billed magpies. Vegetation and wildlife habitat at this site is limited by the amount of paved land within the site borders. No prairie dog burrows were present at the Project 2 site.

3.3.3 Sensitive Species and Habitat

The USFWS lists species that are endangered or threatened and those that are proposed for endangered or threatened status. An endangered species is defined as any species in danger of extinction throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered in the foreseeable future.

The black-tailed prairie dog is the only sensitive species present at the MACS-23 Proposed Action sites. The black-tailed prairie dog, listed as a federal candidate and a species of special concern by the state, is abundant at Buckley AFB. Black-tailed prairie dog colonies are rapidly being removed from the Denver region as a result of agricultural and rural areas being converted to urban uses. The CDOW is encouraging public landowners to preserve black-tailed prairie dogs that are present on their property, or allow for expansion or start up of new black-tailed prairie dog colonies. The CDOW also

encourages Buckley AFB to maximize the acreage of black-tailed prairie dog colonies on portions of the base that are not critical to air traffic and human safety concerns.

3.3.4 Sensitive Habitat

Sensitive habitats are those areas considered for protection due to their ecological value. They include wetlands, critical habitat for protected species, plant communities of limited or unusual distribution, and important seasonal use areas for wildlife. The black-tailed prairie dog colonies are the only sensitive habitats known to occur on Buckley AFB. No wetlands are present at either Proposed Action site.

3.4 GEOLOGY, SOILS AND TOPOGRAPHY

3.4.1 Geology

Buckley AFB is in the Denver Basin, a structural depression that was formed approximately 67 million years ago during a mountain-building event called the Laramide Orogeny. The basin covers 6,700 square miles, extending from Greeley in the north to Colorado Springs in the south, and from Limon westward to the Front Range. It is part of the Piedmont section of the Great Plains physiographic province that extends north and east into Wyoming, Nebraska, and Kansas (USAF, 2000).

Geologic layers within the basin are in excess of 13,000 feet thick and range in age from Late Pennsylvanian through Quaternary. The Denver Basin comprises seven principal sedimentary formations, listed in descending order within the basin: the Castle Rock Conglomerate; the Dawson Arkose; the Denver, Arapahoe, and Laramie formations; the Fox Hills Sandstone; and a 5,000- to 8,000-foot-thick, relatively impermeable shale formation, the Pierre Shale, which forms the bottom of the basin (USAF, 2000) (Table 3.5 and Figure 3.1). The Castle Rock Conglomerate and the Dawson Arkose outcrop south of the base but do not underlie Buckley AFB.

Surficial deposits consist of unconsolidated, eolian (windblown) and alluvial (deposited by water) sediments that may reach a thickness of 30 feet. These sediments

were initially deposited during the Pleistocene epochs and continue to be deposited today (USAF, 2000).

3.4.2 Soils

The U.S. Soil Conservation Service (now known as the Natural Resources Conservation Service) prepared descriptions and maps of the soil associations present at Buckley AFB in 1971. Soil associations are landscapes exhibiting distinctive groupings of soil types. Fifteen soil types were identified on the base, most of which are classified as moderately to highly erodible (Table 3.5 and Figure 3.1). The major soil associations at Buckley AFB are classified as Fondis Weld, Renohill-Buick-Little, and Alluvial-Nunn (Hunter/ESE, Inc., 1989). Other areas on Buckley AFB were identified as gravel pits, rock outcrop complex, terrace escarpments, and sandy alluvial land.

3.4.3 Stormwater

Stormwater runoff at Project 1 area is uncontrolled. Runoff from the paved parking lot and concrete pads flows northwest into a depression area located within the site boundary and infiltrates the soil. Soil erosion due to stormwater runoff is not evident at the site currently.

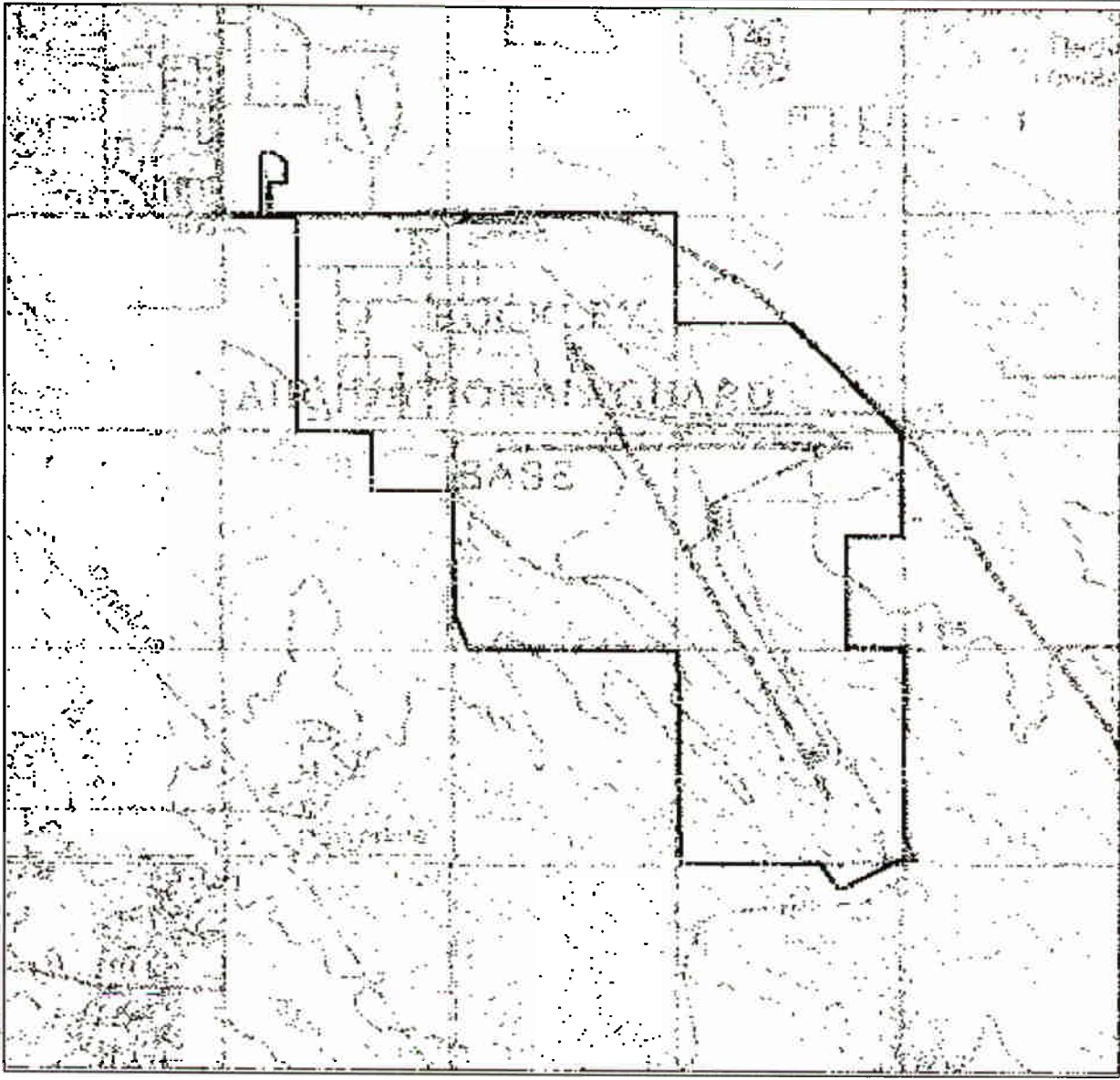
Significant soil erosion is occurring at the Project 2 area due to stormwater runoff from the paved equipment storage areas. Flow from the storage area is east toward the wash rack and surrounding grounds. The soil and vegetation on the slopes surrounding the pavement have been subject to runoff and overland flow, therefore causing soil erosion and vegetation loss.

3.4.4 Topography

Buckley AFB is situated on the west edge of the Great Plains within a topographic depression known as the Denver Basin. Buckley AFB is relatively flat with elevations ranging from approximately 5,500 feet to 5,700 feet above mean sea level (Figure 3.2).

**TABLE 3.5
 BUCKLEY AIR FORCE BASE SOILS DESCRIPTION**

Symbol	Name	Description
BsB	Bresser sandy loam, terrace, 0 to 3 percent slopes	Occurs along major drainageways, runoff is slow
BvC	Bresser-Truckton sandy loams, 3 to 5 percent slopes	Occurs on slopes and ridgetops in native grass, susceptible to soil blowing
BxC	Buick loam, 3 to 5 percent slopes	Occurs in small, scattered areas on uplands in native grass, susceptible to soil blowing
FdB	Fondis silt loam, 1 to 3 percent slopes	Occurs on uplands, runoff is moderate, slightly to moderately susceptible to soil blowing and water erosion
FdC	Fondis silt loam, 3 to 5 percent slopes	Occurs on uplands, suited to cultivated crops, susceptible to soil blowing
FoC	Fondis-Colby silt loams, 3 to 5 percent slopes	Occurs along ridge tops, runoff is moderate, water holding capacity is high
NIB	Nunn loam, 0 to 3 percent slopes	Occurs on terraces, runoff is slow, erosion is slight, water holding capacity is high
NrB	Nunn-Bresser-Ascalon complex, 0 to 3 percent slopes	Occurs on lower parts of slopes, well suited to cultivated crops, water holding capacity is moderate to high, erosion is slight to moderate
RhD	Renohill-Buick loams, 3 to 9 percent slopes	Occurs on uplands, not suited to cultivated crops, erosion is severe
RtE	Renohill-Litle-Thedalund complex, 9 to 30 percent slopes	Occurs on grassy hillsides, runoff is moderate to rapid, not suited to cultivated crops
Ru	Rock outcrop	Occurs near where soils have been stripped so that interbedded shale and sandstone are exposed at the surface, highly susceptible to soil blowing and erosion
Su	Sandy alluvial land	Occurs as narrow areas along major drainageways next to stream channels, subject to yearly flooding
Tc	Terrace escarpments	Occur next to streams and drainageways, soil slipping and sloughing are common, water erosion is severe
WeB	Weld silt loam, 0 to 3 percent slopes	Occurs on uplands, water holding capacity is high, soil blowing can be severe
WrB	Weld-Deertrail silt loams, 0 to 3 percent slopes	Occurs on uplands, runoff is slight, moderately susceptible to soil blowing



Contour Interval = 10 meters

Topography



Source: U.S.G.S. 1981.

