ENVIRONMENTAL ASSESSMENT

Construction and Maintenance of a Security Fence for Libby Army Airfield/ Sierra Vista Municipal Airport at Fort Huachuca, Arizona

APRIL 2003

HOW THIS ENVIRONMENTAL ASSESSMENT IS ORGANIZED

SECTION 1	INTRODUCTION discusses the purpose and need for the Proposed Action, the regulatory background surrounding this project, and the scope of this Environmental Assessment.
SECTION 2	DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES discusses the Proposed Action and alternatives addressed in this Environmental Assessment.
SECTION 3	AFFECTED ENVIRONMENT AND CONSEQUENCES describes the existing environment within the Region of Influence and provides a comparison of environmental consequences associated with the different alternatives.
SECTION 4	CONCLUSIONS provides a summary the findings of the EA.
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ENVIRONMENTAL ASSESSMENT

CONSTRUCTION AND MAINTENANCE OF A SECURITY FENCE FOR LIBBY ARMY AIRFIELD/ SIERRA VISTA MUNICIPAL AIRPORT, FORT HUACHUCA, ARIZONA

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April 2003

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1.0 INTRODUCTION

Two events within the past few years have had a dramatic impact on the Army's mission at Fort Huachuca. The first, in early 1998, was "Solar Sunrise," an attempt to hack into military computer systems during preparations for redeployment to the Persian Gulf. The second event, on September 11, 2001, was the attack on the World Trade Center and the Pentagon by international terrorists. Since these two events, force protection and physical security have been a primary focus throughout the continental United States. At Fort Huachuca, the operational areas at the combined Libby Army Airfield (LAAF) and the Sierra Vista Municipal Airport (Figure 1) were identified as needing additional security. After reviewing several options, a perimeter fence was identified as the optimum solution to physical security concerns. This Environmental Assessment (EA) analyzes options for a perimeter security fence and identifies other airfield improvements or alterations to be implemented to complete the security requirements.

1.1 PURPOSE AND NEED FOR THE PROPOSED ACTION

LAAF supports numerous civilian and military operations. Prevention access by unauthorized personnel and vehicles is in the best interest of both types of operations. A security fence will have an additional benefit of reducing wildlife hazards on the airfield. There have been two serious encounters between wildlife and aircraft at LAAF since 1996 (Berrieault 2003). Other reports of wildlife on the airfield include 24 log entries, including coyotes, javelina, birds and as many as 22 deer since the first of the year. The potential for wildlife-caused accidents is ever-present (USAG Fort Huachuca 2003). To address these needs, Commander, LAAF, is proposing short and long-term measures to improve the security and reduce the wildlife attractiveness of the airfield area, as described in this EA.

1.2 PUBLIC INVOLVEMENT

In keeping with Army guidance, this EA and resulting draft decision document of either a Finding of No Significant Impact (FNSI) or a Notice of Intent (NOI) to complete an Environmental Impact Statement (EIS) will be made available to agencies and the general public for review and comment. A draft decision document will be published in the *Sierra Vista Herald* newspaper and copies of the EA will be made available to the general public at local libraries or by request.

For further information or to submit comments, please send your name, address, and the title of this document in writing to U.S.A.I.C & F.H., ATTN: ATZS-ISB (LAAFEA), Fort Huachuca, Arizona 85613-6000 or by fax to (520) 522-3043.

1.3 SCOPE

The National Environmental Policy Act (NEPA) requires that agencies of the federal government implement an environmental impact analysis program to determine whether proposed actions are "…major federal actions significantly affecting the quality of the human environment." Under NEPA, an action becomes a "major federal action significantly affecting the quality of the human environment" by virtue of the magnitude

