

## FINDING OF NO SIGNIFICANT IMPACT

**PROPOSED ACTION:** Cadet Area Protective Perimeter (CAPP I & II)

**PROPONENT:** United States Air Force, Air Force Academy

An environmental assessment was prepared for a proposed physical security boundary around the Cadet Area. Following September 11, 2001 a series of temporary physical security measures were immediately put into place around the Cadet Area. Today, substantial physical security measures are a permanent component of public facilities in the United States. Accordingly, this proposal replaces expedient measures with actions in two phases that blend to the maximum extent possible security needs and the Academy architectural theme.

**BACKGROUND:** Pursuant to the National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. 4321, *et seq.*, the President's Council on Environmental Quality (CEQ) regulations, 40 CFR 1500-1508, and Air Force Instruction (AFI) 32-7061, *The Environmental Impact Analysis Process*, as promulgated in 32 CFR Part 989, the US Air Force Academy conducted an assessment of the potential environmental consequences of the proposed action and alternatives, both as solitary actions and in conjunction with other activities. This Finding of No Significant Impact (FONSI) summarizes the results of the evaluation. Its discussion focuses on activities that have the potential to change both the natural and human environments.

**PROPOSED ACTION:** Alternative 1.

- CAPP I. Construction target 2003-2004. Construct a secure perimeter around the Cadet Area, including approximately 10,000 lineal feet of black vinyl coated chain link fencing. Construct the remaining perimeter using architectural fencing, electronic vehicle gates, pedestrian gates, a retaining wall, an electronic security and surveillance system, and guardhouses at vehicle entrances. The project includes utilities, communication lines, and site improvements.

- CAPP II. Construction target 2006-2007. Construct approximately 1,700 lineal feet of permanent granite walls to match the existing Cadet Area architectural scheme. Remove the CAPP I chain link fence below Sijan Hall after granite wall construction. Restrict vehicle parking within the Cadet Area and reclaim to improved grounds approximately four acres of paved vehicle parking areas.

**ALTERNATIVES:**

- Alternative 2. No Action. Continue an unsatisfactory level of physical security around the Cadet Area as well as a manpower intensive security response in the event of higher force protection conditions.

# Report Documentation Page

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- Alternative 3. Placement of the chain link fence portion of the proposed perimeter nearer Sijan Hall and outside of the Preble's meadow jumping mouse habitat. This creates an undesirable psychological impact on cadets as well as visitors, violates Academy Planning Principles, and degrades the view of the Cadet Area as a historical landmark.

## **SUMMARY OF FINDINGS:**

### **Natural Environment:**

#### **Wildlife:**

- A section of the proposed fence will enter habitat for the federally-threatened Preble's meadow jumping mouse (Preble's) (*Zapus hudsonius preblei*). The Academy has completed Section 7(a) formal consultation with the U.S. Fish and Wildlife Service and required mitigations are included in this FONSI.

- No designated critical habitat or other federally-listed or proposed species are known to occur in the project area.

- It is possible the larger wildlife species (Mule deer, etc.) found on the Academy may occasionally cross into the Cadet Area and be trapped by the fencing. The Academy has procedures for capture and removal if this occurs.

- There is a small loss of natural wildlife habitat due to fence placement and construction disturbance of vegetation.

**Water Resources:** Project construction may create temporary impacts to water quality from erosion of disturbed soil. This will be minimized by the Academy's use of best management practices outlined in the USAFA Overarching Environmental Specifications. Additionally, the project will comply with the storm water construction permit standards promulgated under the authority of the Clean Water Act. Wetlands and floodplains will not be impacted by any of the alternatives.

**Land Use:** The proposal was not envisioned by the Academy's General Plan, but it is consistent with the Academy Planning Principles listed in the plan.

**Air Quality:** Fugitive dust from construction activities can be expected to have a temporary impact in the Cadet Area. As vehicle traffic is currently slowed by Academy security requirements, emissions from idling vehicles awaiting access will not appreciably change. No change is anticipated to the Academy's status as a minor hazardous air pollutant source.

**Geology and Soils:** No geologic impact. Some land areas are naturally sloped and disturbance will increase erosion over the No Action alternative. The primary soil type in the Cadet Area (Jarre) ranges from low to medium shrink-swell potential, which in some locations may contribute to fence post instability. Both the Jarre and Pring soils have a moderate water erosion problem, which may increase impacts. Best management practices of minimal soil disturbance and re-vegetation techniques (USAFA Overarching Environmental Specifications) will minimize erosion.

**Human Environment:**

**Socioeconomics:**

- The presence of a fence and other access impediments will make living and working in the Cadet Area less enjoyable. This may be offset somewhat by the feeling of greater security.

- The greater restriction on tourist access to the Cadet Area, both in fact and appearance, could potentially deter would-be tourists and thereby lower Visitor Center revenues. Eventually this would impact cadet programs.

**Cultural Resources:** No direct impact on cultural resources is envisioned. The indirect impact of changes to viewshed is minimized by deliberate design of unobtrusive yet effective physical security. The Academy completed coordination with the State Historic Preservation Officer, who concurred there is no adverse effect.

**Transportation:** Transportation to and from the Cadet Area is not significantly impacted above present day restrictions. CAPP II, by removing the chain link fence below Sijan Hall in favor of a close-in granite wall, places the lower parking lot outside of the current restricted area and partially balances parking area losses.

**Noise:** Only construction noise will cause an impact. Construction work hours are appropriately restricted to limit interference with cadet life.

**Environmental Justice:** Only cadets and military, civil service, and contractor personnel who work in the area are affected. Minority or low-income populations are not disproportionately affected by the proposed action or alternatives.

**Cumulative Impacts:** The impact of this project considered in conjunction with the other activities in the Cadet Area, does not, from a cumulative effects standpoint, rise to the level of significant environmental impacts.


**Irreversible and Irretrievable Commitment of Resources:** Minimal construction consumption. The chain link fence in CAPP I will be recycled if possible.

**MITIGATIONS:** The below mitigations are essential to achieving a FONSI. Additionally, the best management practices listed in the USAFA Overarching Environmental Specifications will be followed to ensure further environmental protection and good stewardship.

- The following mitigations refer to the Preble's habitat below Sijan Hall.
  - All fence construction within Preble's habitat shall be done using hand labor and portable fencing tools. No vehicle traffic shall be allowed.
  - All fence construction in Preble's habitat shall be accomplished between October 15 and May 15 (Preble's hibernation period).
  - No vehicle roads or trails will be created inside or outside the fence perimeter in Preble's habitat.
  - No mowing shall occur in Preble's habitat, inside or outside the fence perimeter.
  - Any minor ground disturbance resulting from the installation of the fence (e.g. postholes) shall be reseeded with a locally adapted native seed mix.
  - Remove the CAPP I chain link fence as part of the CAPP II project and restore the disturbed area.
- As an offset mitigation, mowing will be discontinued in upland Preble's habitats near the Fire Training Center and Rod & Gun Club.
- As an offset mitigation, 300 willow transplants will be planted within the Lehman Run storm water detention basins.

**FINDING OF NO SIGNIFICANT IMPACT:** Based on the attached environmental assessment conducted in accordance with the requirements of NEPA, CEQ regulations, and AFI 32-7061 as promulgated in 32 CFR Part 989, and by virtue of the mitigations listed above, I find the proposed action of creating a physical security boundary around the Cadet Area will have no significant individual or cumulative impacts upon the environment. An Environmental Impact Statement is not warranted and one will not be prepared.

**APPROVED:**

  
\_\_\_\_\_  
KEVIN A. COLLINS, Colonel, USAF  
Chairperson  
Environmental Protection Committee

  
DATE

# ENVIRONMENTAL ASSESSMENT

## CADET AREA PERIMETER PROTECTION (CAPP I & II) PROJECT

**PROPOSED ACTION:** Provide a physical security barrier around the USAF Academy Cadet Area. The work is identified as project 04-4005, Cadet Area Perimeter Protection (CAPP) I, and project 05-4001, CAPP II.

**TYPE OF STATEMENT:** Environmental Assessment (EA)

**LEAD AGENCY:** 10th Civil Engineer Squadron Environmental Division (10CES/CEV)

**ABSTRACT:** This environmental assessment (EA) contains analyses of the environmental consequences associated with, and an assessment of the potential environmental consequences of providing perimeter physical protection to the Cadet Area. The EA considers potential impacts of the Proposed Action and the alternatives, both as solitary actions and in conjunction with other activities.

This EA is prepared pursuant to the National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. 4321, et seq., the President's Council on Environmental Quality (CEQ) regulations, 40 CFR 1500-1508, and Air Force Instruction (AFI) 32-7061, The Environmental Impact Analysis Process, as promulgated in 32 CFR Part 989.

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### ACRONYMS

AFI	Air Force Instruction
amsl	above mean sea level
APCD	Air Pollution Control Division
AST	Aboveground Storage Tanks
CDOW	Colorado Division of Wildlife
CDPHE	Colorado Department of Public Health and Environment
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulation
CNHP	Colorado Natural Heritage Program
CO	carbon monoxide
dBA	decibels on the A-weighted scale
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
FONSI	Finding of No Significant Impact
I-25	Interstate 25
INRMP	Integrated Natural Resources Management Plan
L <sub>dn</sub>	day-night average noise levels
MSDS	Material Safety Data Sheet
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
PM <sub>10</sub>	particulate matter <10 microns
PMJM	Preble's meadow jumping mouse
SAFE	Secure Academy for Everyone
SHPO	State Historic Preservation Officer
TSDF	Treatment, Storage, or Disposal Facility
TNC	The Nature Conservancy
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	Underground Storage Tanks



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

### **1.1 Introduction**

The United States Air Force proposes to construct a permanent perimeter barrier around the “core” Cadet Area at the United States Air Force Academy (Academy) in Colorado Springs, Colorado. This action replaces and improves upon expedient physical security measures set up immediately after the events of September 11, 2001.

September 11th changed forever the physical security requirements of public facilities in the United States. The Academy has restricted access to the Cadet Area, and this restriction is expected to continue for the foreseeable future. However, quality of life, architectural compatibility, and historic preservation are also Academy requirements, and this project reflects the return to those standards from temporary expediency.