Figure 3.2

3.5 HAZARDOUS WASTE AND HAZARDOUS MATERIALS MANAGEMENT

All information concerning storage of hazardous materials at the Proposed Action sites was gathered from the site visit and interviews with MACS-23 personnel. Although no spill reports have been kept for this site, the MACS-23 personnel responsible for this site has been associated with the facility since 1999. During this time, no significant or reportable spills or releases of hazardous materials or wastes have occurred at either of the MACS-23 sites (Harris, 2001).

3.5.1 Hazardous Materials

As defined in 49 CFR Section 171.8, hazardous materials are materials that have been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce. Transportation of hazardous materials is regulated by U.S. Department of Transportation (DoT) regulations within 49 CFR.

Hazardous materials stored at the Project 1 Proposed Action site include batteries, paints and grease. The batteries are stored in one specific van storage locker. The locker provides a controlled climate and spill prevention. The limited hazardous materials stored at the site (including the paints and grease) are stored in one specific hazardous materials storage locker located in Building 1612 (a radome).

Hazardous materials stored at the Project 2 Proposed Action site include POLs (gasoline and oil), propane, batteries, aerosols, and paint. Gasoline stored at this site is primarily stored within the vehicles and equipment. Vehicles and equipment are stored on asphalt pads with drip pans located beneath the gasoline storage tanks. No cover is provided for the storage of the vehicles and equipment outside of the MT maintenance bays. Vehicles, equipment, and their associated drip pans are exposed to the elements, which causes personnel to spend time on preventative and corrective maintenance cleaning out potentially contaminated material from the drip pans.

Other hazardous materials stored at this site (propane, batteries, and paint) are stored at several locations throughout the site. The materials are stored within hazardous material storage lockers and within storage sheds in the southwest yard.

3.5.2 Hazardous Wastes

Hazardous wastes are those substances defined as hazardous by the USEPA in 40 CFR Part 261 or if it exhibits any of the four hazardous waste characteristics identified in 40 CFR Part 261, Subpart C. In general, this includes substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present substantial danger to public health or welfare, or to the environment when released into the environment.

No hazardous wastes are produced or stored at either MACS-23 project site.

3.5.3 Asbestos

Asbestos containing material (ACM) is regulated by the USEPA and Occupational Safety and Health Association (OSHA). A basewide asbestos survey was conducted at Buckley AFB in 1999. Sampling was conducted for 169 facilities suspected of containing ACM. Of the facilities included in this survey, samples from 18 tested positive for ACM (Appendix B). Access to 16 facilities was denied; therefore, the status of ACM in these structures is unknown. The remaining 135 facilities are considered asbestos-free.

No ACM was identified in the buildings at Project 1 site (Buildings 1610, 1611, 1612, 1613, and 1614).

ACM was identified in Buildings 1302 and 1303 at the Project 2 site. The ACM was identified in the floor tiles and floor tiles mastic. The presence of ACM in Building 1301 is unknown. No ACM has been identified within the storage yard at the Project 2 site.

The current Air Force Policy is to manage or abate ACM in active facilities, and remove ACM, following regulatory requirements before facility construction or demolition. ACM is abated when there is a potential for asbestos fiber release that would affect the environment or human health.

3.5.4 Lead-Based Paint

The use of lead-based paint (LBP) declined after 1978 when the Consumer Product Safety Commission lowered the allowable lead content in paint to 0.06 percent by weight (trace amount) from its 1973 level of 0.5 percent by weight in a dry film of newly applied paint. This change was made under the Consumer Safety Act of 1977, P.L. 101-608, as implemented by 16 CFR Part 1303. DOD implemented a ban of LBP use in 1978; however, it is possible that facilities painted prior to or during 1978 may contain LBP.

An LBP survey has not been conducted for Buckley AFB facilities. All buildings at the Project 1 site were constructed in 1996 (Appendix B). All buildings at the Project 2 site were constructed in 1990 (Appendix B). Therefore, the possibility of LBP being present at the buildings is very low.

3.5.5 Polychlorinated Biphenyls (PCBs)

The disposal of PCBs is regulated under the federal Toxic Substances Control Act (TSCA) (15 U.S.C. Section 2601, et seq., as implemented by 40 CFR Part 761), which banned the manufacture and distribution of PCBs, with the exception of PCBs used in enclosed systems. By federal definition, PCB equipment contains 500 ppm PCBs or more, whereas PCB-contaminated equipment contains PCB concentrations equal to or greater than 50 ppm, but less than 500 ppm, and PCB items contain from 5 to 49 ppm PCBs. TSCA regulates and USEPA enforces the removal and disposal of all sources of PCBs containing 50 ppm or more; the regulations are more stringent for PCB equipment than for PCB-contaminated equipment.

Buckley AFB does not have any PCB containing transformers (USAF, 1998). All transformers with PCB concentrations over 500 ppm were believed to have been removed, replaced, or retrofilled to below 50 ppm.

3.6 NOISE

Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise annoying. Human response to noise can vary according to the type and characteristic of the noise source, the distance between the noise source and the receptor, the sensitivity of the receptor, and the time of day. Under certain conditions, noise may cause hearing loss, interfere with human activities at home and work, and may affect people's health and well-being. Community noise levels usually change continuously during the day, and also exhibit a daily, weekly, and yearly pattern.

The federal noise measure used for assessing total daily noise exposures in communities is the day-night average sound level (DNL) in units of decibels (dB). Most people are exposed to sound levels of 50 to 55 DNL or higher on a daily basis. Research indicates that most of the population is not highly annoyed by outdoor sound levels below 65 dB. Therefore, most agencies have identified 65 DNL as a criterion that protects those most affected by noise, and that can often be achieved on a practical basis.

No noise studies were available from Buckley AFB for the two MACS-23 sites. It can be assumed that the activities associated with the MACS-23 sites do not produce noise above 65 DNL on a regular basis.

3.7 PRIME AND UNIQUE FARMLAND

The ROI area immediately adjacent to the MACS-23 facility is considered prime farmland per the U.S. Department of Agriculture (USDA). However, according to the USDA, "it would not be feasible to introduce agricultural production onto the base without the added cost of installing conservation practices and/or irrigation system."

(USDA, 2001) It is assumed that no farmer would be willing to farm the land given the set specifications (i.e., weed control, terraces, buffers, and contour farming) necessary to conserve the land.

SECTION 4

ENVIRONMENTAL CONSEQUENCES

The environmental effects of the Proposed Action and alternatives are discussed in this section.

4.1 AIR QUALITY

4.1.1 Proposed Action

Under the Proposed Actions at the MACS-23 sites, ground-disturbing activities would occur when the following projects are implemented:

Project 1

- Installation of an asphalt parking lot (approximately 100 ft by 200 ft) at the old wastewater leach field adjacent to Building 1612.
- Installation of a concrete walkway adjacent to the existing walkway (i.e., widen the walkway) and install two (2) walkways crossing the adjacent ditch at Building 1610.
- Installation of concrete walkway perpendicular to existing walkway leading from Building 1610 to the road.
- Installation of concrete Pad A between Building 1610 and the restrooms.
- Installation of concrete Pad B to be used as a foundation/base for storage sheds.
- Installation of a concrete Pad C (40 ft by 40 ft) to be used as a foundation/base for the maintenance sheds and vans.

Project 2

- Removal of asphalt and installation of concrete paving adjacent to Buildings 1302 and 1303.
- Installation of asphalt paving adjacent to Building 1302.
- Construction of a concrete swale adjacent to the existing tactical parking lot.
- Installation of an underground storm water drain system.
- Installation of an 8 ft chain-link fence separating the MACS-23 area from the A-Battery.
- Construction of a concrete pad in front of the proposed howitzer gun storage shed and storage building.
- Construction of a six (6) bay howitzer gun shed (50 ft by 100 ft) with six (6) roll-up doors.

In order to calculate the amount of fugitive dust generated, the two Proposed Action sites are considered separately. It is assumed that all of the improvement projects would occur within the same time frame, over a three month span. The total area of ground disturbance and construction at the Project 1 site would be a maximum of 24,200 square feet. The total area of ground disturbance at the Project 2 site would be a maximum of 27,800 square feet. For each improvement project that requires ground disturbance, the area of disturbance was calculated, if dimensions are known, or estimated (Table 4.1).