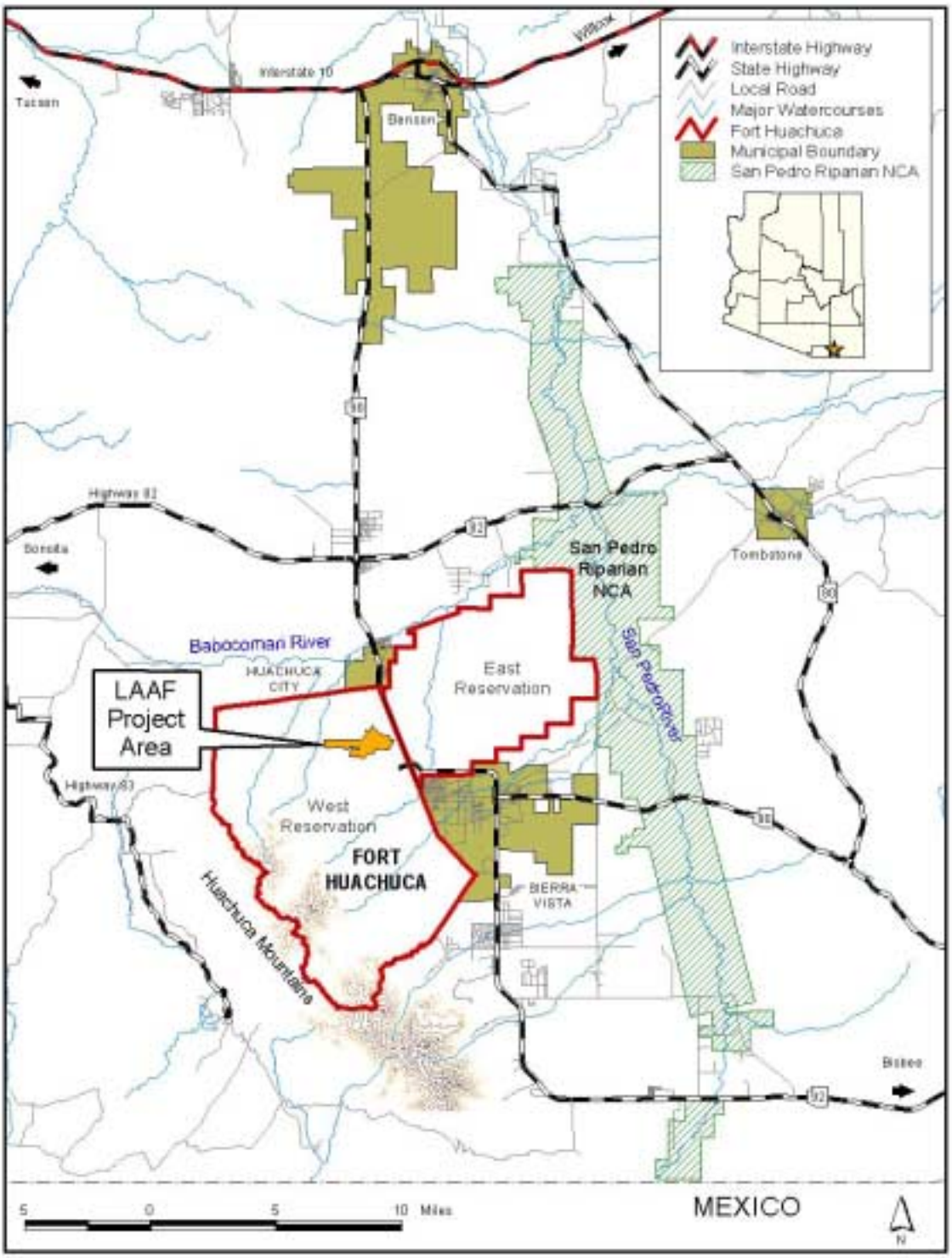

Figure 1: Site Location Map

Engineering and Environmental Consultants, Inc.
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Tucson, Arizona 85712

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of its impact on various media areas. An EA documents the analysis to determine whether the implementation of a project will, by virtue of its impact, have significant impact on the human environment, and therefore, whether it is a "major federal action significantly affecting the quality of the human environment." Army Regulation (AR) 200-2 implements the NEPA process for Army commands and installations. This EA was prepared in compliance with NEPA (Public Law 91-190, 42 U.S.C. 4321-4347, as amended), the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500-1508), AR 200-2 Environmental Effects of Army Actions (32 CFR Part 651), and guidance provided by the Army NEPA Manual for Operations and Training.

Upon completion of the preliminary environmental screening for this EA, the Army determined that this EA would evaluate the potential impacts on the human environment by focusing on the following environmental resources:

- Geology and Soils (Section 3.2)
- Water Resources (Section 3.3)
- Biological Resources (Section 3.4)
- Cultural Resources (Section 3.5)
- Human Health and Safety (Section 3.6)
- Infrastructure (Section 3.7)

In addition to the evaluation for potential direct and indirect impacts on the above resources, the proposed activities were also evaluated for cumulative impacts on the environment as described in Section 3.8, Cumulative Impacts.

2.0 PROPOSED ACTION AND ALTERNATIVES

Under NEPA, the proponent for an action is responsible for considering all reasonable alternatives for achieving a goal or implementing a project or program. These alternatives are in this section. For this EA, seven action scenarios were evaluated against the project goal of improving force protection and physical security of the LAAF and Sierra Vista Municipal Airport while minimizing potential environmental impacts. As a result, a preferred alternative was selected and is presented as the Proposed Action along with two alternatives. The other four action scenarios were not evaluated in detail because they were ineffective in meeting the security requirement, caused significant environmental impacts, or had impacts identical to either the Proposed Action or Alternative 1.

2.1 PROPOSED ACTION

The Proposed Action is to erect approximately 8.5 miles (45,000 feet) of chain-link fence to exclude wildlife and unauthorized personnel and maintain a safety perimeter around the LAAF and Sierra Vista Municipal Airport and all Joint Use airfield elements. The fence will be located along existing fencelines and roads where possible or 400 feet from current or currently planned airfield elements. The fence will encompass approximately 1,720 acres of land. A perimeter road, for both security patrols and fence maintenance will be established inside the fence. A cleared area of at least 25 feet will be maintained outside the fence. The project will be accomplished in phases over a period of 1 to 2 years, as funding or other resources become available.

PHASE I: Initially, a maintenance perimeter, located in previously disturbed areas, will be established up to 400 feet from current or currently planned airfield elements. This will be done by managing vegetation on about 430 acres around the runways and taxiways to allow pilots, Air Traffic Control, and/or security personnel improved observation areas and increase lead time to identify unauthorized personnel or to avoid accident with wildlife. Vegetation management would consist of removing trees by chainsaw, brush-hogging for large shrubs, manually removing large rocks, and maintaining remaining vegetation at less than 18 inches in height. Minor grading may be required in limited areas to improve visibility. Total graded area for the project, including the security fence and perimeter access road will not exceed 50 acres. LAAF management will ensure that this expanded area is maintained through mowing, or possibly prescribed burning or other mechanical measures, and monitored to ensure that management actions do not increase the wildlife attractiveness of the area.