The 18,455-acre Academy is situated along the Rocky Mountain Front Range, approximately 6 miles north of downtown Colorado Springs and 60 miles south of Denver, Colorado (Figure 1). Superimposed on a one-base major command with facilities and organizational structures common to traditional Air Force bases, is an undergraduate university function. There is a resident population of nearly 9,000, which includes approximately 4,000 cadets. An additional 7,000 non-resident military, civil service, and contractor personnel work on the base. The mission of the Academy is to:

*Inspire and develop outstanding young men and women to become Air Force officers with knowledge, character, and discipline, motivated to lead the world's greatest aerospace force in service to the nation.*

The Cadet Area encompasses approximately 1000 acres and is the most highly developed of all Academy facility areas. This area contains cadet living quarters, academic spaces, administrative areas, the cadet chapel, athletic facilities, tourist areas, and preserved natural and general open space. The Cadet Area is on a mesa above and north of the Lehman Run drainage. It is set off from other areas of the Academy by monumental-style architecture, the location on a promontory, and by a foreground and backdrop of natural open space.

### **1.2 Purpose and Need**

The purpose of the proposed action is to enhance the security of Academy cadets and other personnel and reduce vulnerability to terrorist attacks. Constructing a perimeter barrier around the Cadet Area will further inhibit access to this dense population area by potential terrorists and increase the probability of their detection. The proposed action is part of a larger effort to implement force protection measures at U.S. Department of Defense facilities worldwide. The implementation of such measures at the Academy was originally referred to as Project SAFE (Secure Academy For Everyone). Force protection refers to measures designed to protect personnel, facilities, and equipment that support national defense missions, with the primary goal of minimizing loss of life and other critical assets.

Department of Defense personnel, facilities, and materials are potential targets for attack by terrorists. The 1996 terrorist attack at Khobar Towers in Saudi Arabia dramatically underscored the fact that the threat of terrorism against U.S. military forces is a reality. Additionally, the terrorist acts at the World Trade Center and Pentagon emphasize that such attacks are not relegated to foreign soils, but are a threat to every U.S. defense facility, regardless of location. U.S. military forces, including the Air Force, must learn from these incidents and respond accordingly.

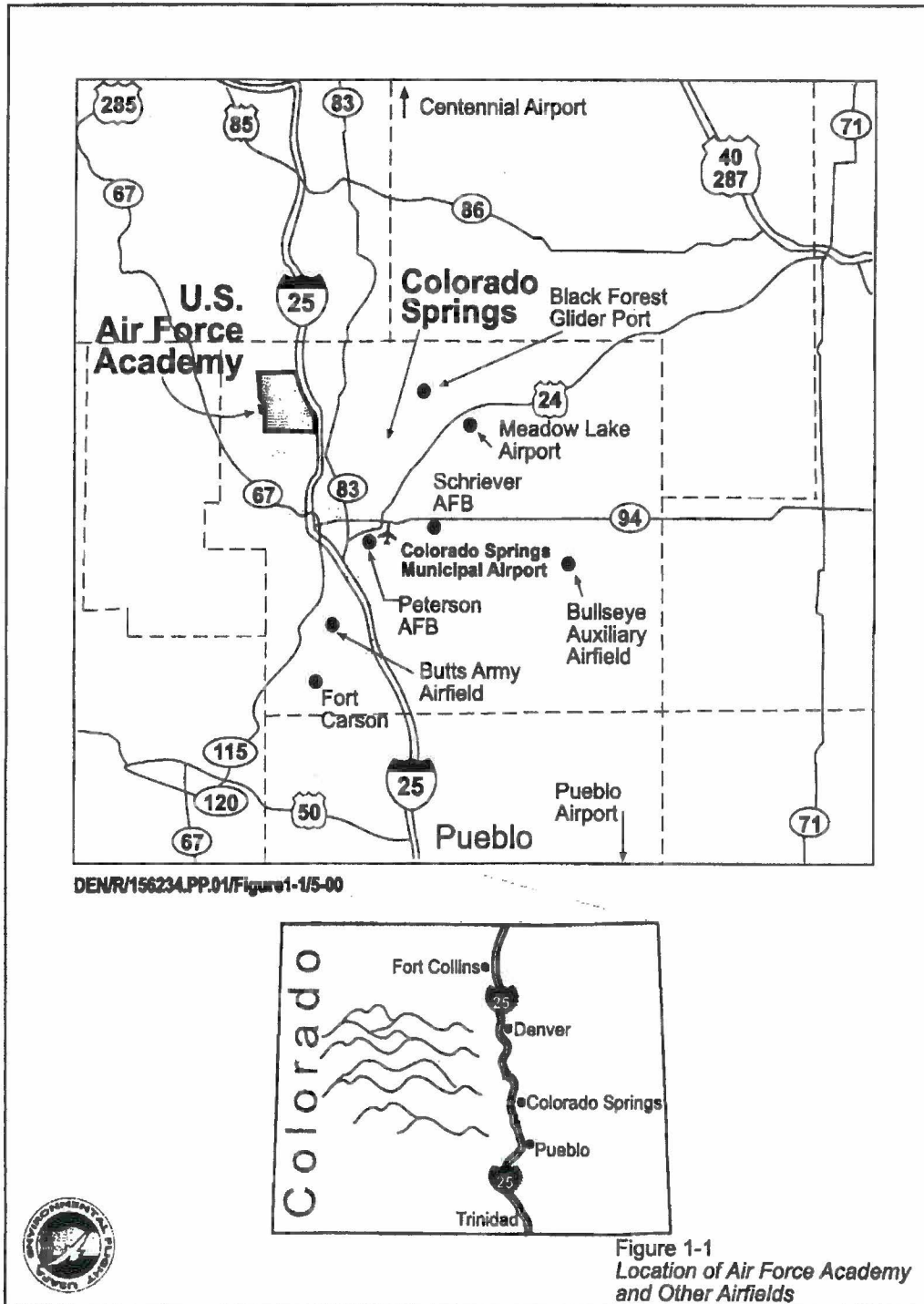
### **1.3 Decisions to be Made**

The analysis in this EA evaluates the potential benefits and environmental consequences of constructing a perimeter barrier around the Cadet Area. Based on this information, the Chairperson of the Environmental Protection Committee will determine whether to issue a Finding of No Significant Impact (FONSI) or to prepare an Environmental Impact Statement (EIS). As required by NEPA and its implementing regulations, preparation of an environmental document must precede final decisions regarding the proposed project, and be available to inform decision makers of the potential environmental impacts of selecting the proposed or alternative actions.

### **1.4 Organization of this Environmental Assessment**

This EA evaluates three alternatives: Alternative 1 (Proposed Action), Alternative 2, (No Action) and Alternative 3 (Siting Alternative). The approach used for this EA is to identify and describe the proposed and alternative actions in Section 2. Section 3, Affected Environment, describes the environment on and around the Cadet Area that could be potentially affected by the proposed or alternative actions. Section 4, Environmental Consequences, addresses potential impacts of the proposed or alternative actions.

**Figure 1 Location of the Air Force Academy**



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## 2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

The Cadet Area (Figure 2) of the Academy is located in the northwest corner of the Academy's developed land. It is bounded by Academy Drive on the north and west, by Parade Loop on the east, and generally by portions of Cross Drive on the southeast and Faculty Drive on the south (Figure 2). Cadet activities are focused in this area, which contains dormitories, classroom buildings, the chapel, an observatory, athletic facilities, and support facilities. Currently, cadets move from this area to and from athletic fields and outlying parking lots, while visitors move into the area from the Visitors Center to visit the chapel in particular, but to view cadets and visit other facilities. In addition, faculty and staff, and outside vendors, come into the Cadet Area to support cadets through their various roles.

The broken topography of the Rampart Range foothills provides a dramatic setting for the granite, glass, and steel buildings, which sit in geometric symmetry atop a plateau that is bounded by ridges and valleys in the foreground, with the Rampart Range serving as the ultimate backdrop to the west. The sense of geometric symmetry, its contrast with the surrounding topography, and the boundaries of the plateau are enhanced in places by granite walls.

Following September 11, 2001 the Academy took several security measures including sentry points, portable concrete barriers, and door locks with access cards. The proposed project is to replace many of the expedient actions with permanent barriers. Additionally, the proposal is to secure the complete Cadet Area perimeter and limit the number of ingress and egress points to a few that are continually monitored. At the southern edge of the Cadet Area, a portion of the fence will eventually be replaced by an additional granite wall. This proposed action constitutes the first phase of a force protection measure to create a secure perimeter, termed Cadet Area Protective Perimeter (CAPP), around the cadet area that consists of fencing, other major impediments, and related structures. This project will be completed in two major phases (CAPP I and CAPP II) over a six to seven year period beginning in 2003. CAPP I will involve constructing a perimeter barrier around the central Cadet Area. The following three types of fencing will be used in this construction effort:

- A granite-faced retaining wall, 2-3 feet high depending on grade, will be placed at the parking lot west of Harmon Hall. Due to the height and location of this barrier, granite facing will be used to maintain consistency with the surrounding architectural style.
- Black, chain link fencing (approximately 8 feet high) will be constructed at various locations around the Cadet Area. Chain link fencing will be used within native areas where it will provide increased security, while blending into the natural surrounding environment.
- Architectural fencing will be used in areas of open view in order to retain visual appeal. This type of fencing incorporates materials that blend with the immediate surroundings and will be constructed in a way that maintains or enhances aesthetic values.

CAPP II continues and improves upon the goals of CAPP I. CAPP II's granite wall, 20 feet high depending on grade, replaces the approximately 2000 linear feet of CAPP I chain link fence below Sijan Hall. The granite wall is next to Sijan Hall, outside of Preble's meadow jumping mouse habitat, and matches the existing granite walls in several Cadet Area locations. Granite walls are part of the Cadet Area architectural theme south of the Aeronautics Laboratory, east of Fairchild Hall, and north of Vandenberg and Arnold Halls.

CAPP II also contains a landscaping portion, removing unused paved parking areas and returning the disturbed area to landscaped grounds. These parking areas are unused because of post 9-11 security requirements.

Another goal of the activity is to minimize the visual obtrusiveness of the fence; to preserve the architectural resonance of the area's design and to keep the cadets from feeling confined. In order to minimize the overall visual impact from both within and outside the Cadet Area, the use of existing physical features will be incorporated into the fence design. Fencing will follow topographic contours along hillsides, be partially hidden by topography and vegetation, and attach to existing structures at various locations. Fence construction will only occur where Cadet Area buildings and existing fences do not already provide an effective barrier.

Additional constraints are the presence of a threatened species, the Preble's meadow jumping mouse to the south, soils and slopes being encountered in the path of the proposed fence, steep natural storm water drainages, use of the surrounding slopes by mule deer, elk, raptors, and other wildlife, and the parking lots on the south side of the Cadet Area with associated access roads.