The Tri-County Health Department Air Quality Program requires a Fugitive Dust Control Plan for land development projects with surface disturbance over one acre and less than 25 acres in size.

Fugitive dust from ground disturbing activities associated with site grading, pouring of concrete, and combustion emissions from vehicles and heavy equipment would be generated during the implementation of the Proposed Actions. Fugitive dust emissions would produce elevated particulate concentrations. The basewide emissions inventory considers impacts from stationary as well as mobile sources including on-road and off-road heavy and light duty vehicle movement emissions.

**TABLE 4.1
 GROUND DISTURBANCE AREAS**

Project 1		Project 2	
Project Improvement	Ground Disturbance Area (square feet)	Project Improvement	Ground Disturbance Area
2. Asphalt parking lot next to Bldg 1612	20,000	2. Concrete paving next to Bldg 1302	1,000*
3. Concrete walkways at Bldg 1310	500*	3. Concrete paving next to Bldg 1303	1,000*
4. Concrete walkway perpendicular to Bldg 1610	30*	4. Asphalt paving next to Bldg 1302	10,000*
5. Pad A	850*	7. Concrete swale	Minimal
6. Pad B	1,200*	8. Underground stormwater drain system	5,000*
7. Pad C	1,600	11. Chain link fence	400*
		12. Concrete pad in front of gunshed	5,400*
		13. Howitzer gunshed	5,000
Total Area	24,180	Total Area	27,800

* Indicates that the ground disturbance area was estimated based on maps provided by Buckley AFB and the site visit.

The quantity of uncontrolled fugitive dust emissions from a construction site is proportional to the area of land being worked and the level of construction activity. The USEPA has estimated that uncontrolled fugitive dust emissions from ground-disturbing activities would be emitted at a rate of 80 pounds of total suspended particulates (TSP) per acre per day of disturbance. Fugitive dust emissions from the demolition activities would be generated primarily ground disturbance, paving, and regading.

It is assumed that the entire project would take approximately three months to complete. The USEPA assumes that half of these working days would result in uncontrolled fugitive dust emissions. Pollutants from vehicle and heavy equipment exhausts are NO_x, CO, PM₁₀, and VOCs. Internal combustion engine exhausts would be temporary and would not result in any long-term impacts.

There would be slightly elevated short-term PM₁₀ ambient air concentrations as a result of construction and site grading. However, it would be temporary, would fall rapidly with distance from the source, and would not produce any long-term impacts. The adverse effect to air quality would be negligible, local, and short-term.

Tables 4.2 and 4.3 show the estimated pollutant emissions that may result from the implementation of the Proposed Actions at the Project 1 site and Project 2 site, respectively. Tables 4.4 and Table 4.5 compare emission estimates to the 1998 AQCR 36 Emission Inventory and the USEPA *de minimis* values.

4.1.2 Air Conformity Analysis

Federal actions must comply with the USEPA Final General Conformity Rule published in 40 CFR 93, Subpart B (for Federal agencies) and 40 CFR 51 Subpart W (for state requirements). The Final Conformity Rule, which took effect on January 31, 1994, requires all Federal agencies to ensure that proposed agency activities conform to an

approved or promulgated SIP or Federal Implementation Plan (FIP). Conformity means compliance with a SIP or FIP for the purpose of attaining or maintaining the NAAQS. Specifically, this means ensuring the Federal activity does not: 1) cause a new violation of the NAAQS; 2) contribute to an increase in the frequency or severity of violations of existing NAAQS; 3) delay the timely attainment of any NAAQS; or 4) delay interim or other milestones contained in the SIP for achieving attainment.

Table 4.2 Estimated Pollutant Emissions from Project #1

New Construction or Renovation (N/R)	N			
Building Square Footage	-	ft ²	No. Stories	0
Asphalt Area	20,000.0	ft ²	Depth	4 inches
Concrete Area	4,180.0	ft ²	Depth	12 inches
Demolition Building Area	-	ft ²		
Total Area of Site	0.60	Acres (area disturbed by ground breaking)		
Project Duration	3	Months (ground breaking to completion)		

Construction Emissions					
Construction Activity	CO (tons)	VOC (tons)	NO _x (tons)	SO _x (tons)	PM ₁₀ (tons)
Site Preparation/Ground Disturbance	-	-	-	-	0.17
New Building Construction	-	-	-	-	-
Existing Building Renovation	-	-	-	-	-
Building Demolition	-	-	-	-	-
Asphalt Paving Operations	0.13	0.01	0.02	0.00	0.01
Concrete Paving Operations	0.06	0.01	0.14	0.02	0.01
Total Emissions	0.19	0.02	0.16	0.02	0.18

Table 4.3 Estimated Pollutant Emissions from Project #2

New Construction or Renovation (N/R)	<input type="text" value="N"/>	
Building Square Footage	<input type="text" value="5,000.0"/> ft ²	No. Stories <input type="text" value="0"/>
Asphalt Area	<input type="text" value="10,000.0"/> ft ²	Depth <input type="text" value="4"/> inches
Concrete Area	<input type="text" value="7,400.0"/> ft ²	Depth <input type="text" value="12"/> inches
Demolition Building Area	<input type="text" value="-"/> ft ²	
Total Area of Site	<input type="text" value="0.60"/> Acres (area disturbed by ground breaking)	
Project Duration	<input type="text" value="3"/> Months (ground breaking to completion)	

Construction Emissions					
Construction Activity	CO (tons)	VOC (tons)	NO _x (tons)	SO _x (tons)	PM ₁₀ (tons)
Site Preparation/Ground Disturbance	-	-	-	-	0.17
New Building Construction	0.21	0.03	0.49	0.05	0.03
Existing Building Renovation	-	-	-	-	-
Building Demolition	-	-	-	-	-
Asphalt Paving Operations	0.06	0.00	0.01	0.00	0.00
Concrete Paving Operations	0.11	0.02	0.26	0.03	0.02
Total Emissions	0.38	0.06	0.75	0.08	0.22

**TABLE 4.4
 PROPOSED ACTION AIR EMISSIONS AT PROJECT 1 SITE**

Pollutant	Proposed Action Annual Emissions (tpy)	1998 AQCR 36 Emission Inventory (tpy)	De minimis Values ^{a/} (tpy) ^{b/}	Above/ Below De minimis
CO	0.19	4,761	100	Below
VOC	0.02	13,727	100	Below
NO _x	0.16	37,079	100	Below
SO _x	0.02	34,732	100	Below
PM ₁₀	0.18	3211	100	Below

^{a/} Source: 40 CFR 93.153, November 30, 1993.

^{b/} tpy = Tons per year

TABLE 4.5
PROPOSED ACTION AIR EMISSIONS AT PROJECT 2 SITE

Pollutant	Proposed Action Annual Emissions (tpy)	1998 AQCR 36 Emission Inventory (tpy)	De minimis Values ^{a/} (tpy) ^{b/}	Above/ Below De minimis
CO	0.38	4,761	100	Below
VOC	0.06	13,727	100	Below
NO _x	0.75	37,079	100	Below
SO _x	0.08	34,732	100	Below
PM ₁₀	0.22	3211	100	Below

^a Source: 40 CFR 93.153, November 30, 1993.

^b tpy = Tons per year

The Final General Conformity Rule applies only to Federal actions in designated non-attainment or maintenance areas, and the rule requires that total direct and indirect emissions or non-attainment criteria pollutants, including ozone precursors, be considered in determining conformity. The rule does not apply to actions that are not considered regionally significant and where the total direct and indirect emissions of non-attainment criteria pollutants do not equal or exceed *de minimis* threshold levels for criteria pollutants established in 40 CFR 93.153(b). A Federal action would be considered regionally significant when the total emissions from the proposed action equal or exceed 10 percent of the non-attainment area's emissions inventory for any criteria air pollutant. If a Federal action meets *de minimis* requirements and is not considered a regionally significant action, then it does not have to undergo a full conformity determination.

4.1.2.1 Air Conformity Analysis for the Proposed Action

No increase in baseline emissions would be anticipated after the construction and implementation of the Proposed Actions at the MACS-23 sites.

For purposes of analysis, it was assumed that the type, square footage, and specific details proposed for the Proposed Action construction are those specified in Section 4.1.1. It was also assumed that the period of construction was approximately three months. The annual emissions presented in Tables 4.2 and 4.3 include the estimated

annual PM₁₀ emissions associated with implementation of the Proposed Actions at the MACS-23 sites.

The air conformity analyses were performed using the estimated annual emissions associated with the implementation of the Proposed Actions. The estimated values for CO, VOC, NO_x, SO_x, and PM₁₀ were determined to be less than the USEPA *de minimis* values and less than 10% of the AQCR 36 Emission inventory (see Tables 4.4 and 4.5).

A conformity determination under the CAA conformity rules is not required because 1) the Proposed Actions are not regionally significant because the AQCR 36 emissions would increase by less than 10%, and, 2) the Proposed Actions estimated emissions are below *de minimis* values as stated in 40 CFR 93.153(b). Because the actions' emissions are low, temporary, and insignificant, the Proposed Actions would conform to the SIP.

4.1.3 No Action Alternative

Under the No Action Alternative, the construction and implementation of the improvement projects would not occur. There would be no impacts as a result of the No Action Alternative and baseline conditions as discussed in Section 3.2 would remain unchanged.