PHASE II: Upon receipt of Military Construction Appropriation or other funding, a fencing project will be initiated. The fence alignment (Figure 2, in pocket) will follow existing fencelines and existing roads to the south and east and in some areas in the north. Elsewhere, the alignment will be 400 feet from existing or planned airfield elements. Approximately 8.5 miles (45,000 feet) of chain-link fencing at least 8 feet high will be topped with three strands of barbed wire or similar obstacle for exclusion of unauthorized personnel. Fence posts will be set in concrete to a depth sufficient to provide required structural support. Grading will be required for a perimeter road along the inside of the

fence. The perimeter road will consist of a one-lane, improved but not paved, road. The fence will have a number of gates for vehicle and/or personnel access, but the actual number and placement of the gates is to be determined. Some engineered structures may be installed at wash crossings to accommodate the fence and/or perimeter road. Total graded area for the project, including the safety fence and perimeter access road will not exceed 50 acres. If the funding does not allow for the fence to be buried up to 2 feet into the ground to prohibit access to burrowing animals, Phase III will occur.

Following the emplacement of the fence, with or without Phase III (described below), a security perimeter of approximately 25 feet will be maintained outside the fenced area. Vegetation will be maintained at less than 18 inches high within the security area. Inside the fence, vegetation will be managed in accordance with air security and operations requirements. The fence will be maintained until no longer required.

PHASE III: If funding is not sufficient to place the fence with an underground component to preclude burrowing or tunneling under, eventual plans for the fence will include an 18- to 24-inch deep trench with soil-cement fill along the fenceline to prevent unauthorized access.

2.2 ALTERNATIVE 1 – FENCE WITH 500-FOOT SET BACK

Alternative 1 is similar to the Proposed Action, except the fenced and maintained area would be 500 feet from the centerline of the nearest paved taxiway or runway or from any structure, rather than closer to these elements. The fence would be constructed to allow for future extension of existing Taxiway J. This alternative would increase the area of managed vegetation within the fence by approximately 90 acres for a total of 520 acres and require an additional 5,500 feet of fencing.

2.3 ALTERNATIVE 2 – NO ACTION/STATUS QUO

The No Action Alternative is the status quo, to mechanically manage vegetation around the existing perimeter and infield of LAAF and use other ad hoc and short-term methods to manage wildlife.

2.4 OTHER ALTERNATIVES CONSIDERED

Four other alternatives were considered during the initial planning stages but were not carried through for detailed analysis because of the significant shortcomings stated.

a) Similar to the Proposed Action, except that all vegetation within the fence perimeter would be removed and the area between the fence and the hardstand would be graded. Vegetation reduction treatment would also be applied to riparian areas outside the fence perimeter to reduce wildlife attractiveness. Once fencing is in place, vegetation management within the riparian areas outside the secure perimeter would cease. Preliminary screening by an interdisciplinary team indicated that an EIS would be required, due to habitat destruction and the volume of erosion caused by grading. Therefore, this alternative was eliminated.

b) Identical to the Proposed Action, except that the project would be accomplished in phases, as funding or other resources allows. The fencing would be erected as

funding allows, and other improvements would be phased over a period of 2 to 5 years. This alternative was not retained for detailed analysis because the environmental impacts would be similar to the Proposed Action, but spread out over a longer time.

c) Identical to Alternative 1, except that the project would be accomplished in phases over a period of 2 to 5 years, as funding or other resources allows. This alternative was not retained for detailed analysis because the environmental impacts would be similar to Alternative 1, but spread out over a longer time.

d) Similar to the Proposed Action, but without erecting the fence and managing vegetation for a distance of approximately 400 feet past airfield elements perpetually, primarily through periodic grading of some areas not to exceed 50 acres, with intermittent brush-hogging. This alternative would not fully satisfy the security requirements for the airfield, and may change the makeup of the wildlife problem without eliminating it. Because it will not meet the desired level of airfield security, it was eliminated from further consideration.

3.0 AFFECTED ENVIRONMENTS AND CONSEQUENCES

This section describes the current condition of environmental resources and the possible impacts to these resources from the Proposed Action and alternatives. The descriptions represent the baseline conditions for comparison of changes caused by implementation of the Proposed Action and alternatives. Potential changes or impacts to the resources are described in each section as environmental consequences. Cumulative impacts, or impacts attributable to the Proposed Action combined with other past, present or reasonably foreseeable future impacts regardless of the source, are also presented in this section.

3.1 PRELIMINARY IMPACT SCOPING

Only those resources that could potentially be affected by the action or are of public concern are included in the Affected Environment and analyzed under Environmental Consequences. The following table presents the results of the preliminary impact scoping and the explanation of why certain environmental resources were excluded from discussion.