The Academy adopted a two-phased approach for several reasons. The need for a secure perimeter is pressing and installing a Sijan Hall granite wall immediately in CAPP I would extend design and construction time. Funds are also not available in the FY03 MILCON program to complete both CAPP I and CAPP II in one project.

After considering the above goals and constraints, three alternatives have been developed concerning barrier emplacement and increasing the security of the Cadet Area.

## **2.1 Alternatives**

### **2.1.1 Alternative 1 - Proposed Action (Figures 3 and 4)**

CAPP I. Construction target 2003-2004. Construct a secure perimeter around the Cadet Area, including approximately 10,000 lineal feet of black vinyl coated chain link fencing. Construct the remaining perimeter using architectural fencing, electronic vehicle gates, pedestrian gates, a retaining wall, an electronic security and surveillance system, and guardhouses at vehicle entrances. The project includes utilities, communication lines, and site improvements.

CAPP II. Construction target 2006-2007. Construct approximately 1,700 lineal feet of permanent granite walls to match the existing Cadet Area architectural scheme. Remove the CAPP I chain link fence below Sijan Hall after granite wall construction. This will remove the lower Sijan Hall parking area from the security zone. Restrict vehicle parking within the Cadet Area and convert approximately four acres of paved vehicle parking areas to landscaped grounds.

**2.1.2 Alternative 2 - No Action.** Continue an unsatisfactory level of physical security around the Cadet Area as well as a manpower intensive security response in the event of higher force protection conditions.

**2.1.3 Alternative 3 - Siting Alternative.** Place the chain link fence portion of the proposed perimeter nearer Sijan Hall and outside of the Preble's meadow jumping mouse habitat. This creates an undesirable psychological impact on cadets as well as visitors, violates Academy Planning Principles, and degrades the view of the Cadet Area as a historical landmark.

Figure 2 Cadet Area

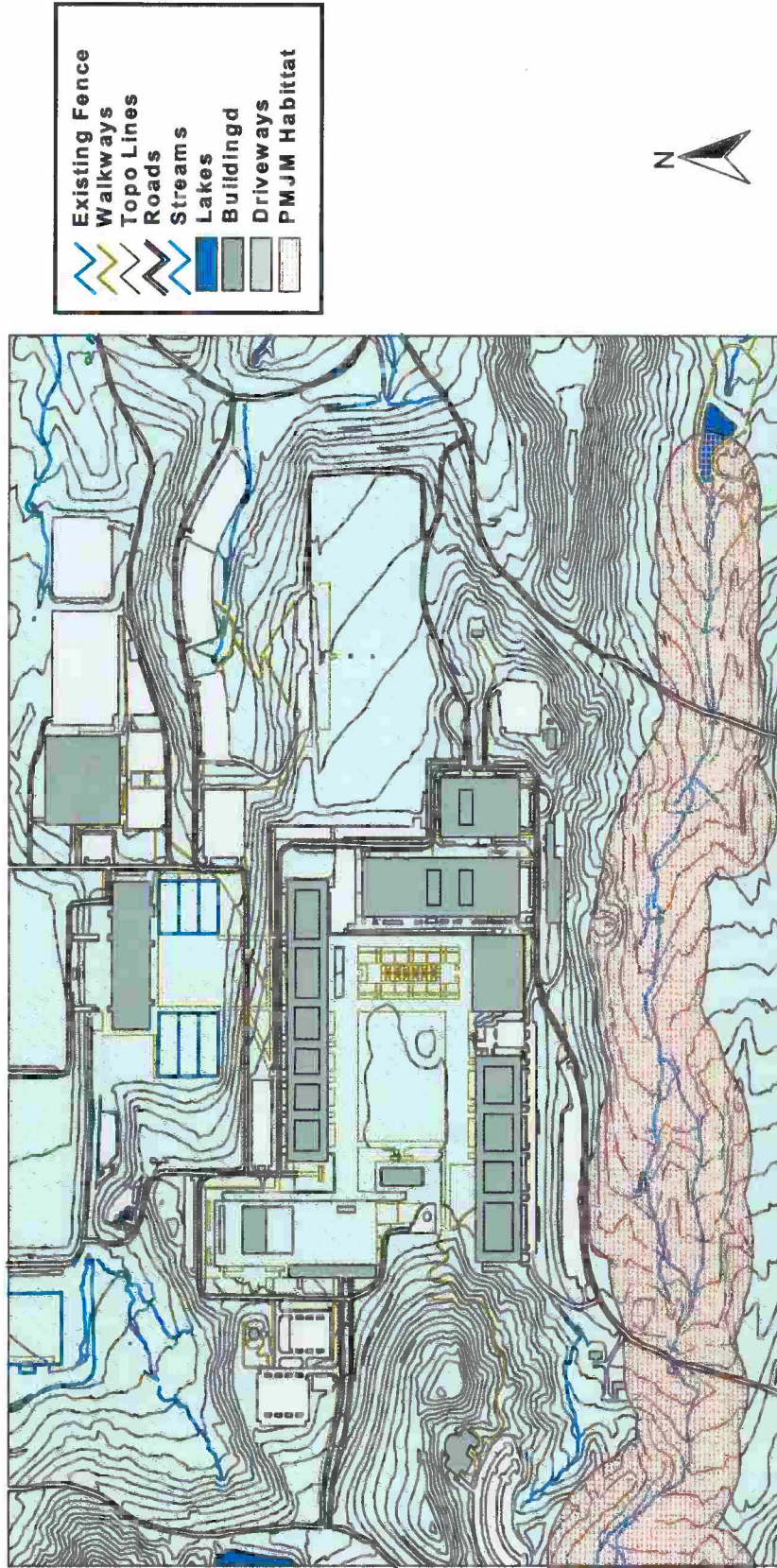


Figure 3 Proposed Alternative - CAPP I

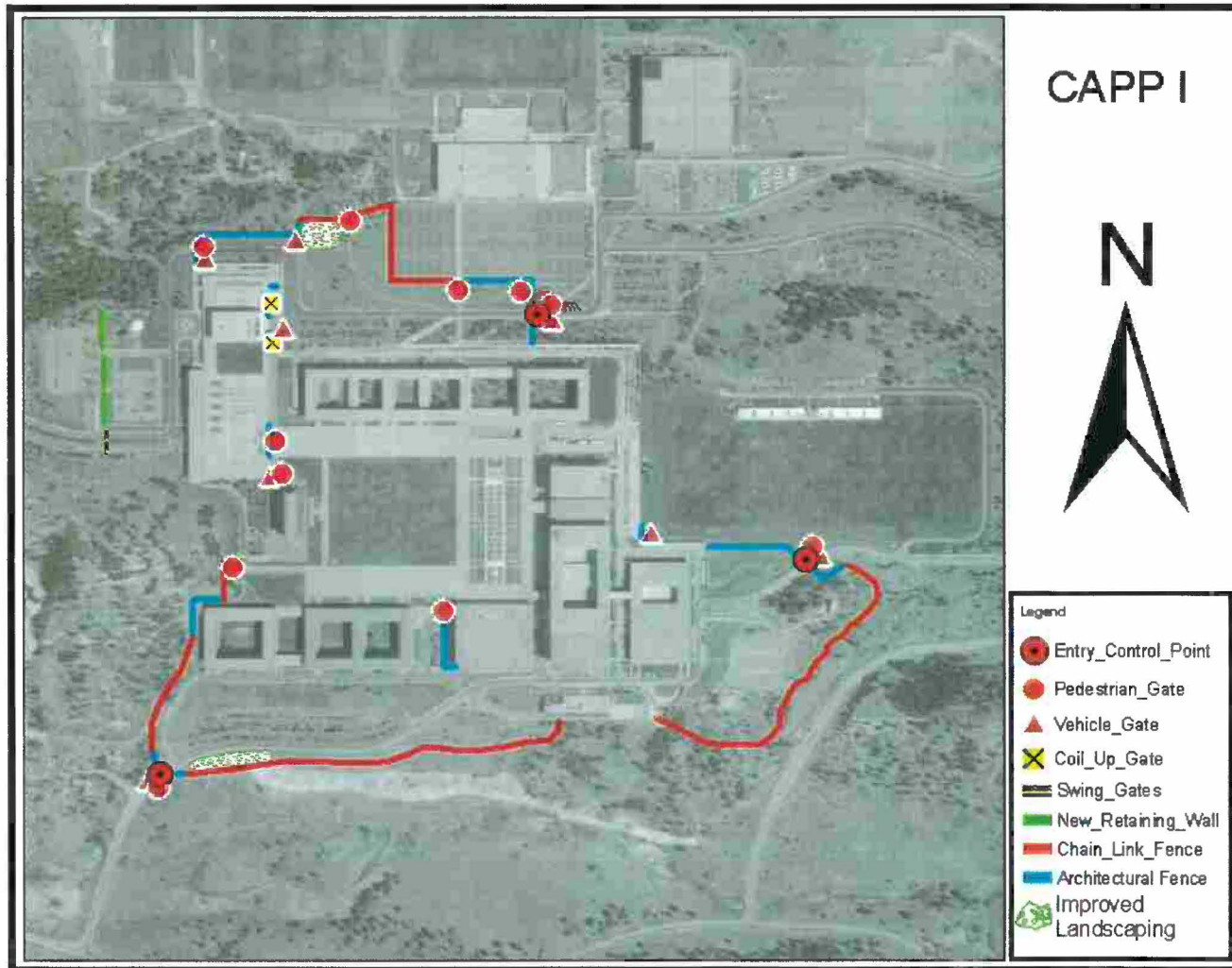
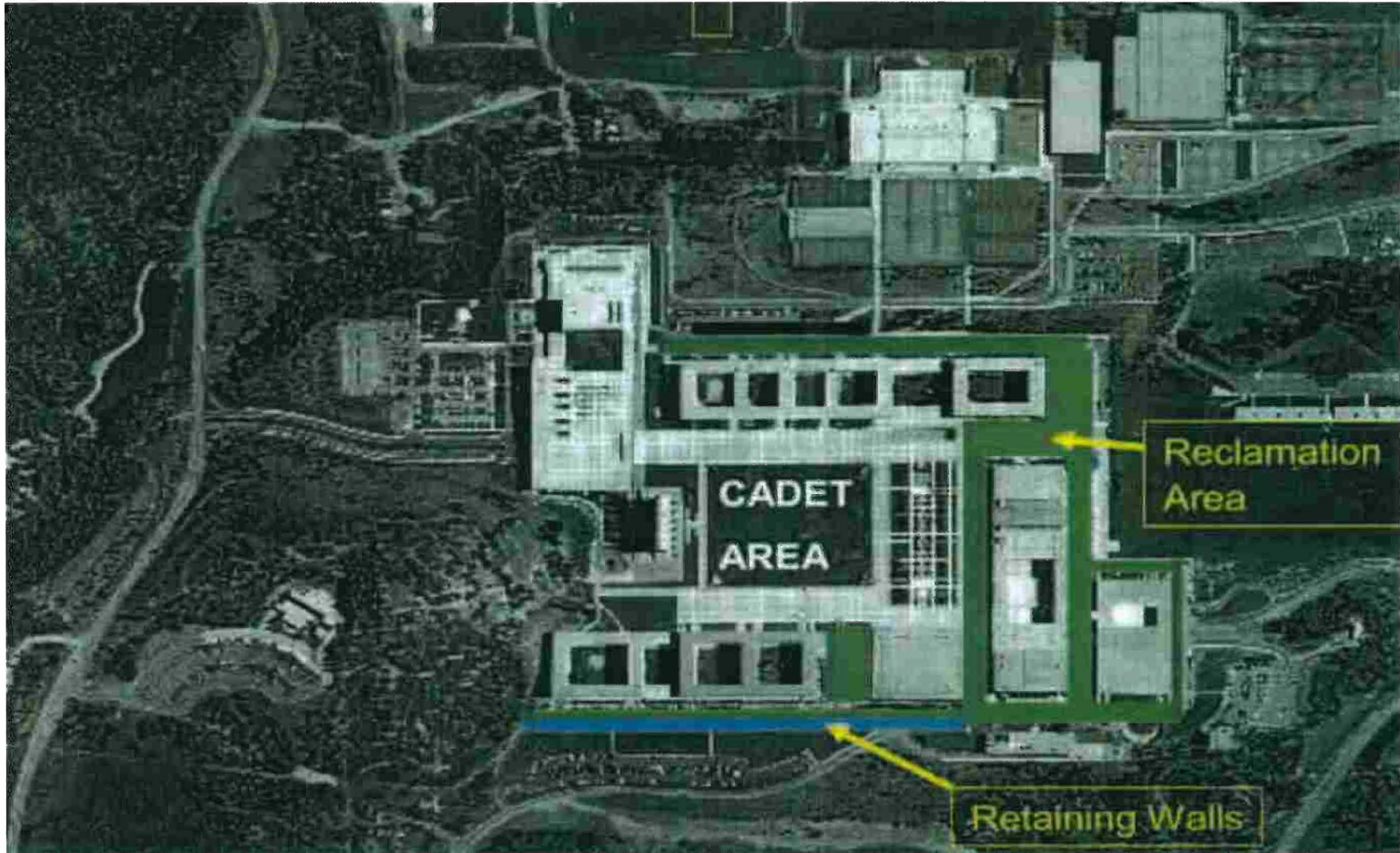