4.2 RADON GAS

Radon sampling was conducted between 1993 and 1997 at four buildings on base. The results range from 0.2 to 6.9 pCi/L (COANG, 2000a). All of the sampling results, except one, were below the USEPA standard of 4.0 pCi/L. Building 600, was the exception with radon levels of 6.9 pCi/L.

4.2.1 Proposed Action

The buildings and storage sheds effected by the Proposed Action are not occupied for 8 hours per day and therefore do not requiring testing under federal regulations or USAF policy. No impacts due to radon gas will be caused by the Proposed Action.

4.2.2 No Action Alternative

Under the No Action Alternative, utilization of the existing MACS-23 sites would continue. No improvement projects would occur; therefore, no impacts would occur as a result of the No Action Alternative.

4.3 BIOLOGICAL RESOURCES

This section analyzes the potential for impacts to biological resources from the implementation of the Proposed Actions or No Action Alternative. Analyses of impacts on base focus on whether and how ground-disturbing activities and the operation of the Proposed Actions may affect biological resources.

4.3.1 Proposed Action

The Proposed Actions at the MACS-23 sites are not likely to have any adverse effects on biological resources, with the exception of the black-tailed prairie dogs present at the Project 1 site. Effects to the prairie dogs would be moderate, local, and adverse. No biological resource concerns are present at the Project 2 site.

The Proposed Action for Project 1 includes the construction of an asphalt parking lot (approximately 100 ft by 200 ft) adjacent to Building 1612. In order to complete the construction, the site will need to be graded and paved. Currently this area is inhabited by a prairie dog colony consisting of 31 burrows.

Per section 2.2.2 of the *Supplement to Environmental Assessment of Proposed Prairie Dog Management Practices EA, 2001* (USAF, 2001a), live capture methods would be the preferential mode of removal for the prairie dogs located within construction areas. In these cases, a prairie dog control zone would be established at the construction site and live capture would occur as discussed in section 2.4.1 of USAF, 2001a.

The primary objective of the live capture methodology is to capture the prairie dogs alive for (1) relocation to areas that would not interfere with the installation's mission,

construction, or human health, and (2) shipping them to a USFWS black-footed ferret breeding facility to be euthanized and fed to ferrets. Live capture methods include trapping, soap and water foam method, and vacuum truck method (USAF, 2001a).

Lethal means of removal may be used for the prairie dogs located at the Proposed Action construction site if live removal is not feasible at this time of construction. Construction is planned to begin in January 2002 when live capture is not feasible. Thus, lethal removal is the likely course of action and is the basis for the moderate, adverse impact evaluation to a local population of black-tailed prairie dogs.

Once all the prairie dogs are euthanized, all the burrows would be filled in to preclude burrowing owls from nesting at the construction site upon their return from migration in the spring of 2002. Removal of the burrows should be completed before 1 March 2002 to ensure that burrowing owls do not take up residence at the proposed site for Project 1.

Cumulative impacts on prairie dogs associated with construction occurring at Buckley AFB are addressed in section 5 of USAF, 2001a. The EA states that the possibility exists of a potential adverse, cumulative impact on the area available to support a viable, self-sustaining prairie dog population that can support dependent species such as the burrowing owl. However, the USFWS reported that it does not consider Buckley AFB to be an area essential to maintaining a healthy population of prairie dogs in the United States. Therefore, the impact of the construction projects and a reduction in the black-tailed prairie dog population on a local scale (likely affecting about 12 to 15 animals), such as proposed in the MACS-23 Project 1, would not be a major adverse impact.

4.3.2 No Action Alternative

Under the No Action Alternative, utilization of the existing MACS-23 sites would continue. No improvement projects would occur; therefore, no impacts would occur as a result of the No Action Alternative.

4.4 GEOLOGY, SOILS AND TOPOGRAPHY

4.4.1 Proposed Action

The Proposed Action improvement projects are located on previously disturbed soils. The soils in the Project 1 site are silty loams (Fondis and Fondis-Colby). The soils in the Project 2 site are also silty loam (Fondis) and rock outcrops (NRCS, 1971). The soils are well drained, with a high water holding capacity, have moderately slow permeability, and are susceptible to wind and water erosion. Soils exposed during construction and grading would be subject to erosion. With the use of best management practices, such as applying water during dry periods or covering the soils during heavy rain events and using barriers to restrict erosion of exposed soils, impacts would be minimized or eliminated. Effects to the soil would be negligible, short-term, and local. There would be neither long-term nor major short-term impacts to geology from the Proposed Actions.

It is advisable to review the City of Aurora Design and Technical Criteria Manual to determine if a Storm Water Quality Permit will be required from the City of Aurora Public Works.

The Proposed Actions at the MACS-23 sites would control stormwater runoff and prevent soil erosion. At the Project 1 site, the construction of concrete walkways next to the current walkways would prevent personnel from walking on the disturbed soil surrounding the building, therefore reducing erosion rates. The construction of the concrete pads and asphalt parking lot would also reduce erosion. Currently, the storage sheds are located on the bare ground and personnel must walk over the disturbed soil to access the sheds.

Currently parking at C&E Marines site is limited to 15 vehicles. On the weekend, approximately 75 Marine Reserves are at this site. These extra personnel park on the bare ground (disturbed soil) causing significant disturbance and erosion. The construction of the asphalt parking lot would stop this soil erosion and stress on the limited vegetation.

At the Project 2 site, the addition of concrete curbs, storm drain swales, and an underground storm drain system would significantly control the flow of stormwater from the asphalt storage lots. The large storage lot at this site is situated on top of a hill and storm water flows directly off of the asphalt onto the surrounding dirt slopes. The slope to the north of the lot is significantly eroded. The construction of the curb, swales, and drainage system would provide a moderate beneficial effect in the form of stormwater runoff control and reduced soil erosion.

4.4.2 No Action Alternative

Under the No Action Alternative, no improvement projects at the MACS-23 sites would occur. Current conditions as discussed above would continue, including uncontrolled stormwater runoff and soil erosion throughout both project sites.

4.5 HAZARDOUS WASTE AND HAZARDOUS MATERIALS MANAGEMENT

The following section evaluates the impacts to hazardous material and waste management with respect to the Proposed Action and Alternative Action.

4.5.1 Proposed Action

Hazardous materials stored at the Project 1 Proposed Action site include batteries, paints, and grease. The batteries are stored in one specific van storage locker with a controlled climate and spill prevention. The limited hazardous materials stored at the site are stored in one specific hazardous materials storage locker located in Building 1612 (a radome). The Proposed Actions at this site would not have impacts on the management of hazardous materials and wastes.

Hazardous materials stored at the Project 2 site include POLs (gasoline and oil), propane, batteries, aerosols, and paint. Gasoline stored at this site is primarily stored within the vehicles and equipment. Vehicles and equipment are stored on asphalt pads with drip pans located beneath the gasoline storage tanks. Currently, no cover is provided for the storage of the vehicles and equipment. Vehicles, equipment, and their

associated drip pans are exposed to the elements, which causes personnel to spend time on preventative and corrective maintenance cleaning potentially contaminated material from the drip pans . The Proposed Actions at this site include the construction of metal awnings to cover the equipment and vehicles that are stored with POLs. Therefore, the Proposed Action would create a moderate, long-term, beneficial effect by controlling the potential release of hazardous materials into the environment.

Other hazardous materials stored at this site (propane, batteries, and paint) are stored at several locations throughout the site. The materials are stored in hazardous material storage lockers and in storage sheds in the southwest yard. Under the Proposed Actions at this site, new storage sheds are proposed to house these materials. This improvement project would create a moderate, long-term, beneficial effect by controlling the potential release of hazardous materials into the environment.

During the improvement projects, if it would be necessary to temporarily restage the hazardous materials, the proper precautions should be taken to prevent the release of any materials. New storage locations should be posted, secure, and appropriate for the storage of hazardous materials. If these conditions are met, the implementation of the Proposed Actions would have no adverse impact on the management of hazardous materials at the MACS-23 sites.

4.5.2 No Action Alternative

If the No Action Alternative is selected, there would be no improvement projects at the MACS-23 sites. Current conditions would continue to exist, including the storage of hazardous materials in damaged storage sheds and the storage of POL equipment without cover. The potential for release of hazardous materials to the environment is higher if the Proposed Actions are not implemented and could result in minor to moderate, local adverse effects.

4.6 NOISE

The primary human response to environmental noise is annoyance. The degree of annoyance has been found to correlate well with the DNL. Several social surveys have been conducted in which people's reaction to their noise environment has been determined as a function of DNL occurring outside their homes. Guidelines have been developed for individual land uses based upon the information collected in these surveys and upon information concerning activity interference.

4.6.1 Proposed Action

Noise impacts from the Proposed Action would result from site grading and construction. The highest calculated cumulative energy equivalent sound levels from construction activities are estimated to be 85 dB at 50 ft from the center of the project site. This would occur during the grading phase. Noise levels at 50 ft for the concrete trucks used during construction are 91dB. The impacts from noise would vary according to the activity occurring on any given day and impacts would cease when the concrete construction is completed.

There are no adjacent or nearby receptors who would experience noise impacts from construction activities. Adverse noise impacts would be negligible, local, and short-term.

4.6.2 No Action Alternative

Under the No Action Alternative, there would be no grading or construction performed at the MACS-23 sites. There would be no impacts associated with noise.