TABLE 3-1
PRELIMINARY IMPACT SCOPING RESULTS

Resource	*Potential for Impact*	*Retained (Y/N)*
Land Use	The proposed action and alternatives occur on U.S Army property dedicated to use by the airfield. None of the alternatives would conflict with adopted plans or goals for the city of Sierra Vista, Cochise County or the Sierra Vista Municipal Airport ([City of Sierra Vista 2002] and [Cochise County 2002] and [Coffman Associates Airport Consultants 2002]).	N
Aesthetics and Visual Resources	None of the alternatives would obscure or result in abrupt changes to the complexity of the landscape and skyline when viewed from points readily accessible to the public. No long-term change to the character of the area would occur as a result of the Proposed Action or alternatives.	N
Air Quality	Air quality impacts would be limited to temporary, localized effects associated with heavy equipment used during construction. No long-term air quality impacts would occur.	N
Noise	Noise impacts would be limited to short-term effects from heavy equipment used during construction during daytime hours only. No long-term noise impacts will occur.	N
Geology and Soils	Vegetation control measures included in the alternatives and ground disturbance during construction could cause increased erosion.	Y
Water Resources	Construction personnel will cause minimal temporary increases in water usage. Vegetation control measures included in the alternatives could cause increased erosion that could impact surface water quality.	Y
Biological Resources	The proposed security fence and associated vegetation control measures included in the alternatives could impact plants and wildlife.	Y
Cultural Resources	Fencing construction and vegetation control measures included in the alternatives could impact cultural resources.	Y
Human Health and Safety	The proposed security fence and associated measures to improve visibility and limit access are designed primarily to improve human health and safety.	Y

Resource	*Potential for Impact*	*Retained (Y/N)*
Socio-Economics	The alternatives would not effect the level of air traffic at the airport and are not expected to have any short- or long-term effects on the current socioeconomics of the region.	N
Environmental Justice	No impacts to local communities, including minority or low-income communities, are anticipated.	N
Protection of Children	Construction of a security fence is not expected to have any impact on child health or safety other than increasing safety of children in arriving or departing commercial or private aircraft.	N
Infrastructure	A drainage study and additional surface water drainage structures will be required to accommodate the proposed security fence.	Y
Trans-Boundary	The Huachuca Mountains and 17 miles separate LAAF from the border with Mexico. No activities are expected to affect or require traveling across the border. Potential soil, water resource and biological impacts are limited to the LAAF area.	N
Hazardous and Toxic Materials/ Wastes	There are no known hazardous or toxic materials/wastes in the area. Short-term use of any hazardous or toxic materials during construction activities will be covered by Fort Huachuca's Spill Contingency Plan that describes the procedures to be implemented in the event of hazardous materials spill, on- or off-post.	N

3.2 GEOLOGY AND SOILS

3.2.1 Criteria for Significance

Alternatives resulting in an increased geologic hazard or a change in the availability of a geologic resource could have a significant impact. Such hazards include but are not limited to slope instability, land subsidence, or increased soil erosion. Increased erosion is of special concern because soils entrained in runoff can impair surface-water quality and lead to both upstream and downstream erosion, as well as downstream sedimentation.

3.2.2 Baseline Environment

Current baseline information regarding regional and local geology and soils can be found in the Programmatic Biological Assessment for Ongoing and Programmed Future Operations and Activities (USAG Fort Huachuca 2002), incorporated by reference. Site-specific detail and relevant data not previously documented are provided. Project area soils are predominantly Terrarossa complex in the central and northeastern portions of the project and White House complex to the southwest (NRCS undated). These gravelly or sandy loams are deep, well-drained and form in alluvium on alluvial fans and valley bottoms where annual rainfall is about 14 inches. Soils along the north-south drainage crossing the project site are Haplustolls-Fluvaquents associations (NRCS undated). These soils are associated with drainageways and consist of young sediments that are frequently flooded.

3.2.3 Potential Consequences

The geologic affects of the Proposed Action are limited to the ground surface and near ground surface – no impacts to geologic resources are anticipated. Construction activities may cause increased soil erosion in areas disturbed by the project. Provisions of the Arizona Pollutant Discharge Elimination System or AZPDES (Arizona Administrative

Code [AAC] Title 8 Chapter 9 and USC 1251 *et seq*.) require construction projects disturbing more than one acre to have a Storm Water Management Plan including Best Management Practices (BMPs) designed to minimize soil erosion and protect surface water quality. By statute, the BMPs must include erosion and sediment controls, interim and permanent stabilization practices, velocity dissipation devices in discharge locations and outfall channels, and a description of post-construction storm water management measures.

These measures, as well as measures addressing the timing of construction activities, can be used to address short-term construction impacts and some long-term impacts, however, changes in ground cover due to grading and vegetation management could increase soil erosion rates.

Proposed Action The Revised Universal Soil Loss Equation (Renard, *et al* 1991) was used to estimate incremental soil loss from grading in limited areas and tree and shrub removal in the managed vegetation areas. The estimated total soil loss is 1.3 tons per year per acre for the areas planned for vegetation management and 2.9 tons per acre for graded areas. These values compare to an estimated soil loss of 1.2 tons per acre per year for current ground cover. The total area to be managed (fenced area minus paved areas, building footprints, and previously "managed" areas) is 430 acres (with an incremental 0.1 tons of soil lost per acre per year) with an additional 50 acres to be graded (with an incremental 1.7 tons of soil lost per acre per year) for an estimated additional annual soil loss of 128 tons.

Alternative 1 The same soil erosion rates apply for Alternative 1 but the size of the managed area increases by 90 acres. With the 50 acres of graded areas remaining unchanged, the total estimated annual soil loss is 137 tons per year.

No Action Alternative Under the No Action Alternative, there would be no change in soil erosion rates.