Figure 4 Proposed Alternative - CAPP II



### **3.0 AFFECTED ENVIRONMENT**

The affected environment is the baseline against which potential impacts caused by a proposed action are assessed. This chapter describes the natural and human existing environments.

#### **3.1 Climate and Air Quality**

##### **3.1.1 Climate**

The climate of the Academy is considered semi-arid with approximately 15 inches of annual precipitation. The majority of precipitation occurs between March and September during thunderstorms and occasional hailstorms. Snowstorms occur every winter, but blizzards are rare. Annual temperatures at the Academy range from a monthly mean of 30°F in January to 86°F in July. In summer, the average daily temperature is 68.4°F and the average daily maximum is 82.3°F. The highest recorded temperature was 100°F in June 1954. Temperature inversions are a common occurrence in the region, typically taking place during the winter months.

The average relative humidity ranges from approximately 35 to 45 percent, with the lowest levels occurring in mid-afternoon during the spring months. Humidity is higher at night in all seasons, and the average at dawn is about 63 percent. The percentage of sunshine is 72 percent in summer and 71 percent in winter. The prevailing direction of the wind is from the north-northeast. Average wind speed is 10.4 miles per hour (mph), with higher average speeds (12.2 mph) in April (Nakata and Associates [Nakata] 1992).

##### **3.1.2 Air Quality**

The area surrounding the Academy is currently in compliance with all National Ambient Air Quality Standards (NAAQS). The Colorado Springs metro area has been re-designated as a "maintenance" area for CO. Despite the re-designation, CO is and will continue to be the region's major concern, as increasing growth threatens to offset the effects of recent control strategies (CDPHE - Air Pollution Control Division [CDPHE-APCD] 1999).

The high altitude and adjacent mountains provide ideal conditions for temperature inversions, which reduce the area's ability to disperse pollutants. These occurrences can occasionally lead to PM<sub>10</sub> (particulate matter <10 microns) violations of NAAQS. Primary contributors of PM<sub>10</sub> violations are fireplace emissions and fine particulates generated from street sanding operations. Although the region currently shows compliance with the fine particulate standard, further control strategies for PM<sub>10</sub> are being considered.

## **3.2 Geology and Soils**

### **3.2.1 Geology**

The USAF Academy is located at the base of the Rampart Range. The average elevation of the Cadet Area is approximately 7,000 feet amsl. The Dawson Arkose, which is comprised of sandstone, siltstone, claystone, and minor conglomerate, underlies most of the Cadet Area. The Dawson Arkose was created by the erosion and deposition of detrital material derived from weathering of the Pikes Peak granite.

The Rampart fault, which runs north-to-south along the base of the Rampart Range, is quaternary in age with the earliest known displacement along the fault occurring sometime in the last 1.8 million years (Howard et al. 1978). The U.S. Geological Survey (USGS) National Earthquake Information Center considers the Academy area to be relatively aseismic. No earthquake epicenters have been recorded in the Academy area since 1800, and the nearest event was a magnitude 2.9 on the Richter Scale recorded in 1979 with the epicenter approximately 25 to 30 miles west of the Academy.

### **3.2.2 Soils**

Soils on the Academy are generally alluvial (water-deposited) or residual (accumulating from decomposed rock) in deposition and are largely derived from the Dawson Arkose. The soils found within the Cadet Area and most of the Academy are generally very shallow (horizons not defined), contain very little organic material, and have moderate to high erosion potential.

Four soil types or complexes (Jarre, Pring, Kettle, and Columbine) have been identified within the Cadet Study Area (Figure 5). The Kettle and Columbine series will not be discussed further due to their limited extent within the Cadet Study Area. Jarre soils cover approximately 98% of the area, and Pring soils cover approximately 1.5%. Jarre soils are characterized as well drained, mixed sandy and gravelly clay loam, and are typically found on alluvial fans or old terrace levels with 1 to 30 percent slopes. These soils are very friable and have medium plasticity and low to medium shrink-swell potential. Runoff is medium to slow and the hazard of water erosion is moderate.

Pring soils cover only a small portion of the Cadet Area and are associated with drainage areas. These soils are characterized as well drained, coarse sandy loam, and are typically found on alluvial fans, valley side slopes, hills, and ridges with 0 to 30 percent slopes. These soils are very friable and have low plasticity and shrink-swell potential. Runoff is medium and the hazard of water erosion is moderate.

## **3.3 Water Resources**

The dominant perennial drainage on the Academy is Monument Creek, which flows north-to-south along the east side of the Academy. Lehman Run flows west-to-east within the southern portion of the Cadet Study Area, and contains "significant wetlands," as defined in the U.S. Air Force Academy Integrated Natural Resources Management

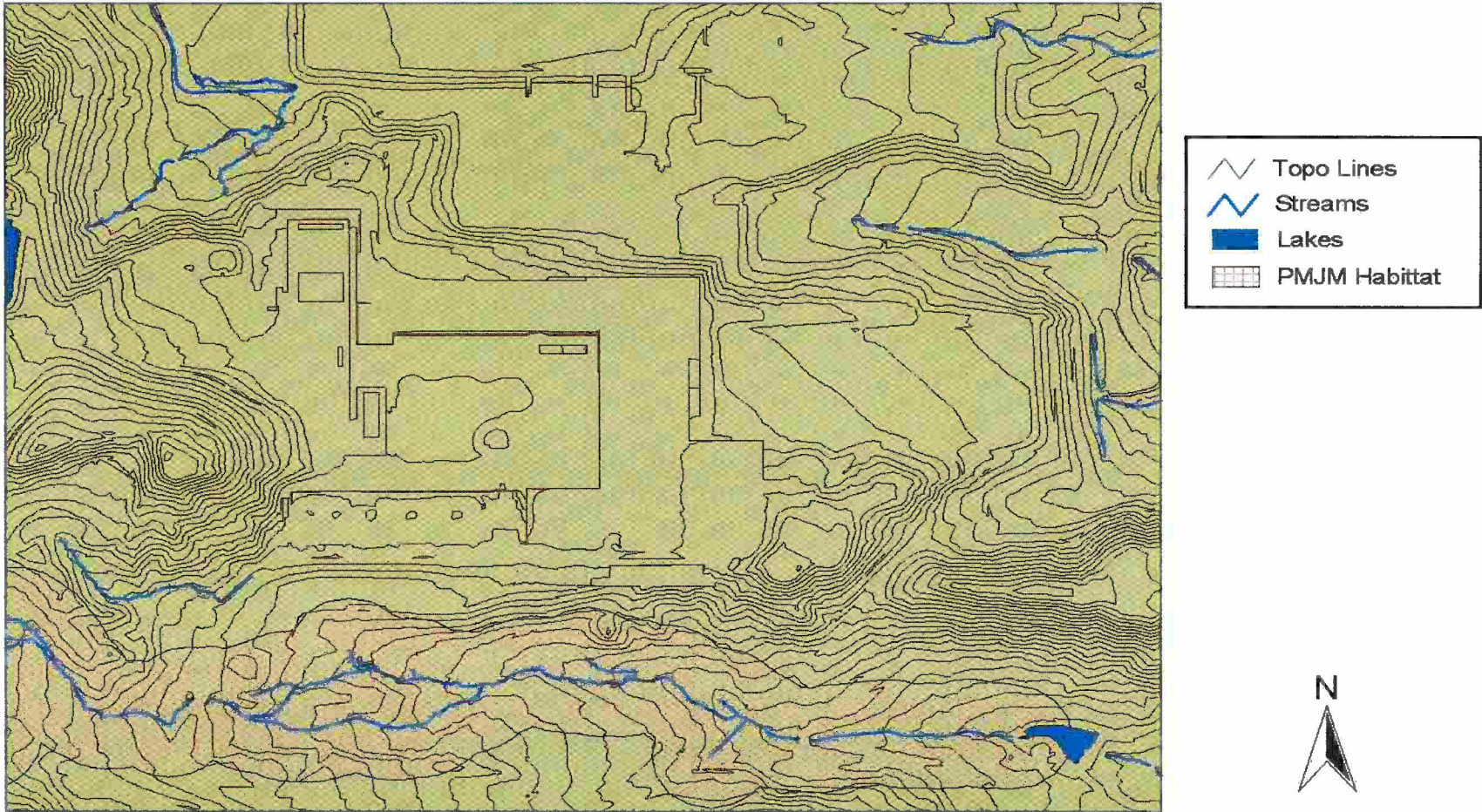
Plan (USAF Academy 1997). The perennial streams and associated wetlands are considered to be in good condition with stable banks and excellent riparian vegetation.