4.7 PRIME AND UNIQUE FARMLAND

4.7.1 Proposed Action

The ROI area immediately adjacent to the MACS-23 facility is considered prime farmland according to the US Department of Agriculture (USDA). However, according to the USDA, the land would require extensive conservation measures that would not be

compatible with the land use on the base and therefore would not be suitable or likely for farming. Therefore, there would be no impacts on prime and unique farmlands associated with the Proposed Action.

4.7.2 No Action Alternative

Under the No Action Alternative, no improvement projects at the MACS-23 sites would occur. Current conditions would continue and no effects on prime and unique farmland would occur.

4.8 HEALTH AND SAFETY ISSUES

4.8.1 Proposed Action

Under the Proposed Actions, construction and site grading would occur at both of the MACS-23 sites. These activities inherently present health and safety concerns for the workers involved. During improvement project activities, these health and safety issues should be addressed using OSHA guidelines and general safe working practices.

Health and safety issues are currently present at Building 1610. The walkway surrounding Building 1610 is too narrow, therefore personnel are walking on large rocks located next to the walkway, thus presenting an unstable walking surface and health and safety concerns. The Proposed Action project to extend the walkway and construct additional walkways would eliminate these health and safety concerns. This action would create a long-term, local, minor beneficial effect on health and safety.

4.8.2 No Action Alternative

Under the No Action Alternative, no improvement projects would occur at the MACS-23 sites. Therefore, no health and safety concerns associated with construction activities would be introduced. However, if no improvement projects occur at the Project 1 site, the health and safety concerns discussed above would continue to be present at Building 1610.

4.9 INDIRECT AND CUMULATIVE IMPACTS

There are negligible cumulative impacts associated with the site improvement projects planned for the MACS-23 sites. Under the Proposed Actions, in addition to on-going and planned construction projects, there would be no significant cumulative air impacts. The estimated values for CO, VOC, NO_x, SO_x, and PM₁₀ would be below the USEPA *de minimis* threshold levels and below the 10% criteria for the Arapahoe County Emission Inventory. The cumulative adverse impacts for the Proposed Actions would be negligible. While there are other projects ongoing/planned throughout Buckley AFB, the *de minimis* environmental effects from the project, coupled with other ongoing/planned projects, would not create any significantly cumulative adverse impacts on the environment.

4.10 UNAVOIDABLE ADVERSE IMPACTS

No unavoidable adverse impacts are associated with the Proposed Actions at the MACS-23 sites at Buckley AFB.

4.11 RELATIONSHIP BETWEEN SHORT-TERM USES AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Implementation of the Proposed Actions would have a positive effect on long-term productivity of military forces by providing a more effective and efficient work area. The Proposed Actions would also enhance long-term productivity of the sites by reducing effects on the environment (e.g., soil erosion) and reducing the potential for release of hazardous materials. In addition, specific projects would increase the productivity of the MACS-23 unit. The metal awnings proposed to cover the equipment and vehicles storing POLS would reduce the amount of time and manpower necessary for the maintenance of the equipment.

4.12 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA requires that environmental analyses include identification of "...any irreversible and irretrievable commitments of resources that would be involved in the Proposed Action should it be implemented." Under the Proposed Actions, most adverse impacts would be short-term, local, and negligible, with none of the impacts being significant. Construction and grading of the MACS-23 sites would require the consumption of limited amounts of materials typically associated with construction (e.g., concrete and sand). An undetermined amount of energy to conduct construction and operation of these facilities would be expended and irreversibly consumed. Both the Proposed Actions and the No Action Alternative would require fuels used by various civilian and military vehicles. A local and limited amount of black-tailed prairie dogs (about 12-15 animals and 31 burrows) and prairie dog habitat would be lost at Buckley AFB as a result of implementation of the Proposed Actions. Implementation of the Proposed Actions would result in an overall benefit to the environment.

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SECTION 5

LIST OF PREPARERS

Parsons ES Employees	Degree	Professional Discipline	Years of Experience
Don Kellett	B.S., Wildlife Biology	Wildlife Biology / Environmental Science	10
Brian Lane	B.S., Biology	Environmental Science	9
Allison Love	M.S., Environmental Science and Engineering B.S., Environmental Science	Environmental Science	3

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SECTION 6

PERSONS CONTACTED

Capt. John R. Harris	Buckley AFB MACS-23 Data Maintenance Officer 303-877-6264
Mr. Floyd W. Hatch	Buckley AFB SPTS/CEV 303-677-6937
Ms. Elise Sherva	Buckley AFB 460 CES/CEV 303-677-9077

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SECTION 7

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SECTION 8

ACRONYM LIST

°F	Degrees Fahrenheit
µg/m ³	Micrograms per cubic meter
ACM	Asbestos containing material
AFB	Air Force Base
AFI	Air Force Instruction
APE	Area of Potential Effect
AQCR	Air Quality Control Region
AST	Aboveground storage tank
CAA	Clean Air Act
CDOW	Colorado Division of Wildlife
CDPHE	Colorado Department of Public Health and the Environment
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	Carbon monoxide
COANG	Colorado Air National Guard
dB	Decibel
DNL	Decibel, night level
DoD	Department of Defense
DoT	Department of Transportation
EA	Environmental Assessment
EPCRA	Emergency Planning and Community Right To Know Act

Acronym List

FIP	Federal Implementation Plan
ft	feet
HAP	Hazardous air pollutants
HVAC	Heating, Ventilation, and Air Conditioning
IRP	Installation Restoration Program
LBP	Lead-based paint
LF	linear feet
MACS-23	Marines Air Control Squadron-23
MT	Motor Transport
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO ₂	Nitrogen dioxide
NO _x	Nitrogen oxides
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
O ₃	Ozone
OSHA	Occupational Safety and Health Administration
Pb	Lead
PCB	Polychlorinated biphenyl
pCi/L	Picocuries per Liter
PM ₁₀	Particulate matter with an aerodynamic diameter less than or equal to 10 microns
POL	Petroleum, Oil, and Lubricant
ppm	Parts per million
PSC	Public Service Company
PVC	Polyvinyl chloride
RCRA	Resource Conservation and Recovery Act

Acronym List

ROI	Region of Influence
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO ₂	Sulfur dioxide
SO _x	Sulfur oxides
tpy	Tons per year
TSCA	Toxic Substance Control Act
TSP	Total Suspended Particulates
USAF	United States Air Force
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VOC	Volatile organic compound

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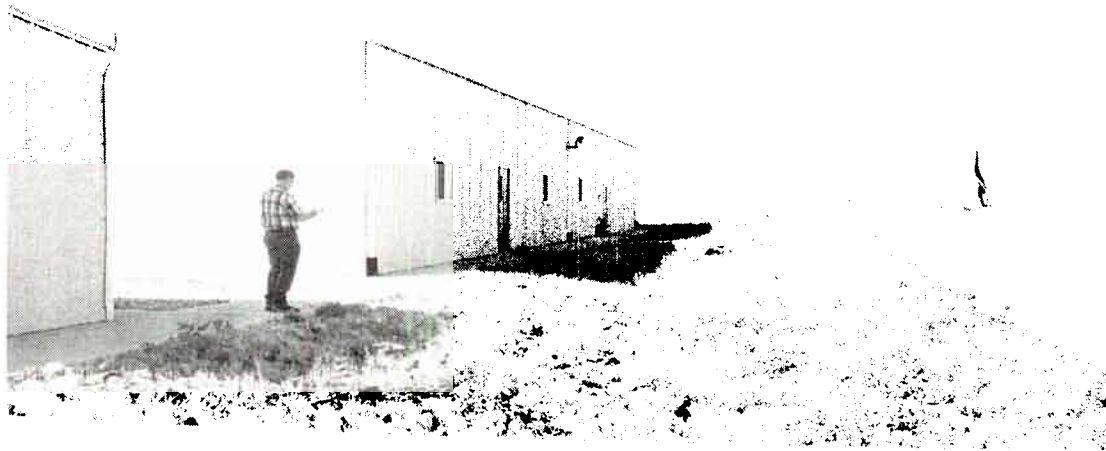
APPENDIX A
PROPOSED SITE PHOTOGRAPHS

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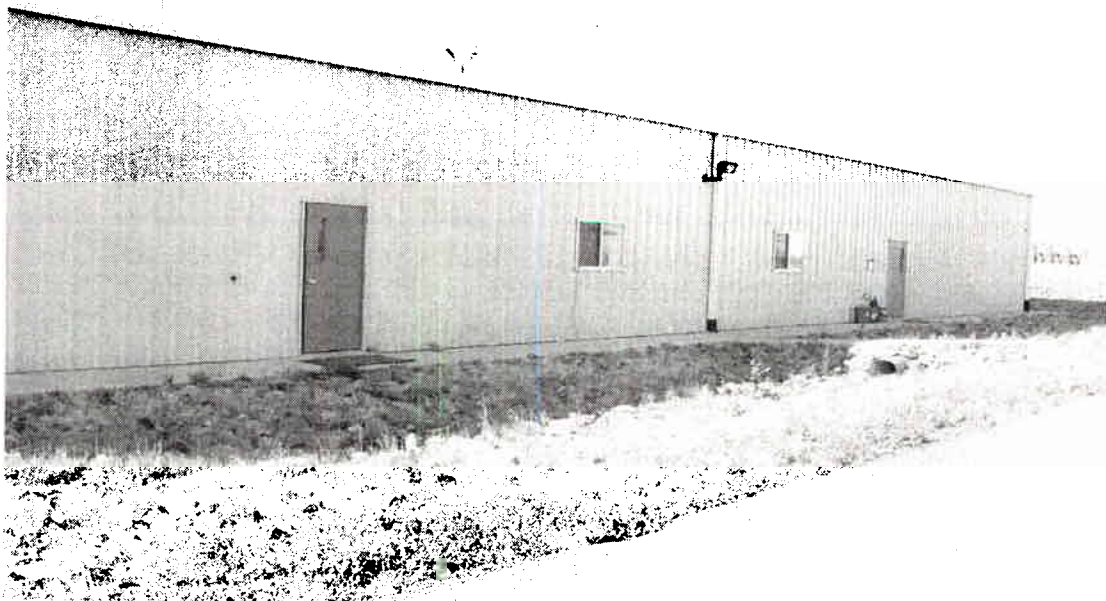
Project 1 Site