The Proposed Action and Alternative 1, if left unmitigated, may have potentially significant impacts on soil erosion rates. Environmental design considerations and other mitigation measures to address these potential impacts area discussed in Section 3.9.

3.3 WATER RESOURCES

3.3.1 Criteria for Significance

An alternative that results in a reduction in the quantity or quality of water resources for existing or potential uses could have a significant effect. An alternative could also have a significant effect if it would cause substantial flooding or erosion or adversely affect a significant water body. A determination of significant impact to surface water could result if grading or other activities discontinue the function of drainage facilities or if watercourses or storm water and/or runoff constituents significantly degrade downstream surface-water quality.

A determination of significant impact to groundwater could result if an action causes a usable groundwater aquifer for municipal, private, or agricultural purposes to be adversely affected by depletion or contamination; an increase in soil settlement or ground

swelling that damages structures, utilities, or other facilities caused by inundation and/or changes in the groundwater level; or an unmitigated net increase in annual water use is created at the Fort.

3.3.2 Baseline Environment

Current baseline information regarding water resources can be found in the Programmatic Biological Assessment for Ongoing and Programmed Future Operations and Activities (USAG Fort Huachuca 2002), incorporated by reference.

3.3.3 Potential Consequences

In each case, there will be some impact on surface-water quality as a result of the potential for erosion as discussed in the soil section. Implementation of the storm water pollution prevention BMPs, as discussed in Section 3.2.3, will reduce impacts to surface-water turbidity caused by increased rates of erosion and sedimentation.

Proposed Action Increases in water demand due to construction crews (drinking water and construction uses) would be temporary and negligible. The Proposed Action is not anticipated to significantly impact the aquifer through accelerated depletion, or contamination. It will not result in an increase in soil settlement or ground swelling that damages structures, utilities, or other facilities caused by changes in the groundwater level or in any significant impact to local or regional groundwater resources.

The potential construction area is not considered subject to hazards associated with 100-year flood events. Accordingly, no significant impacts related to floodplains are anticipated.

Proposed construction activities would create a maximum of 50 acres of disturbed vegetation (graded for roads, construction access, or construction activities) and another 430 acres of managed vegetation. Increased erosion from these disturbed areas can increase turbidity and sedimentation in surface waters receiving surface runoff. Increased turbidity can decrease the penetration of sunlight in surface waters, impacting aquatic species that depend on the sunlight. Increased sedimentation rates can adversely impact benthic aquatic species. However, the surface waters in the project area are exclusively intermittent streams with no standing water flow in response to storm events and are not expected to have aquatic resources that could be affected. Increases in turbidity and sedimentation could also change the stream-channel geometry, impacting biological resources in the areas surrounding the washes.

Section 404 of the Clean Water Act of 1977 (33 USC Part 1251) establishes a permit program for activities that will discharge dredged or filled material into "Waters of the United States." Section 404 permits may be required for any construction activity with the potential to impact U.S. waters. The Proposed Action is expected to require a permit under the Nationwide Permit Program. Depending on the final alignment of the fence and perimeter road, there is a possibility that an individual permit may be required. The ultimate determination of permit applicability to this action would be made by the regulatory agencies after formal application. The permit will include erosion control and

restoration requirements that would also help reduce potential surface-water impacts to any "jurisdictional waters" to below the level of significance.

Alternative 1 The potential impacts of Alternative 1 are similar to those for the proposed action. Given the greater length of the fence, the potential impacts to the surface resulting from increased erosion from grading and vegetation management would be proportionately greater.

No Action Alternative There would be no potential environmental impacts to water resources under the No Action Alternative.

The Proposed Action and Alternative 1 may have potentially significant impacts on surface-water quality. Environmental design considerations and other mitigation measures to address these potential impacts area discussed in Section 3.9.

3.4 BIOLOGICAL RESOURCES

3.4.1 Criteria for Significance

Impacts on biological resources could occur from fence construction and vegetation maintenance. A determination of significant impact on biological resources (including vegetation, wildlife and sensitive species) could result if any of the following conditions are anticipated to occur.

- Jeopardy to populations of federal status species .
- Adverse modification of federally-designated critical habitat.
- Loss of a critical, yet limited, resource of significant importance to a federally threatened, endangered, proposed listed, or candidate species.
- Substantial disturbance of generally pristine or sensitive vegetation resources in the project area from vehicular or human activity.
- Substantial interference with, or complete disruption of, a heavy-use wildlife movement corridor.

The region of impact for biological resources includes the LAAF and the adjacent region.

3.4.2 Baseline Environment

Biological resources are discussed in terms of vegetation, habitat types, and wildlife species that have been observed or that have the potential to occur within the area. Additionally, species addressed under the Endangered Species Act of 1973, as amended (16 USC Part 1531), are addressed. Current baseline information regarding biological resources at Fort Huachuca and in the region can be found in USAG Programmatic Biological Assessment for Fort Huachuca (USAG Fort Huachuca 2002) and is hereby incorporated by reference. Site-specific detail and relevant data not previously documented are provided.

Vegetation LAAF is located within semidesert grassland (Brown 1994). Vegetation within the developed and previously disturbed areas includes both native and non-native grasses as well as native shrubs, forbs and trees. The vegetation surrounding the developed areas and to the south, west and north of LAAF is typical of the mesquite-

grass savanna habitats that cover approximately 7,100 acres on Fort Huachuca (USAG Fort Huachuca 2002). Approximately 10 to 20 mature agave plants (*Agave palmeri*) are also present along the west side and northwest corner of the proposed project area. There may be immature plants that are not readily visible without detailed surveys.