Groundwater at the Academy occurs in the Dawson Aquifer that underlies most of the Academy and in alluvial aquifers associated with Monument Creek and its tributaries. Water from the Dawson Aquifer is generally 20 to 100 feet deep.

**Figure 5 Cadet Area Soil Resources**



**Figure 6 Cadet Area Water Resources**



## 3.4 Biological Resources

### 3.4.1 Vegetation

The Cadet Study Area consists of both natural (16%) and developed/disturbed (84%) areas. The latter are characterized by nonnative Kentucky bluegrass groundcover and ornamental trees and shrubs. Natural vegetation communities surround the developed areas, and consist of the following: upland grasslands (16.8%), riparian vegetation (3.1%), oak shrubland (7.4%), and upland forest (72.7%). Figure 7 shows the general locations of these vegetation communities.

Upland grasslands generally occur on old alluvial deposition terraces and contain few woody plant species. The grassland community consists of mixed grass prairie that includes big bluestem (*Andropogon gerardii*), needle-and-thread (*Stipa comata*), sandreed (*Calamovilfa longifolia*), and Parry's oatgrass (*Danthonia parryi*).

Wetland vegetation communities associated with Goat Camp Creek and Lehman Run are dominated by willow (*Salix spp.*), sedge (*Carex spp.*), and rush (*Juncus spp.*) plant species.

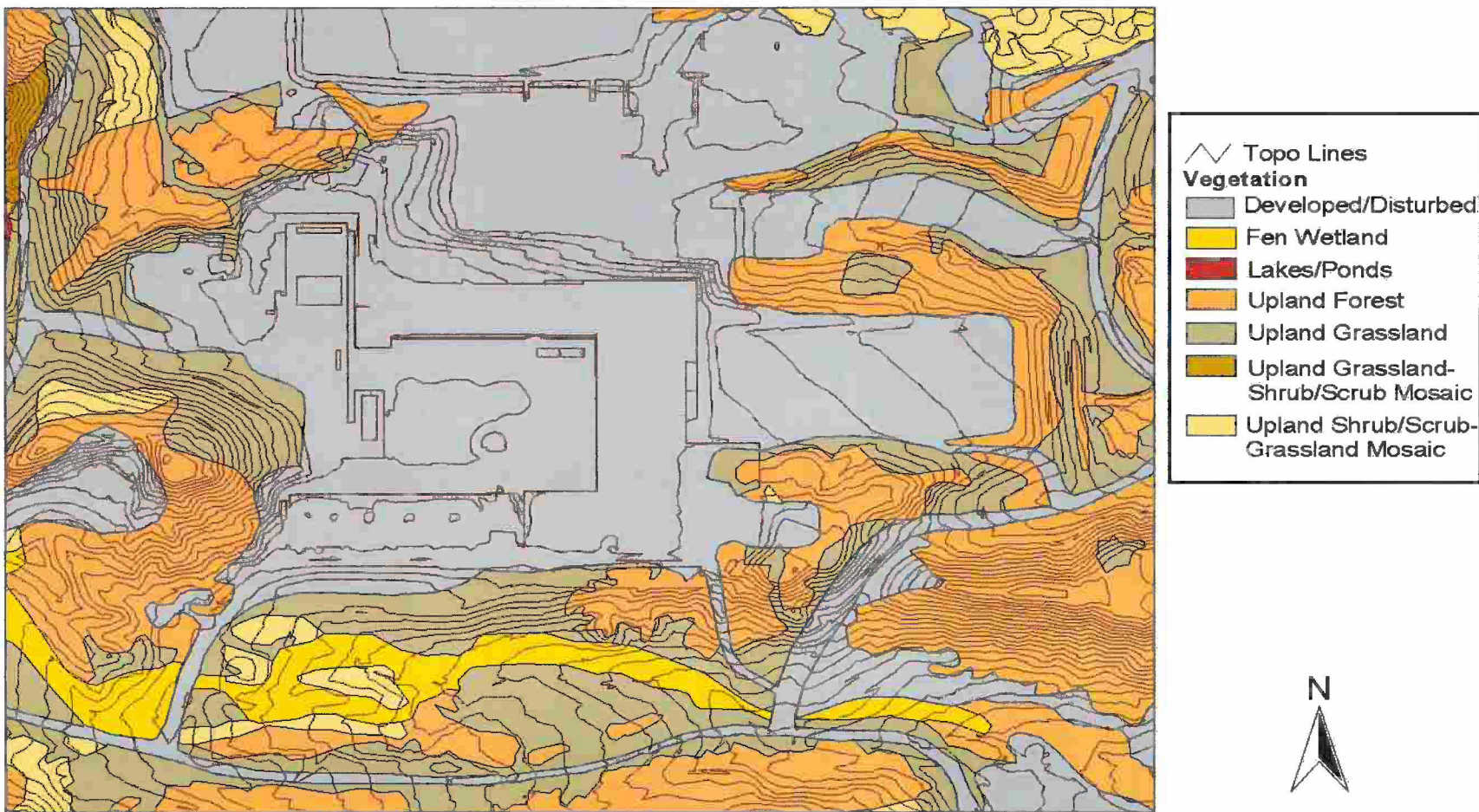
The oak shrubland community occurs on mesas and dry, south-facing slopes in the Cadet Study Area. The dominant species is Gambel oak (*Quercus gambelii*), which often forms dense thickets on sites with deep soils. Other common species include, mountain mahogany (*Cercocarpus montanus*), ocean spray (*Holodiscus dumosus*), Boulder raspberry (*Oreobatus deliciosus*), and snowberry (*Symphoricarpus albus*). This shrubland represents a mixture of plains and foothill species.

Upland forest vegetation communities occur in various locations within the Cadet Study Area, and consist primarily of mixed conifer forests. Ponderosa pine (*Pinus ponderosa*) is typically the dominant species, with Douglas fir (*Pseudotsuga menziesii*) and white fir (*Abies concolor*) occurring on moist, north-facing slopes.

### 3.4.2 Wildlife

Similar to the vegetation resources, wildlife at the Academy is very diverse. Factors contributing to this high biodiversity are the presence of high-quality riparian areas, topographic variation, location at the convergence of north-south and plains-mountains transition zones, and adjacency to undeveloped forested expanses of the Pike National Forest. Wildlife at the Academy has been well documented by Academy faculty and through cooperative programs with the Colorado Division of Wildlife (CDOW), The Nature Conservancy (TNC), the Colorado Natural Heritage Program (CNHP), and the U.S. Fish and Wildlife Service (USFWS). In the following paragraphs, wildlife species

**Figure 7 Cadet Area Vegetation Resources**





that presently occur or have the potential to occur within the Cadet Study Area are categorized by the vegetation zones with which they are most commonly associated.

Mammals common to the riparian communities are white-tailed deer (*Odocoileus virginianus*), beaver (*Castor Canadensis*), several bat species, muskrat (*Ondatra zibethica*), gray fox (*Urocyron cinereo-argenteus*), cottontail rabbit (*Sylvilagus spp.*), and raccoon (*Procyon lotor*). Representative birds occurring in or near riparian areas include great blue heron (*Ardea herodias*), spotted sandpiper (*Actitis macularia*), orange-crowned warbler (*Vermivora celata*), common yellowthroat (*Geothlypis trichas*), and Wilson's warbler (*Wilsoniapusilla*). Representative amphibians include chorus frog (*Pseudacris triseriata*), northern leopard frog (*Rana pipiens*), and other amphibians and reptiles, which have not been well documented at the Academy.

Common mammals in the oak shrubland community include mule deer (*Odocoileus hemionus*), mountain lion (*Felis concolor*), bighorn sheep (*Ovis canadensis*), small-footed bat (*Myotis leibii*), least chipmunk (*Eutamias minimus*), several mouse species (*Peromyscus spp.*), cottontail rabbit (*Sylvilagus spp.*), coyote (*Canus latrans*), and red fox (*Vulpes vulpes*). Birds in this area include red-tailed hawk (*Buteo jamaicensis*), wild turkey (*Meleagris gallopavo*), prairie falcon (*Falco mexicanus*), scrub jay (*Aphelocoma coerulescens*), and rufous-sided towhee (*Pipilo erythrophthalmus*). Representative reptiles include short-horned lizard (*Phrynosoma douglassi*), bull snake (*Pituophis melanoleucus sayi*), and western rattlesnake (*Crotalus viridis*).

Common mammals in the upland forest community include American elk (*Cervus elaphus*), mule deer (*Odocoileus hemionus*), long-eared bat (*Myotis evotis*), Abert squirrel (*Sciurus aberti*), heather vole (*Phenacomys intermedius*), porcupine (*Erethizon dorsatum*), black bear (*Ursus americana*), marten (*Martes americana*), mountain lion (*Felis concolor*), and cottontail rabbit (*Sylvilagus spp.*). Common birds include mountain chickadee (*Parus gambeli*), Steller's jay (*Cyanocitta cristata*), downy woodpecker (*Picoides pubescens*), Townsend's warbler (*Dendroica townsendi*), western tanager (*Piranga ludoviciana*), northern goshawk (*Accipiter gentiles*), wild turkey (*Meleagris gallopavo*), broad-tailed hummingbird (*Selasphorus platycercus*), Williamson's sapsucker (*Sphyrapicus thyroideus*), pygmy nuthatch (*Sitta pygmaea*), and blue grouse (*Dendragapus obscurus*).

### 3.4.3 Protected Species

The greenback cutthroat trout (*Oncorhynchus clarki stomias*) and the Preble's meadow jumping mouse (*Zapus hudsonius preblei*) are the only resident species at the Academy listed as threatened under the Endangered Species Act. One additional species that is a candidate for federal and state listing as threatened or endangered is the streaked (plains) ragweed (*Ambrosia linearis*). Other threatened, endangered, or candidate species that use the Academy as migrants or have the potential to occur on the Academy include the Mexican spotted owl (*Strix occidentalis lucida*), Arkansas darter, Ute ladies tresses (*Spiranthes divuvialis*), mountain plover (*Charadrius montanus*), and Colorado butterflyweed (*Gaura neomexicana Coloradensis*).