MACS-23 and "A" Battery

Appendix A Proposed Site Photographs

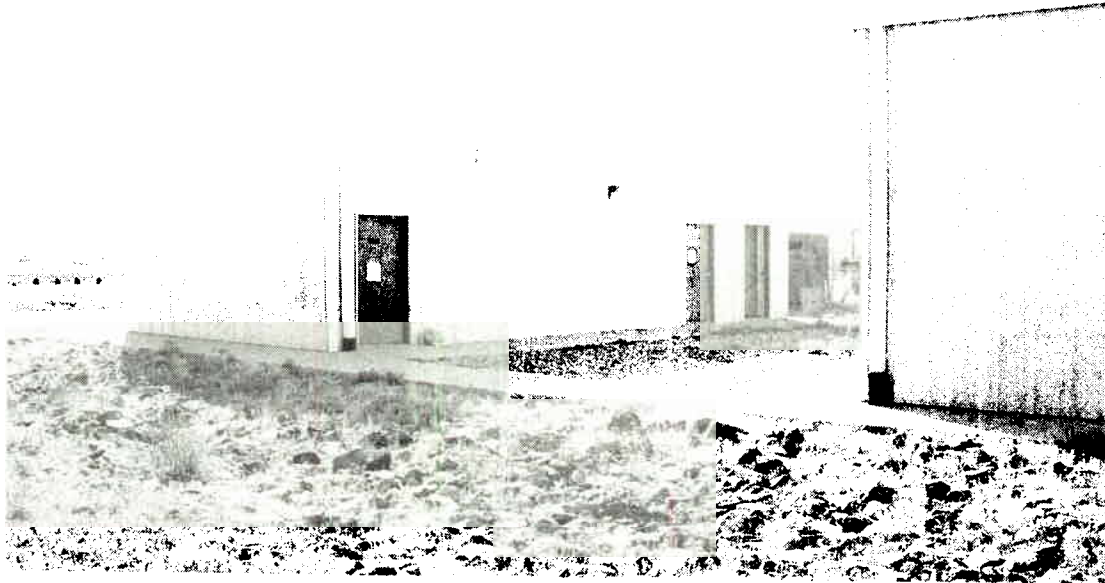


Building 1610, proposed walkway extension location

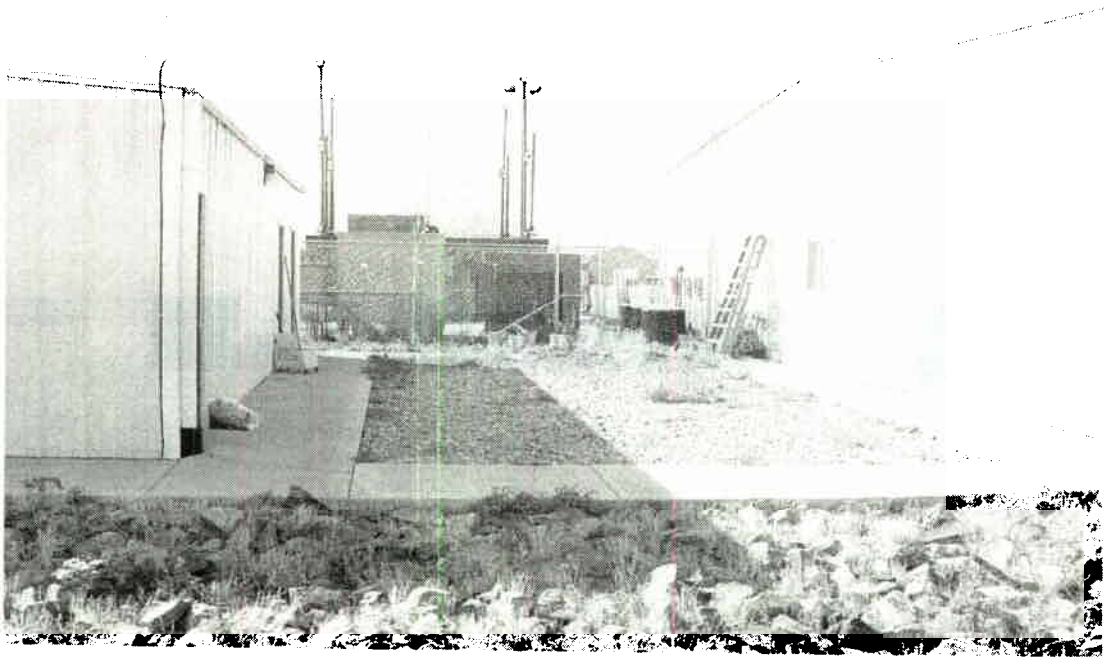


Building 1610, proposed walkway extension location

Appendix A Proposed Site Photographs



Buildings 1610 and 1615, proposed pad A location



Buildings 1610 and 1615, proposed pad A location

Appendix A Proposed Site Photographs



Storage sheds, proposed pad B location



Storage sheds, proposed pad C location

Appendix A Proposed Site Photographs



Widening of roads in front of storage vans.



Proposed parking lot location

**Project 2 Site
MSU & A-BATTERY**

Appendix A Proposed Site Photographs

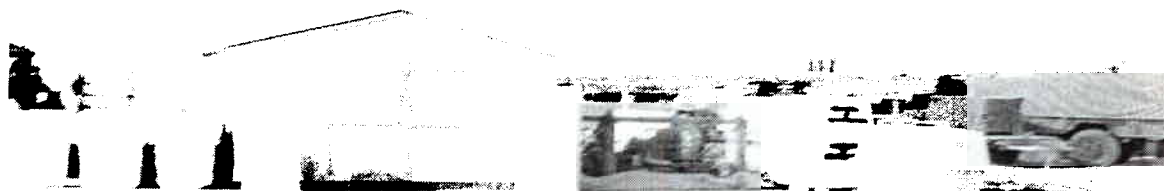


Vehicle storage at Building 1302



Storage yard

Appendix A Proposed Site Photographs

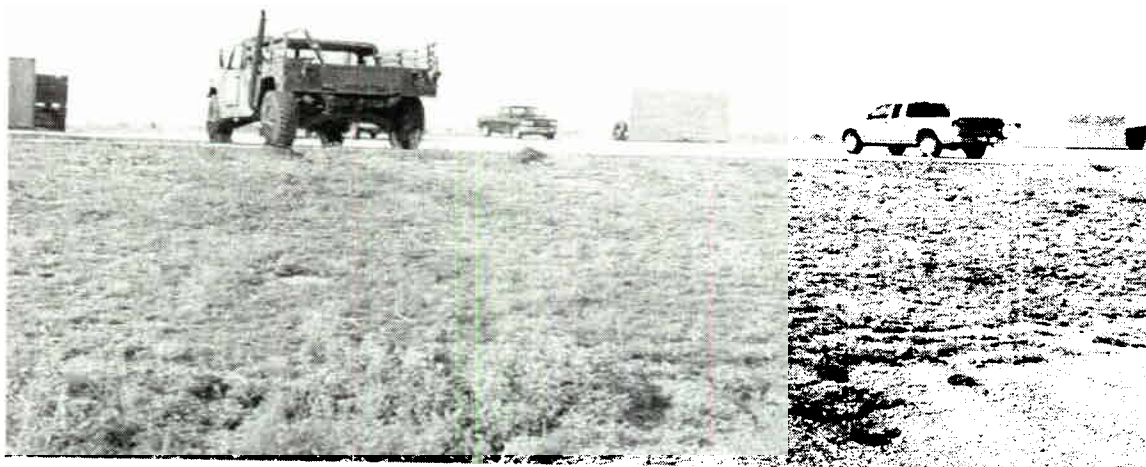


Storage yard



Storage shed proposed to be replaced

Appendix A Proposed Site Photographs



Current equipment and vehicle storage pad

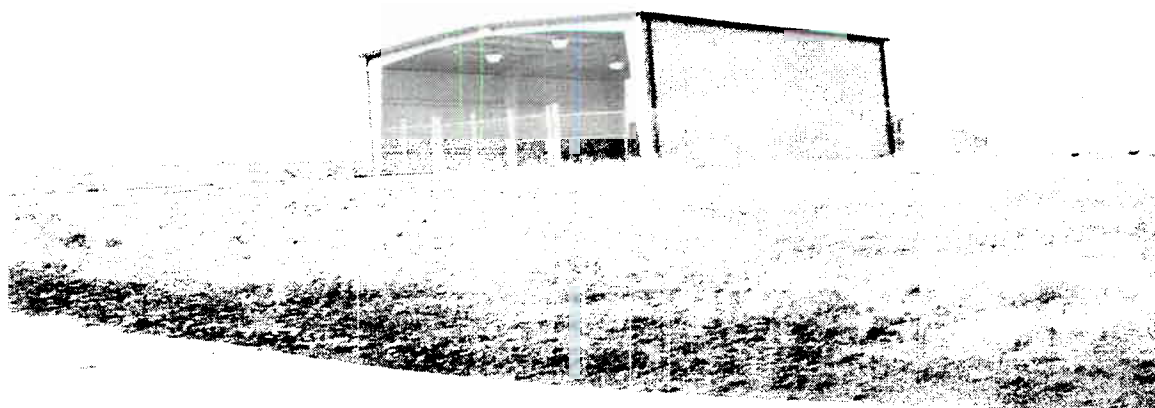


Erosion off of the current equipment and vehicle storage pad

Appendix A Proposed Site Photographs



Proposed gunshed area



Wash rack

**APPENDIX B
ASBESTOS SURVEY INFORMATION**

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Appendix B Asbestos Survey Information