Wildlife Wildlife species documented within or adjacent to the limits of the Proposed Action are typical of semidesert grassland species including, but not limited to, mourning doves, meadowlarks, red-tailed hawks, coyote, mule deer, javelina, desert cottontail, pocket gophers, and various locally common snakes, lizards and amphibians.

Approximately five washes cross or intersect the boundaries of LAAF. These washes are important corridors for wildlife travel and migration. Washes usually provide more dense vegetation than the surrounding uplands, providing food and protection for wildlife as they travel (Stevens *et al*. 1977). Signs of wildlife activity observed in washes within the boundaries of LAAF include tracks, scat, fur or feathers stuck on vegetation or fencing; in addition, there have been direct sightings of wildlife moving along the washes.

Several man-made water sources were established west of LAAF, outside the proposed fence alignment, to benefit wildlife in the area. These water sources were deactivated approximately 6 months ago in an attempt to determine if they were a significant wildlife attractant in the airport area.

Threatened and Endangered Species Of the 28 federal special status species and four additional Wildlife of Special Concern in Arizona (WSCA) designated by the Arizona Game and Fish Department (AGFD), only the endangered lesser long-nosed bat and the Mexican long-tongued bat (designated WSCA) have the potential to forage in the vicinity of the Proposed Action ([USAG Fort Huachuca 2002] and [AGFD 2003]).

3.4.3 Potential Consequences

Proposed Action Construction activities associated with the Proposed Action would be along existing roads and within previously disturbed areas whenever possible. Both temporary and permanent impacts on wildlife are possible during, and as a result of, construction activities. If prescribed burning is proposed to manage vegetation, it will be coordinated in advance with the appropriate agencies, such as the Arizona Department of Environmental Quality.

There would be a temporary decrease in the quality of the habitat immediately adjacent to the construction sites because of increased noise levels and construction activities. Permanent impacts on wildlife are possible during construction activities where noise and human activity may disturb roaming or foraging animals; however, wildlife in this area is currently subjected to noise and human activity associated with the airport. Areas used as primary migration and travel corridors will no longer be available for larger non-avian species such as deer, javelina, coyote and rabbits. Upon completion of construction activities, some of the displaced wildlife, particularly avian species, may still be able to use remaining or recovered habitat.

Section 7 of the Endangered Species Act, as amended, requires each Federal agency to ensure that "any action authorized, funded, or carried out by such agency…is not likely to

jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modifications of habitat of such species which is determined by the Secretary, after consultation as appropriate with the affected States, to be critical, unless such agency has been granted an exception of such action by the Committee…". Section 7 coordination further requires a determination of the Action's likelihood to jeopardize the continued existence of any species proposed for listing as a threatened or endangered species, or to destroy or adversely modify critical habitat proposed to be designated for such candidate species.

The Proposed Action will have no effect on the federally listed lesser long-nosed bat or any other federally listed or proposed species or designated critical habitat. After a site evaluation was conducted, it was determined that fewer than 25 agaves, the primary food source for the lesser long-nosed bat, will be affected by the Proposed Action. The site is not within any federally proposed or designated critical habitat and would not cause an adverse modification to any critical habitat found in the general region. Long-term impacts to wildlife and habitat can be minimized with implementation of mitigation measures addressed under Environmental Design Considerations in Section 3.9.

Alternative 1 Potential impacts from Alternative 1 are identical to those described for the Proposed Action, except that vegetation on an additional 90 acres within the fence would be maintained. Alternative 1 would potentially have greater impact on biological resources. Long-term impacts to wildlife and habitat can be minimized with implementation of mitigation measures addressed under Environmental Design Considerations in Section 3.9.

No Action Alternative No change in existing biological conditions would occur. No impact on biological resources is anticipated.

3.5 CULTURAL RESOURCES

Impact assessment for cultural resources focuses on those properties that are National Historic Landmarks or are listed in or considered eligible for the National Register of Historic Places, as well as resources considered sensitive by Native American groups.

3.5.1 Criteria for Significance

An alternative could have a significant effect on cultural resources if it would result in unauthorized artifact collecting or vandalism at identified important sites; if it would modify or demolish an historic building or environmental setting; or if it would promote neglect, resulting in resource deterioration or destruction, audio or visual intrusion, or decreased access to traditional Native American resources.

3.5.2 Baseline Environment

The baseline information for evaluating the cultural resource impacts that may be caused by the Proposed Action and alternatives discussed in this EA is the Fort Huachuca Integrated Cultural Resources Management Plan (ICRMP) (USAG Fort Huachuca 2001). The ICRMP is incorporated by reference, and may be reviewed at the Sierra Vista Public Library.

Historic properties in the project area consist of two archeological sites, AZ EE:7:27, and AZ EE:7:28. These sites have not been evaluated in terms of eligibility for nomination to the National Register of Historic Places. Both sites are historic dumps dating from the early to mid 20th Century and may yield important information on the history of the Army at Fort Huachuca. Earlier expansion of LAAF destroyed similar archeological sites without eligibility evaluation. This destruction elevated the extant sites to the status of important historical databanks.