The Nature Conservancy's Colorado Natural Heritage Program has completed a report on the extent of the Preble's meadow jumping mouse population at the Academy, which identifies potential critical habitat areas. Such habitat within the Cadet Study Area has been defined as the 100-year floodplain of Lehman Run plus a 300-foot buffer. However, because the 100-year floodplain of Lehman Run has not been correctly delineated, the buffer has been redrawn to include the area within 300 feet of the center of the channel.

### **3.5 Cultural Resources**

Baseline inventories of cultural resources at the Academy were completed in 1996 and a cultural resources management plan has been completed. In July 1995, the Colorado State Historic Preservation Officer (SHPO) determined that the Air Force Academy campus is eligible for listing on the National Register of Historic Places (NRHP). That determination, which includes the landscape boundaries of the original 1955 *Master Plan*, was based on the unique combination of natural and built elements found on the Academy. The Academy must now be aware of the significance of the cultural resources and associated viewsheds, and ensure management actions do not adversely impact these resources.

### **3.6 Socioeconomic Resources**

Socioeconomic resources to be considered for the project are: socioeconomic setting, recreation, environmental justice, hazardous waste, land use, noise, and transportation.

#### **3.6.1 Socioeconomic Setting**

The Academy daytime population is approximately 9,285, approximately 50 percent of whom are cadets. The balance of the population consists of command, wing, faculty, and support personnel who are either military personnel or civilian employees.

The Academy contributes significantly to the economy of El Paso County. The total economic impact on this region totals approximately \$470 million, with an estimated 9,739 military and civilian jobs created by Academy activities. The primary source for these data is the U.S. Air Force Academy Economic Impact Analysis, 1998.

#### **3.6.2 Recreation**

Recreational facilities within the vicinity of the Cadet Study Area include athletic fields located east and north of the Cadet Area buildings, which are utilized primarily for intramural or intercollegiate athletics. Participation in these athletic activities is a requirement of all cadets.

### **3.6.3 Environmental Justice**

Environmental Justice considerations are the result of an Executive Order (EO 12898) designed to focus attention on the human health and environmental conditions in minority and low-income communities. Concentrated areas of low income, minority, and disadvantaged residents do not exist within the Academy.

### **3.6.4 Hazardous Waste**

Activities at the Academy generate small quantities (100 to 1,000 kilograms per month) of hazardous waste.

The Academy has a spill prevention program, as well as a hazardous waste management plan. Copies of applicable material safety data sheets (MSDS) can be obtained from the Academy's Hazardous Materials Pharmacy.

### **3.6.5 Land Use**

The Academy proper contains approximately 18,455 acres. Although the Academy is generally open to public access, it has been withdrawn from all forms of appropriation under public land laws, including mining and mineral lease laws, and reserved for use by the Air Force for cadet training and education (USAF Academy 1995b).

The Cadet Area contains approximately 972 acres. Of this total, 39 acres are occupied by the administrative and academic facilities. Cadet quarters comprise a total of 63 acres, and athletic facilities occupy 42 acres. Additionally, 217 acres are designated as open space, which includes the athletic fields, parade grounds, and the Terrazzo. Community service facilities, including the Cadet Chapel, Mitchell Hall, and Arnold Hall, account for 18 acres. Supporting industrial facilities occupy 5 acres, tourist areas account for 13 acres, and water resides on 3 acres. Preserved natural and general open space accounts for the remaining 572 acres.

### **3.6.6 Noise**

The existing noise environment is characterized by existing ambient noise levels, noise sources, locations of noise-sensitive land uses near the proposed project, and terrain that could provide potential noise barriers.

Noise levels on the Academy are generally low at most times. Existing land use patterns suggest that ambient levels would likely be below 40 decibels on the A-weighted scale (dBA) in undeveloped areas (USEPA 1971a). Levels would be somewhat higher in areas near major activity areas, such as the Cadet Area.

### **3.6.7 Transportation**

A hierarchy of roads constitutes the vehicular circulation network within the Cadet Area. A series of perimeter roads provides a route around the Cadet Area and public access

to the Court of Honor via Cadet Drive from Academy Drive. A number of roadways penetrate the Cadet Area for use by faculty, staff and cadets. Cadet Drive and Faculty Drive are through-roads, each intersecting the peripheral roads at two points. They provide access to remote parking for cadets and close-in parking for faculty and staff. A subordinate system of roadways immediately surrounds the buildings, providing service access and additional close-in parking.

Visitor traffic within the Cadet Area is restricted to the entrance boulevard, the Visitor Center parking lot, and the roadways and parking area serving athletic events. Approximately 250 parking spaces for a variety of vehicle types are available in the Visitor Center parking lot. During the peak tourist season, this parking area is frequently fully utilized.

With the exception of the Cadet Chapel, every building in the Cadet Area has an independent receiving area. The roadway between Fairchild Hall and Mitchell Hall accesses multiple service and receiving locations.

### **3.7 Visual and Aesthetic Values**

When the Academy was master planned in the 1950s, views and scenic quality were major determinants of the placement of roads, facilities, and the Cadet Area. The Academy's scenic quality is also important to the City of Colorado Springs and is a dominant visual feature of the approach to the City along Interstate 25.

The following general viewpoints are important to the visual integrity of the Academy:

- Views from I-25 – Views to the west, especially the Cadet Area, the chapel, and Cathedral Rock, are of primary importance. Views to the east are of secondary importance and contribute to the scenic quality in two ways: they create the experience of feeling surrounded by natural areas on all sides while traveling through the Academy on I-25, and they preserve the scenic approach to the City of Colorado Springs from the north.
- Views from the Cadet Area and athletic fields – The Cadet Area was designed to be a secluded living, learning, and training environment. Natural views from the Cadet Area contribute to the cadets' discipline and focus, yet also provide visual relief from a rigorous and stressful environment. Due to the requirement that all cadets must participate in intramural or intercollegiate athletics, this area also includes the athletic fields.
- Views from the visitor center – Views in all directions from the visitor center are important because this is where visitors learn about and frequently first observe the Academy and cadet life.
- Views from the two Northgate Boulevard scenic overlooks – These are signed, designated overlooks just north and northeast of the cadet athletic fields. Many visitors who enter or leave the Academy via Northgate Boulevard stop at these

overlooks, which provide outstanding views of the chapel/Cadet Area and the athletic fields below.

## **4.0 IMPACTS AND MITIGATIONS**

There are three alternatives associated with the proposed barriers surrounding the Cadet Area of the Academy. Alternative 2, the No Action Alternative, would involve no additional access limitations to the Cadet Area, but would continue the visual impact of expedient roadway barriers; the Proposed Action (Alternative 1) would add fencing and access limitations in such a way as to reduce the obtrusiveness of the fencing from within the Cadet Area; Alternative 3 (Siting Alternative) would add fencing and access limitations in such a way as to minimize the overall disturbance of native vegetation/wildlife habitat, but intrude more on the visual setting of the Cadet Area.

The discussion below focuses on impacts from fence construction and presence. Other planned access limitations, such as permanent and removable bollards, the granite wall (Figure 7), and guardhouses to control road access, are generally in highly developed portions of the Cadet Area. They may have impacts during construction, but these are expected to be minor and transitory, to be readily contained by best management practices, and to be wholly within previously disturbed areas.

The most substantive environmental impacts are the intrusion into the Preble's habitat by the proposed action, and the visual impacts of a physical perimeter itself on the Cadet Area's 'university like' appearance. While these impacts are minimized by the CAPP I & II designs, they remain as environmental effects.

Between the two portions of the Proposed Action, CAPP I has the greater environmental effect and is therefore more extensively discussed. CAPP II only impacts already developed areas and in fact reduces the environmental impact of CAPP I.

### **4.1 Climate and Air Quality**

#### **4.1.1 Climate**

No impact.

#### **4.1.2 Air Quality**

During construction, the Proposed Action and Alternative 3 will have minor and transitory impacts on air quality. These impacts will be primarily from particulates released during the digging of postholes for the fence and from any vehicular traffic that disturbs the vegetative cover of the land surface. In addition, vehicular exhaust from equipment used during fence construction will slightly diminish the air quality. None of these emissions is expected to be substantive, and none will extend beyond the construction/reclamation period. Standard management practices for construction such as minimizing areas of disturbance, watering areas that must be disturbed, and

reclamation of disturbed areas will be employed. These will minimize contributions of this project to the occasional PM<sub>10</sub> exceedance that occurs in the vicinity of the Academy.

An additional air quality concern under both of the fencing alternatives is the effect of the access restrictions on the transportation network and the secondary impact on air quality from emissions generated by traffic delayed entering the Cadet Area. This problem will be exacerbated whenever temperature inversions encompass the Cadet Area. Changes from the current security restrictions should be minimal to non-existent.

## **4.2. Geology and Soils**

### **4.2.1 Geology**

No impact.

### **4.2.2 Soils**

Installation of the fence under the Proposed Action and Alternative 3 will penetrate the soil in places where postholes are dug. Any use of heavy equipment along the fence corridor will also disturb the soil surface. All of these impacts will be localized. Any potentially resulting tendency for surface soil to become wind blown or erode can be minimized through rapid reclamation after construction and use of "silt dams" during construction. Also, if disturbance from fence construction or a parallel road traverses steep slopes, erosion may continue to be a problem, since complete reclamation may be difficult. The impacts of fence construction on soils are expected to be slightly greater under the Proposed Action than under Alternative 3 because the fence corridor is somewhat longer under Alternative 1 and tends to more frequently cut across topographic contour lines rather than following them. It is of note that the primary soil type in the Cadet Study Area (Jarre) ranges from low to medium shrink-swell potential, which in some locations may contribute to fence post instability. Both the Jarre and Pring soils have a moderate water erosion hazard, which may increase the likelihood of project impacts.

## **4.3 Water Resources**

During construction, temporary impacts to water quality could occur from soil erosion by posthole digging or heavy equipment movement. Rapid reclamation after construction will minimize such effects on water quality, as will the installation of plastic "silt dams" along the fence corridor during construction and until the reclamation is effective. Impacts to water quality are expected to be slightly greater under the Proposed Action than under Alternative 3 because of the greater length and more frequent slope traverses of the Proposed Action. Wetlands are sufficiently distant not be impacted by any alternative.