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May 2000

SUMMARY OF ASBESTOS SURVEY INFORMATION

Study Area	Facility Number	Square Feet	Year Constructed	Survey Date	ACM Identification
G	16	UNK	UNK	7/99	No ACM identified. (small storage shed, unconfirmed facility number)
G	19	7,132	1942	7/99	Floor tile, floor tile mastic
G	25	9,599	1942	7/94	Duct insulation, pipe insulation, roofing sealant, vinyl flooring, floor tile, floor felt, panel adhesive, joint compound, leveling compound, window/door caulking. Floor tile identified during 7/99 survey.
G	26	9,866	1998	7/99	No ACM identified.
G	31	204	1982	7/99	No ACM identified.
G	39	378	1942	7/99	No ACM identified.
G	40	376	1994	7/99	No ACM identified.
H	200	1,576	1978	7/99	No ACM identified.
H	201	41,730	1999	7/99	No ACM identified.
H	202	1,110	1995	7/99	No ACM identified.
H	300	1,592	1978	7/99	No ACM identified.
H	302	1,180	1998	7/99	No ACM identified.
H	306	1,160	1994	7/99	No ACM identified.
H	310	820	1994	7/99	No ACM identified.
H	340	19,500	1994	7/99	No ACM identified.
H	341	216	1994	7/99	No ACM identified.
H	344	160	1996	7/99	No ACM identified.
H	400	169	1970	7/99	Unknown, facility was scheduled for demolition at time of survey.
H	401	358,623	1970	7/99	Unknown, survey team was denied access to the facility.
H	402	7,850	1970	7/99	Unknown, survey team was denied access to the facility.
H	403	7,850	1970	7/99	Unknown, survey team was denied access to the facility.
H	404	7,850	1970	7/99	Unknown, survey team was denied access to the facility.
H	405	7,850	1976	7/99	Unknown, survey team was denied access to the facility.
H	406	668	1970	7/99	Unknown, survey team was denied access to the facility.
H	407	7,200	1981	7/99	Unknown, survey team was denied access to the facility.
H	408	520	1979	7/99	Unknown, survey team was denied access to the facility.

Appendix B Asbestos Survey Information

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SUMMARY OF ASBESTOS SURVEY INFORMATION

Study Area	Facility Number	Square Feet	Year Constructed	Survey Date	ACM Identification
H	409	8,114	1981	7/99	Unknown, survey team was denied access to the facility.
H	410	622	1971	7/99	No ACM identified.
H	412	6,000	1981	7/99	Unknown, survey team was denied access to the facility.
H	413	6,000	1982	7/99	Unknown, survey team was denied access to the facility.
H	414	4,000	1984	7/99	No ACM identified.
H	415	3,500	1984	7/99	No ACM identified.
H	416	1,150	1990	7/99	No ACM identified.
H	417	6,180	1992	7/99	No ACM identified.
H	418	6,000	1986	7/99	Unknown, survey team was denied access to the facility.
H	420	6,000	1987	7/99	Unknown, survey team was denied access to the facility.
H	421	6,000	1990	7/99	No ACM identified.
H	422	6,000	1989	7/99	Unknown, survey team was denied access to the facility.
H	423	5,150	1998	7/99	No ACM identified.
H	425	6,000	1996	7/99	No ACM identified.
H	426	6,000	1994	7/99	No ACM identified.
H	427	1,800	1994	7/99	No ACM identified.
H	429	21,640	1974	7/99	No ACM identified.
H	430	31,301	1971	7/99	Vibration joint compound
H	431	14,000	1971	7/99	Floor tile mastic
H	432	3,316	1971	7/99	No ACM identified.
H	433	10,172	1971	7/99	Floor tile mastic, boiler stack thermal insulation
H	434	3,215	1973	7/99	No ACM identified.
H	435	4,955	1984	7/99	No ACM identified.
H	436	UNK	UNK	7/99	No ACM identified. (tower/antennae facility)
H	437	400	1997	7/99	No ACM identified.
H	438	288	1974	7/99	No ACM identified.
H	439	357	1995	7/99	No ACM identified.

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SUMMARY OF ASBESTOS SURVEY INFORMATION

Study Area	Facility Number	Square Feet	Year Constructed	Survey Date	ACM Identification
H	440	196	1989	7/99	No ACM identified.
H	441	196	1989	7/99	No ACM identified.
H	442	51,315	1998	7/99	No ACM identified.
H	450	388	1993	7/99	No ACM identified.
H	460	13,450	1987	7/99	Unknown, survey team was denied access to the facility.
H	465	23,310	1987	7/99	Unknown, survey team was denied access to the facility.
H	470	150,000	1995	7/99	No ACM identified.
H	471	2,239	1999	7/99	No ACM identified.
H	490	162,206	1997	7/99	No ACM identified.
H	498	795	1997	7/99	No ACM identified.
I	509	230	1984	7/99	No ACM identified.
F	517	180	1994	7/99	No ACM identified.
H	600	14,247	1993	7/99	No ACM identified.
H	620	8,112	1987	7/99	No ACM identified.
H	630	6,992	1973	7/99	No ACM identified.
J	700	14,700	1993	7/99	No ACM identified.
J	703	178	1994	7/99	No ACM identified.
I	706	31,587	1994	7/99	No ACM identified.
J	715	1,446	1988	7/99	No ACM identified.
I	725	21,585	1996	7/99	No ACM identified.
I	730	21,600	1987	7/99	No ACM identified.
J	800	11,000	1980	7/99	Floor tile, floor tile mastic
J	801	109,920	1953	7/99	No ACM identified.
J	802	3,600	1992	7/99	No ACM identified.
J	805	11,200	1996	7/99	No ACM identified.
J	806	13,480	1996	7/99	No ACM identified.
I	813	112	1996	7/99	No ACM identified.

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SUMMARY OF ASBESTOS SURVEY INFORMATION

Study Area	Facility Number	Square Feet	Year Constructed	Survey Date	ACM Identification
I	814	10,320	1971	7/99	Floor tile, floor tile mastic
I	838	3,850	1996	7/99	No ACM identified.
I	841	34,371	1982	7/99	No ACM identified.
I	842	780	1982	7/99	No ACM identified.
I	843	178	1994	7/99	No ACM identified.
I	850	5,876	1975	7/99	Floor tile, floor tile mastic
I	902	4,428	1950	7/99	No ACM identified.
I	906	3,521	1942	7/99	No ACM identified.
J	909	61,327	1956	7/99	Pipe insulation, fitting insulation, floor tile, floor tile mastic, transite siding
J	937	216	1977	7/99	No ACM identified.
I	940	14,275	1971	7/99	Floor tile, floor tile mastic
I	950	20,250	1971	7/99	No ACM identified.
J	960	11,784	1976	7/99	No ACM identified.
J	961	160	1996	7/99	No ACM identified.
K	1000	50,550	1990	7/99	No ACM identified.
K	1004	6,664	1990	7/99	No ACM identified.
K	1005	75,048	1994	7/99	No ACM identified.
K	1006	3,427	1998	7/99	No ACM identified.
K	1006A	UNK	UNK	7/99	No ACM identified. (shed adjacent to Facility 1006)
K	1007	13,908	1994	7/99	No ACM identified.
K	1008	208	1994	7/99	No ACM identified.
K	1009	5,000	1996	7/99	No ACM identified.
K	1011	18,750	1942	7/99	Floor tile, floor tile mastic, transite wallboard
K	1012	253	1967	7/99	No ACM identified.
A	1016	80	1995	7/99	No ACM identified.
F	1101	288	1952	7/99	No ACM identified.
F	1103	264	1977	7/99	No ACM identified.