Native People traditional cultural properties and sacred sites may exist within the project area and consultation must be concluded to determine if this action may have a negative effect on these properties. Currently, Fort Huachuca has no record of these types of properties and must rely on Native People consultation for determination.

3.5.3 Potential Consequences

Disturbance of these historic properties would further degrade the preserved databanks of the fort's archeological resources and limit the interpretation of Fort Huachuca's history. Therefore, the fenceline will be rerouted in the vicinity of the historic sites to avoid disturbance to the sites.

Negative effects on or in the vicinity of potential traditional cultural properties (TCP) and sacred sites could diminish Native People's ability to perform religious ceremonies or collect items vital to the performance of their religion and interpretation of their history. In addition, failure to take into account the importance of these potential properties to Native People would severely limit Fort Huachuca's consultation process in future actions. If, during the course of consultation, a TCP is determined to be affected by the project, negotiations will follow to mitigate the impacts on the TCP(s).

3.6 HUMAN HEALTH AND SAFETY

3.6.1 Criteria for Significance

An alternative could have a significant impact if it would increase or decrease the exposure or risk of exposure of personnel or the public to environmental or other hazards. Hazards associated with the security fence at LAAF include possible terrorist, illegal alien, and/or wildlife access to the airfield.

3.6.2 Baseline Environment

Access to the airport and runways is currently controlled by chain-link fences and a series of locking gates to the northeast near the Sierra Vista Municipal Airport buildings and to the south in the vicinity of the USAG Fort Huachuca operations. To the west, northwest and east along Interstate 90, access is controlled by three- and four-strand barbed wire fences generally less than 3 feet in height. Based on observations during the biological survey, the fence in this area has been breached and there is evidence of illegal migrant activity such as water jugs, etc. (Wooldridge 2003). The current fence is also inadequate to address recent concerns on the increasing threat of terrorism at military installations and civilian airports.

This fence is also inadequate to prevent access by deer and other wildlife that pose a hazard to arriving and departing aircraft. Only two encounters between deer and aircraft have been recorded since 1995: in 1995 a Special Electronic Mission Equipment (SEMA) RC-12 struck and killed a deer and, in 1999, a commuter aircraft struck and killed two deer during a takeoff roll (Berrieault 2003). However, deer, javelina, coyotes and birds are frequently observed on the airfield. Since May 2003, the airport has conducted between three and 20 runway sweeps a month to clear wildlife (USAG 2003). The airport is required to take measures to manage wildlife hazards by their airport operating certificate issued by the Federal Aviation Administration under 14 CFR 139.

3.6.3 Potential Consequences

Proposed Action and Alternative 1 These alternatives will improve human safety at the airport by preventing human and wildlife access to the airfield. They will decrease the risk of wildlife and aircraft collisions and the threat of terrorist activity. The Proposed Action and Alternative 1 would have a significant beneficial impact on human health and safety.

No Action Alternative This alternative would have no impact on the current level of risks to human health and safety.

3.7 INFRASTRUCTURE

3.7.1 Criteria for Significance

An alternative could have a significant effect on infrastructure if it would increase demand over capacity, requiring substantial system expansion, or if it would result in substantial system deterioration over the current conditions. Infrastructure requirements are limited to structures designed to manage storm water and surface drainageways, such as culverts, for the proposed security fence at LAAF

3.7.2 Baseline Environment

Several washes flow through LAAF and the Sierra Vista Municipal Airport. Flows in these washes are channeled under roads, taxiways, runways and other developed areas through a series of culverts. These culverts are sufficient to handle existing flows.

3.7.3 Potential Consequences

The Proposed Action and Alternative 1 will necessitate a drainage study to determine the locations, quantities, and general characteristics of flows along the security fence alignment. Based on this study, certain drainage facilities, including but not limited to basins, culverts and security structures along drainage entry and exits points, will be designed and constructed.

Proposed Action Additional drainage facilities will be required under this alternative. Construction and implementation of these facilities may also affect water and biological resources. These impacts are discussed in Sections 3.3 and 3.4, respectively.

Alternative 1 The impacts to infrastructure and water and biological resources will be the same as those under the Proposed Action.

No Action Alternative The No Action Alternative will not require additional drainage infrastructure.

The additional drainage facilities required to direct surface water flows under the fence and the perimeter roads are not considered a "substantial" system and expansion. Impacts to infrastructure do not constitute a significant impact but may contribute to other mitigation needs.

3.8 CUMULATIVE IMPACTS

Cumulative impacts are generally defined in CEQ regulations (40 CFR 1500-1508) as those impacts attributable to the Proposed Action combined with other past, present, or reasonably foreseeable future impacts, regardless of the source. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. However, in order to be considered a cumulative impact, the effects must occur in a common locale or region, contribute to the effects of other actions, impact a particular resource in a similar manner, and be long term. Short-term impacts do not generally contribute significantly to cumulative impacts.

Analysis of cumulative impacts requires the evaluation of a broad range of information that may have a relationship to the Proposed Action and alternatives. A good understanding of the politics, sociology, economics, and environment of the region is key to this analysis, as is an accurate evaluation of factors that contribute to cumulative impacts. The most common regional and local environmental concerns voiced during previous EA public scoping activities included:

- trends relating to water resources
- trends affecting ecological resources (particularly federally-listed species and their habitats)
- population growth and economic activity in the Fort Huachuca/Sierra Vista area
- resulting implications for water and ecological resources in the region

This section addresses the resource areas where the impacts of the Proposed Action and alternatives, in connection with related past, present, and reasonably foreseeable future actions, warrant further consideration. Resource areas were examined for regional conditions to determine the potential of the Proposed Action and alternatives to contribute to regional trends or environmental conditions. The cumulative impacts analysis focuses on biological resources, as this area has the greatest potential for impact.