## **4.4 Biological Resources**

### **4.4.1 Vegetation Resources**

Along the fence corridor, grasses and forbs are expected to be removed during fence construction at posthole sites and where heavy equipment travels. Reclamation should rapidly remedy removal of such vegetation. Where the fence corridor passes through woody vegetation, impacts will be permanent to the extent that trees and shrubs cannot be avoided. In addition, trees and shrubs cannot be left in close proximity to the fence or they would diminish its effectiveness. Therefore, trees and shrubs will need to be removed and kept from re-growing within or branching into an area about 8 feet wide on either side of the fence. The same types of effects are expected to occur under The Proposed Action and Alternative 3. However, impacts under the Proposed Action are expected to be somewhat greater because of its greater length and its more frequent routing through rather than along the edge of woody plant communities. The Proposed Action passes through woody vegetation particularly in the eastern half of the fence along the southern boundary and at its far western end, as well as at the westernmost extent of the fence in the northwest corner of the Cadet Area.

Both the Proposed Action and Alternative 3 contain a 16 foot wide cut through an area of pine trees at the extreme southeast and southwest portions of the project. According to the Academy Forester, many of the pine trees are diseased (mistletoe) and are scheduled to be thinned in the near future to protect overall forest health. The impact of this component of the project is therefore accordingly reduced.

See 4.4.3 for a discussion of vegetation impacts as they relate to Preble's habitat.

### **4.4.2 Wildlife Resources**

The impacts on wildlife resources from fence construction are expected to be of two types. The first will result from vegetation loss and hence habitat disturbance. Removal of woody vegetation along and adjacent to the fence route will diminish to a minor degree, cover, nesting, and foraging sites for various wildlife species. Removal of grasses and forbs will be transitory and insignificant, assuming rapid, successful, and appropriate reclamation. The other type of impact will be the exclusion of all wildlife species that can't fly over, dig under, jump, or pass through the fence to areas that are cut off from natural habitats by the fence. As mentioned in Section 4.4.1, the Proposed Action is expected to have slightly greater removal of vegetation and hence slightly greater impacts to wildlife habitat. The Proposed Action will also exclude a number of wildlife species from a larger area than Alternative 3 because the Proposed Action encompasses more natural habitat.

These acres are not heavily utilized by wildlife. Only approximately 5 acres are true natural habitat. They are not wildlife transit corridors nor true 'forests,' but rather primarily open slope or already landscaped areas. The natural portion is a transition zone from developed areas to natural areas. No routes of normal migration are impeded by the fence. Since the fence surrounds an area of high human population,

only certain animals (primarily bears, coyotes, and mule deer) would have a purpose to crossing the fence line. Bears and coyotes might cross the fence looking for human refuse. Mule deer might cross the fence to feed on the landscaped grasses or escape a perceived predator threat. Animals could become hung up on the fence, although the possibility is remote. USAFA Natural Resources personnel are on-call to handle this type of emergency.

The fencing could have a positive wildlife impact in reducing human-animal contact. The primary negative impact (other than animals injured by the fence itself), is that wildlife has fewer opportunities to escape the area if they do wander into the Cadet Area. Natural Resources personnel will need to herd trapped animals to the gates in this event.

#### **4.4.3 Protected Species**

The only protected species that is known to occur in the immediate vicinity of the fence construction project is the Preble's Meadow Jumping Mouse. Habitat for this species is defined along Lehman Run and in a buffer zone 300 feet either side of the stream channel midline.

Live trapping of Preble's on Lehman Run has been conducted adjacent to the proposed fence area since 1998. As recently as 2001, 10 Preble's were caught from 400 trap nights in the immediate area of the storm water detention basins. In June 2002, a single Preble's was caught after 50 trap nights just below the project area. Although numerous Preble's have previously been documented within the upper reaches of Lehman Run, these animals are physically isolated from the main Monument Creek population by the extensive non-native areas throughout the Eisenhower Golf Course.

The fence along the southern boundary of the Cadet Area enters this defined habitat under the Proposed Action. The construction of chain link fence through the upland habitat is anticipated to have little, if any, permanent impact on the resident Preble's population. The fence should not create a barrier to the movement of Preble's throughout the area. The Academy entered into Formal Consultation under Section 7 of the Endangered Species Act with the U.S. Fish and Wildlife Service, and their response letter 4 Mar. 03 confirms "no adverse affects to the mouse are expected." The USFWS letter is provided at Appendix A.

The upland area that would be minimally impacted by the construction and presence of the chain link fence is of low habitat value for Preble's due to the relatively sparse grass cover and lack of an upland shrub component. Dominant vegetation along the proposed fence alignment includes smooth brome (*Bromopsis inermis*), western wheatgrass (*Pascopyrum smithii*), sideoats grama (*Bouteloua curtipendula*), little bluestem (*Schizachyrium scoparium*), blue grama (*Chondrosum gracile*), and fringed sage (*Artemisia frigida*). The overall quality of the habitat, however, has been improving as a result of extensive erosion control and re-vegetation efforts along this section of Lehman Run, including the construction of three storm water detention basins. This previous work was approved through an earlier formal consultation with USFWS.



Under Alternative 3, the fence is outside the defined habitat buffer and is unlikely to impact it. None of the other protected species that potentially occur on the Air Force Academy grounds are known to occur in the vicinity of the fence construction under either alternative.

Since the fence constructed in Preble's habitat under the Proposed Action in CAPP I will be removed in CAPP II, a project combination was considered. The possibility of not constructing the fence within Preble's habitat and immediately building the CAPP II granite wall was rejected for the following reasons:

- The secure perimeter requirement is pressing and the granite wall will take longer to design and construct.
- Funds are not available in the 2003 military construction program for a combination project.
- USFWS confirmed no adverse Preble's effects with the CAPP I chain link fence.

#### **4.5 Cultural Resources**

The area to be traversed by the fence under either the Proposed Action or Alternative 3 does not contain any known pre-historic sites. Given the generally upland nature of the fence corridor, no concentration of such sites would be expected, although an occasional artifact left by prehistoric peoples might be encountered. Because the Air Force Academy campus, in general, is considered eligible for listing on the National Register, preservation of its historic character is important. Construction of the fence under either the Proposed Action or Alternative 3 would not harm the historic character of the Cadet Area portion of the Campus in any physical or permanent way. It will, however, change the visual aspect of the original Cadet Area design of geometrically symmetrical facilities against the backdrop of the Rampart Range. Alternative 3 would have greater impacts in this regard because it tends to follow contour lines less and is therefore in less harmony with the terrain.

#### **4.6 Socio-Economic Resources**

##### **4.6.1 Socio-Economic Setting**

None of the three alternatives considered are expected to have a significant impact on the general socio-economic setting of the U.S. Air Force Academy. Even within the Cadet Area there is not expected to be an impact on socio-economic setting from fence construction under the Proposed Action or Alternative 3. However, the presence of the fence and other access limitations will make living and working in the Cadet Area, as well as servicing it, less efficient and enjoyable because access routes to and from the Area will be minimized and constrained. Access to supporting parking lots on the north and south sides of the Cadet Area will also be constrained. This is true to an approximately equal extent under either the Proposed Action or Alternative 3.

Financial impacts to the Academy and local-area economy may be realized as a result of implementing either fencing alternative. The appearance of greater restriction on tourist access to the Cadet Area could potentially deter would-be tourists from visiting the Academy. The Academy is Colorado's most frequently visited man-made attraction, drawing in over two million tourists annually. The Visitor Center features a complete line of Academy merchandise, cafeteria, and gift shop, and contributes all monies collected to support collegiate and intramural cadet sports. A reduction in visitor numbers would have an adverse impact on revenues received by the Visitor Center, and subsequently on cadet programs. This would also impact local businesses, such as restaurants, hotels and shops, which profit from Academy-driven tourism.

#### **4.6.2 Recreation**

Access to some of the recreation facilities will be constrained by the presence of the fence under either the Proposed Action or Alternative 3. Access to the athletic fields on the east side of the Cadet Area, to the tennis courts and field house on the north side of the developed Cadet Area will be constrained. There is no appreciable difference in this access constraint under the two fencing alternatives.

#### **4.6.3 Environmental Justice**

All of the cadets at the U.S. Air Force Academy live in comparable dormitory housing, are educated and trained in the same facilities, and are dispersed on the basis of squadron assignments, class rank, and sex. Because there are no concentrated areas of low income, minority, or disadvantaged residents at the U.S. Air Force Academy, no impacts from any one of the three alternatives are expected to raise environmental justice issues.

#### **4.6.4 Hazardous Waste**

The likelihood of hazardous waste presence in association with fence construction is minimal. Heavy equipment and other vehicles associated with fence construction, as well as chain saws or other mechanical equipment used to remove woody vegetation, will contain motor oil and gasoline that could spill on the ground in small quantities as a result of carelessness. Such spills are unnecessary and should be prevented through the Academy's existing spill prevention program. Similarly, spills of cement that will be used to support fence posts could cause some contamination, especially if excess water containing diluted cement is allowed to flow away from the post-hole site. However, implementation of the spill prevention program should also prevent spills.

#### **4.6.5 Land Use**

None of the three alternatives considered will have an impact on the type of land use practiced for the various portions of the Cadet Area. The two fencing alternatives will impact the ease of that use, however. In addition, cadet use of areas outside the fence will be diminished, and to a somewhat greater extent under the proposed alternative.

#### **4.6.6 Noise**

Noise impacts from the two fencing alternatives will be limited to the construction period. Noise will result from the use of mechanized equipment to install the fence and clear woody vegetation in its vicinity. Quality construction practices will minimize such noise. It is not expected to be more than a minor and transitory annoyance under either the Proposed Action or Alternative 3.

#### **4.6.7 Transportation**

Under either Alternative 1 or Alternative 3, use of the transportation network will be constrained. The network will still be in place and more open use could be initiated at any time. However, under either of the fencing alternatives, vehicle access will be constrained to gatehouse with an automatic gate that will provide access to the parking lot on the south side of the Cadet Area, a metal weave roll gate that will provide access to the interior quadrangle of the Cadet Area on limited occasions, an automatic gate on the north side of the Cadet Area that will provide staff access to the north parking lot, and two manned gate houses, one at the east end of the Cadet Area near the under-building parking, and one at the northeast corner of the Cadet Area that will serve as the only access point for support personnel, service vehicles, etc.