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SUMMARY OF ASBESTOS SURVEY INFORMATION

Study Area	Facility Number	Square Feet	Year Constructed	Survey Date	ACM Identification
F	1104	394	1969	7/99	No ACM identified.
F	1108	64	1968	7/99	No ACM identified.
F	1109	320	1968	7/99	No ACM identified.
F	1110	912	1986	7/99	No ACM identified.
D	1201	21,300	1991	7/99	No ACM identified.
D	1202	7,850	1991	7/99	No ACM identified.
D	1203	2,642	1993	7/99	No ACM identified.
D	1204	7,450	1993	7/99	No ACM identified.
D	1207	180	UNK	7/99	No ACM identified.
E	1301	133,868	1990	7/99	Unknown
E	1302	5,980	1990	7/99	Floor tile, floor tile mastic
E	1303	1,860	1990	7/99	Floor tile, floor tile mastic
E	1304	178	1990	7/99	No ACM identified.
E	1305	2,025	1998	7/99	No ACM identified.
A	1400	86	1995	7/99	No ACM identified.
A	1411	1,500	1942	7/99	No ACM identified.
A	1413	600	1942	7/99	No ACM identified.
A	1415	NA	1985	7/99	No ACM identified.
A	1417	UNK	UNK	7/99	No ACM identified.
A	1418	UNK	UNK	7/99	No ACM identified.
A	1419	UNK	UNK	7/99	No ACM identified.
K	1500	38,716	1977	7/99	Floor tile, floor tile mastic
K	1501	100	1977	7/99	No ACM identified.
K	1502	600	1977	7/99	No ACM identified.
K	1503	670	1977	7/99	No ACM identified.
K	1504	416	1984	7/99	No ACM identified.
K	1505	UNK	UNK	7/99	No ACM identified.

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SUMMARY OF ASBESTOS SURVEY INFORMATION

Study Area	Facility Number	Square Feet	Year Constructed	Survey Date	ACM Identification
L	1520	4,420	1994	7/99	No ACM identified.
L	1550	15,175	1994	7/99	No ACM identified.
L	1551	136	1983	7/99	No ACM identified.
A	1603	1,680	1993	7/99	No ACM identified.
A	1604	9,216	1874	7/99	No ACM identified.
A	1605	441	1958	7/99	No ACM identified.
A	1606	8,786	1954	7/99	Tank insulation, fitting insulation, pipe insulation, transite wallboard
A	1607	292	1984	7/99	No ACM identified.
A	1608	80	1995	7/99	No ACM identified.
A	1609	80	1995	7/99	No ACM identified.
B	1610	7,200	1996	7/99	No ACM identified.
B	1611	720	1996	7/99	No ACM identified.
B	1612	1,963	1996	7/99	No ACM identified.
B	1613	2,300	1996	7/99	No ACM identified.
B	1614	2,300	1996	7/99	No ACM identified.
A	1619	2,209	1987	7/99	No ACM identified.
B	1620	1,600	1967	7/99	No ACM identified.
C	1621	4,142	1942	7/99	No ACM identified.
C	1622	3,457	1942	7/99	Fitting insulation, pipe insulation
C	1623	400	1942	7/99	Sheet rock
C	1624	7,166	1970	7/99	No ACM identified.
C	1626	1,040	1942	7/99	No ACM identified.
C	1627	1,040	1942	7/99	No ACM identified.
C	1628	1,040	1942	7/99	No ACM identified.
C	1629	1,040	1942	7/99	No ACM identified.
B	1631	3,025	1990	7/99	Floor tile, floor tile mastic
B	1632	600	1956	7/99	No ACM identified.

Appendix B Asbestos Survey Information

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SUMMARY OF ASBESTOS SURVEY INFORMATION

Study Area	Facility Number	Square Feet	Year Constructed	Survey Date	ACM Identification
C	1633	512	1967	7/99	No ACM identified.
G	69004	1,320	1982	7/99	No ACM identified.
UNK	69005	1,378	1998	7/99	No ACM identified.
UNK	69007	864	1989	7/99	No ACM identified.
UNK	69008	220	1991	7/99	No ACM identified.
UNK	69010	45	1993	7/99	No ACM identified.
UNK	69011	77	1993	7/99	No ACM identified.
UNK	69017	560	1999	7/99	No ACM identified.

ACM = asbestos containing material

UNK = unknown

Source: Air National Guard, no date.

**APPENDIX C
CONSULTATION AND COORDINATION**

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-----Original Message-----

From: Robert_Leachman@fws.gov [mailto:Robert_Leachman@fws.gov]
Sent: Friday, November 30, 2001 8:22 AM
To: elise.sherva@buckley.af.mil
Cc: Al_Pfister@fws.gov
Subject: buckley MACS-23

Elise - I skimmed the draft EA and have no comments. PD section looks fine. thanks... Bob Leachman



PLANNING DEPARTMENT

1470 South Havana Street
Aurora, Colorado 80012
303-799-2110
444 South 1st Ave. 7000

December 6, 2001

Chief, Environmental Management
460 CES/CC
660 South Aspen Street (Stop 86)
Buckley Air Force Base, CO 80011-9551

Re: Draft Environmental Assessment for MACS-23 Facility Improvements
Projects, Buckley Air Force Base, Colorado, November 2001

Dear Sir/Madam:

The City of Aurora Planning Department has reviewed the above-referenced document and has the following comments:

Sections 3.2 and 3.2.2: These two sections are incorrect when referring to the Denver metro region as being non-attainment. In 2001, the Denver metro region received attainment status for carbon monoxide and ozone.

Section 4.1.1: The Tri-County Health Department – Air Quality Program requires a Fugitive Dust Control Plan for land development projects with surface disturbance over one acre and less than 25 acres in size.

Section 4.4.1: It is advisable to review the City of Aurora Design and Technical Criteria Manual to determine if a Storm Water Quality Permit will be required from the City of Aurora Public Works Department.

Thank you for giving the City the opportunity to respond to the Draft Environmental Assessment. We look forward to receiving the Final Environmental Assessment.

Sincerely,

A handwritten signature in black ink that reads "Denise M. Balkas". The signature is written in a cursive style.

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

TJC/bb

P:\coordination projects\2001 Aurora Fitz/Landfills/Comments_DraftEA_BAFB_MACS23.doc

c: Frank Ragan, Deputy City Manager of Operations

**APPENDIX D
NOTICE OF AVAILABILITY**

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**Public Notice
U.S. Air Force
Notice of Availability**

Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the construction and operation of facility improvement projects at the Marine Air Control Squadron-23 unit at Buckley Air Force Base. This EA evaluates the potential environmental impacts at Buckley Air Force Base. The EA has been prepared per the National Environmental Policy Act to analyze the potential environmental consequences of the Proposed Action. The United States Air Force (USAF) has prepared this EA to assess the potential environmental effects resulting from the construction and operation of improvement projects (such as larger walkways, protective awnings, parking lot, etc.) at the unit sites, which are required to improve the sites for current and future use and to better meet environmental requirements.

Comments must be received by December 7, 2001.

Copies of the respective EAs and FONSI's may be found at the following public libraries: Aurora Public Library, Government Document section, 14949 East Alameda Drive, Aurora, CO 80012, 303-739-6600 or Denver Public Library, Government Document section, 10 West Fourteenth Ave., Denver, CO 80204, 303-640-6200.

Interested parties should address their comments, questions, or concerns to: Chief, Environmental Management, 821st SPTS/CEV, Stop 26, 660 South Aspen Street, Buckley AFB, Colorado, CO 80011-9551, 303-677-9402.

Appendix D Notice of Availability

**THE Denver Newspaper Agency
DENVER, CO**

PUBLISHER'S AFFIDAVIT

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

Collene Curran

..... being of lawful
age and being first duly sworn upon oath, depose and say:
Legal Advertising Reviewer

That he/she is the
Of **The Denver Newspaper Agency**, publisher of the **Denver Post** and
Rocky Mountain News, daily newspapers of general circulation published
and printed in whole or in part in Denver, in the County of Denver and
State of Colorado, and that said newspaper was prior to and during
all the time hereinafter mentioned duly qualified for the publication of
legal notices and advertisements within the meaning of an Act of the
General Assembly of the State of Colorado,
Approved April 7, 1921, as amended and approved March 30, 1923;
And as amended and approved March 8, 1935, entitled "An Act
Concerning Legal Notices, Advertisements and Publications and the
Fees of printers and publishers thereof, and to repeal all acts and parts
of acts in conflict with the provision of this Act" and amendments
thereof.

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

.....
November 2, 2001
.....

Signature

Subscribed and sworn to before me this 2nd day

Of November A.D. 2001

Deane Shupillo
Notary Public

My commission expires 12/18/01

**Public Notice
U.S. Air Force
Notice of Availability**

Latest Environmental Assessment (EA) and Draft
Finding of No Significant Impact (FONSI) for the
construction and operation of facility improvement
projects at the Marine Air Control Squadron-23 unit
of Buckley Air Force Base. This EA evaluates the
potential environmental impacts at Buckley Air
Force Base. The EA has been prepared per the
National Environmental Policy Act to ensure the
potential environmental consequences of the im-
proved facility. The United States Air Force (USAF)
has prepared this EA to assess the potential envi-
ronmental effects resulting from the construction
and location of improvement projects (such as
runway, taxiway, parking areas, parking lot,
etc.) at this unit site, which are required to im-
prove the site for current and future use and to
better meet environmental requirements.

Comments must be received by December 3,
2001.

Copies of the respective EAs and FONSI may be
found at the following public libraries: Aurora Pub-
lic Library, Government Document section, 1240
East Alameda Street, Aurora, CO 80012; 303-778-
5400 or Denver Public Library, Government Docu-
ment section, 14 West Fourteenth Ave., Denver, CO
80202; 303-733-4400.

Interested parties should address their comments,
questions, or concerns to: Chief, Environmental
Management, 400 CESE-EV, (300 56), 400 South
Agate Street, Buckley AFB, Colorado, CO 80111;
951. 30-77-4400.