#### **4.7 Visual and Aesthetic Values**

The primary views that will be impacted by the two fencing alternatives are from the interior of the Cadet Area looking outward toward a natural setting, and from the surrounding local access roads and overlooks toward the Cadet Area. Because the southern portion of the fencing in the Proposed Action will be further away and down slope from the Cadet Area, it will be less apparent to cadets in the Sijan Hall dormitory. From outside viewpoints, the fencing under the Proposed Action will be somewhat less apparent than Alternative 3 because of the lower slope position of the fence. The black vinyl coating of the chain link fencing was specifically chosen to blend into natural vegetation. The removal of trees eight feet to entire side of the chain link fence will be the most noticeable on the extreme southeast and southwest portions of the project area. Both fencing alternatives may have a sociological impact on the cadets due to living in an environment that appears more confining. The natural, unobstructed views from within the Cadet Area will be degraded, potentially increasing stress and anxiety levels among cadets. The use of existing physical landscape features are incorporated into the fence design, thereby minimizing, but not eliminating, the overall visual impact.

The architectural design of the Cadet Area has already been impacted by the anti-terrorism needs generated by events of September 11th. CAPP I & II are projects that sequentially return, given a security requirement, some architectural compatibility to the Cadet Area. The Academy has adopted strict architectural principles and guidelines to maintain the beauty of its campus by keeping all structures mutually compatible. The architectural formula for the Cadet Area enables structures to differ from one another yet relates to a discipline of design, which is one of the enduring planning principles for the Academy. In accordance with this principle, both fencing alternatives will follow the horizontal gridlines of existing structures, thereby retaining the overall architectural design of the Cadet Area. Therefore, given a security requirement for a secure perimeter, and acknowledging that any secure perimeter is a detractor from a 'university appearance,' the proposed action is deliberately designed to reduce the visual impact.

#### **4.8 Conclusions and Mitigation**

Alternative 2, The No Action alternative, because it would add no fencing or other access limitations, would have no impacts to environmental resources. However, the absence of these facilities might jeopardize the security of the young men and women living, studying, and training in the Cadet Area, as well as the supporting staff.

The proposed alternative routes the new fencing away from the Cadet Area so it is partially hidden by topography and vegetation and minimally visible from within the Cadet Area. As a result, along the southern boundary it enters the habitat defined for the Preble's meadow jumping mouse (a threatened species under the Endangered Species Act) within 300 feet of the Lehman Run stream channel. It also encompasses a larger acreage of native habitat and landscaped grounds used by such species as mule deer, cottontails, foxes, coyotes, and other species that would be impeded by the presence of a fence.

Alternative 3 routes the new fencing closer to existing buildings and the location of the future CAPP II granite wall to minimize environmental disturbance. Overall it encloses about 17 fewer acres than the proposed alternative. However the acreage is primarily landscaped grounds near buildings where human-animal contact should be minimized in any event, both for human as well as animal protection. The primary environmental advantage of Alternative 3 is that it avoids the Preble's meadow jumping mouse habitat. The primary disadvantage is that along the southern boundary visual impacts would be much greater than the proposed alternative.

In comparing the three alternatives, Alternative 2 (No Action) is unacceptable because it does not add protective measures to enhance security of the Cadet Area. So long as it is determined that additional security for the cadets is necessary and that fencing will effectively enhance their security, some action is required. Alternative 3 has less environmental disturbance than the proposed alternative since it is slightly shorter and incorporates less natural habitat. It is visually much more intrusive. This strongly and negatively impacts the 'university' appearance to both cadets and visitors to a symbol of the Air Force, a national historical treasure, and Colorado's #1 tourist attraction. The

below mitigations ~~are~~ apply to both the proposed action and Alternative 3. Additionally, the best management practices listed in the USAFA Overarching Environmental Specifications will be followed to ensure further environmental protection and good stewardship.

- The following mitigations refer to the Preble's habitat below Sijan Hall.
  - All fence construction within Preble's habitat shall be done using hand labor and portable fencing tools. No vehicle traffic shall be allowed.
  - All fence construction in Preble's habitat shall be accomplished between October 15 and May 15 (Preble's hibernation period).
  - No vehicle roads or trails will be created inside or outside the fence perimeter in Preble's habitat.
  - No mowing shall occur in Preble's habitat, inside or outside the fence perimeter.
  - Any minor ground disturbance resulting from the installation of the fence (e.g. postholes) shall be reseeded with a locally adapted native seed mix.
  - Remove the CAPP I chain link fence portion in Preble's habitat as part of the CAPP II project and restore the disturbed area. During the disruption caused by the CAPP II removal and restoration, the above mitigations also apply.
- As an offset mitigation, mowing will be discontinued in upland Preble's habitats near the Fire Training Center and Rod & Gun Club.
- As an offset mitigation, 300 willow transplants will be planted within the Lehman Run storm water detention basins.

#### **4.9 Unavoidable and Cumulative Impact**

The primary unavoidable impacts that are cumulative with other ongoing and similar impacts in the vicinity of the U.S. Air Force Academy are:

- Loss of wildlife habitat. Most habitat is a temporary loss between CAPP I and the implementation of CAPP II.
- Intrusion of fencing into the natural setting of the Rampart Range foothills and its juxtaposition with the geometric symmetry provided by the granite, glass, and steel buildings of the Cadet Area's structural compound.

None of the contributions of the U.S. Air Force Academy Cadet Area Protective Perimeter project impacts to cumulative regional impacts are significant, but they do contribute to similar trends within the region and should be minimized.

## 5.0 References

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## 6.0 List of Persons and Agencies Consulted

### Outside Agencies

Mr. LeRoy Carlson  
US Fish and Wildlife Service

Bruce Rosenlund  
Colorado FWAO, U.S. Fish and Wildlife Services

James Hartmann  
Colorado Office of Archeology and Historic Preservation

Ms. Trina Lynch  
Colorado Division of Wildlife

Ms. Julie Farrell  
The Nature Conservancy

### USAFA Personnel (Note: The names below are original contacts. See also Section 7 for currently involved personnel.)

David Mein  
Project Manager

Duane Boyle  
Command Architect

Jim McDermott  
Academy Forester

Mr. Joshua Kellar/ Ms. Carol McKinney  
10 CES Environmental

Ms. Tricia Jones  
CH2M Hill/contractor to 10 CES

Mr. Kelvin Delaney  
USAFA Operations Contracting Officer/LGCA

Gerry Shisler  
Facility Information Technology, 10CES

## 7.0 List of Preparers and Reviewers

The USAF Academy, has prepared this environmental assessment with contractual assistance from Booz Allen Hamilton Incorporated. The Academy has an Environmental Impact Analysis Process Subcommittee to the Environmental Protection Committee that provides an organizational review of all environmental assessment actions.

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Michele Benchouk



## Appendix A



### United States Department of the Interior

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

IN REPLY REFER TO:  
ES/CO: T&E/PMJM  
Mail Stop 65412

MAR - 4 2003

Rolland Olson, PE  
10<sup>th</sup> Civil Engineer Squadron  
8120 Edgerton Drive, Suite 40  
USAF Academy, Colorado 80840-2400

Dear Mr. Olson:

Based on the authority conferred to the U.S. Fish and Wildlife Service (Service) by the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*), the Service has reviewed your letter of January 16, 2003 regarding the proposed site plan review for the Cadet Area Protective Perimeter (CAPP) Fence at the U.S. Air Force Academy in El Paso County, Colorado. The action would take place within known habitat for the federally-listed Preble's meadow jumping mouse, *Zapus hudsonius preblei*, (Preble's). The Service concurs that, if the project is carried out as described in the submitted information, with impacts to Preble's and Preble's habitat being temporary and minimal, no adverse affects to the mouse are expected to occur.

The Service appreciates the commitment of the U.S. Air Force Academy to the conservation of Preble's, as demonstrated by the restricted construction and maintenance schedule, reseeded plan to disturbed areas, cessation of mowing within Preble's habitat, and the proposed mitigation to the Preble's Conservation Zone.

If the Service can be of further assistance, please contact Barbara Spagnuolo of my staff at (303) 275-2370.

Sincerely,

A handwritten signature in black ink, appearing to read "LeRoy W. Carlson".

LeRoy W. Carlson  
Colorado Field Supervisor

cc: Brian Muhlbacher, USAFA  
Project File  
Spagnuolo

Reference: BJS/EIPaso/CAPP.wpd

Appendix B



DEPARTMENT OF THE AIR FORCE

10TH MISSION SUPPORT GROUP  
USAF ACADEMY COLORADO

MAR 3 2003

Colonel Thomas F. Hayden III  
Commander  
10th Civil Engineer Squadron  
8120 Edgerton Drive, Suite 40  
USAF Academy CO 80840-2400

Post-It Fax Note	7871	Date	3/2/03	# of pages	1
To	Thomas Hayden, USAF	From	J. G. ...		
Co./Dest.	Base Civil Engineer	Cc	CH/NAEP		
Phone #	719 472-0999	Phone #	303-866-3741		
Fax #	719 472-0999	Fax #	303-866-2711		

Ms. Georgi Contiguglia  
Colorado Historical Society  
1300 Broadway  
Denver CO 80203-2137

Dear Ms. Contiguglia

We request your comments on the enclosed draft environmental assessment to provide a protective perimeter around the Cadet Area at the United States Air Force Academy. We are also enclosing a response to your "Review and Compliance - Consultation Checklist" to aid in your review.

Following September 11, 2001, a series of temporary physical security measures were immediately put in place around the Cadet Area. Today, significant physical security measures are a permanent component of public facilities in the United States. Accordingly, this project replaces temporary security measures with a permanent cadet area perimeter protection project to be built in two phases, that blend to the maximum extent possible security needs and the Academy architectural theme.

Please note the environmental assessment refers to the first stage of this project as "fencing." We use this term only in the generic sense, as we propose a variety of barriers that also match the architectural style of the Academy. We anticipate no impact on cultural/historical resources. Our proposed actions, detailed in the assessment and accompanying plans, represent the best possible solution to the challenge of creating unobtrusive and effective physical security.

Since this project involves anti-terrorism force protection measures, we respectfully request it be handled in a sensitive manner during your review. If you have any questions, please call Mr. Duane Boyle at (719) 333-2289. We appreciate your review and assistance.

I Concur:

*Georgi Contiguglia*  
Georgianna Contiguglia  
State Historic Preservation  
Officer

Sincerely

*Thomas F. Hayden III*  
THOMAS F. HAYDEN III, Col, USAF  
Base Civil Engineer

- 3 Encs:
- 1) Review & Compliance - Consultation Checklist
  - 2) Environmental Assessment - Cadet Area Protective Perimeter
  - 3) Additional Detailed Drawings - Cadet Area Protective Perimeter

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