Planned or reasonably foreseeable events potentially impacting the project include the planned expansion of Runway J and the establishment of an aerospace center northeast of the Sierra Vista Municipal Airport (Coffman Associates Airport Consultants 2002). The proposed fence alignments for the Proposed Action and Alternative 1 allow for both of these projects. Impacts from these events may contribute to the effects from the Proposed Action but these contributory effects will not be significant.

LAAF is an active area with respect to wildlife usage. LAAF contains high-quality habitats on the land surrounding the project area and along the washes traversing the

airfield. On-post conservation efforts have included range restoration, fire management, and management of large stands of agave for the federally endangered lesser long-nosed bat. These efforts have resulted in an increase of habitat quality available for all species of wildlife occurring on Fort Huachuca, while maintaining conformance with the military mission (USAG Fort Huachuca 2002).

Proposed Action and Alternative 1 As described in Section 3.4, LAAF contains habitat important to several species of wildlife, especially two special status species. Placement of the fence and removal of habitat around the fence may have the following impacts to wildlife using the area. Frequently used travel and migration corridors will be interrupted. . The amount of habitat used by grassland birds will be decreased.. According to the Biological Opinion (USFWS 2002), removal of more than 25 agave plants may affect the federally protected lesser long-nosed bat that relies on agave as a primary food source. However, the fence will be located to minimize potential effects to agave, and the project is anticipated to impact fewer than 25 agaves.

No Action Alternative Selection of the No Action Alternative would mean that existing natural resource conditions would continue with no loss of those resources. The No Action Alternative would not contribute to additional cumulative impacts on local or regional natural resources.

3.9 ENVIRONMENTAL DESIGN CONSIDERATIONS

The LAAF security fence project team is committed to the incorporation of all reasonably feasible design considerations to lessen any impact that the proposed action could have on the natural environment and to reduce natural resource consumption. Impact analyses summarized in Sections 3.2 through 3.8 identify potentially significant impacts to soils, surface-water quality, and biological resources. This section presents mitigations designed to address those potential impacts.

3.9.1 Soil Erosion Mitigation Measures

As discussed in Section 3.2.3, provisions of the AZPDES (AAC Title 8 Chapter 9 and USC 1251 *et seq*.) require construction projects disturbing more than one acre to have a Storm Water Management Plan including BMPs designed to minimize soil erosion and to protect surface-water quality. By statute, the BMPs must include erosion and sediment controls, interim and permanent stabilization practices, velocity dissipation devices in discharge locations and outfall channels, and a description of post-construction storm water management measures. Construction activities may also be scheduled so that disturbed areas subject to increased erosion are minimized during July and August, when southwestern Arizona is subject to severe seasonal thunderstorms.

Permanent, post-construction storm water management measures may include: cutoff walls and energy dissipaters in stream channels to prevent erosion and downcutting; sedimentation basins to prevent sedimentation in washes; soil stabilizers and concrete headers along the perimeter road to prevent erosion; and geotextile fabrics to control sheet flow on cleared, inclined surfaces. The final decision on management measures to be implemented depends on the final configuration of the fence and associated perimeter road, and the results of the drainage study. These measures are expected to reduce

potential impacts from the Proposed Action on soil erosion rates to a less than significant level.

3.9.2 Surface-Water Quality Mitigation Measures

Implementation of the storm water pollution prevention BMPs discussed in Section 3.9.1 will help to reduce impacts to surface-water quality resulting from increased sedimentation.

As discussed in Section 3.3.3, the Proposed Action and Alternative 1 may require permitting under Section 404 of the Clean Water Act of 1977 (33 USC Part 1251) for any construction activity with the potential to impact U.S. waters. The ultimate determination of permit applicability to this action would be made by the regulatory agencies after formal application. If required, Section 404 permits also require erosion control and restoration measures that would reduce potential surface water impacts to any "jurisdictional waters" to below a level of significance.

Debris (such as soil, silt, sand, rubbish, concrete, asphalt, oil or petroleum products, organic materials, tires or batteries) derived from construction activities will not be deposited in any area where it may be washed into the waters of the United States. After construction, the washes will be left in an environmentally acceptable condition with trash and nonnative materials removed from the watercourses.

3.9.3 Biological Resources Mitigation Measures

In an effort to demonstrate positive environmental stewardship, the following environmental design considerations will be incorporated into the Proposed Action:

- Reduce the amount of vegetation removed by mechanical means within and outside of the fence perimeter.
- Locate the final fence alignment so as to minimize disturbance to agave plants and, where possible, avoid the removal of agave plants. Relocation of the western end of the fence, at the west end of the LAAF runway, approximately 100 feet east will avoid most agave plants documented at the western end of the runway. Where necessary, transplant and/or replace agave plants. (USFWS 2002)..
- Reactivate wildlife watering facilities west of LAAF to provide water sources along wildlife corridors. Before the fence is completely closed, install temporary fencing such as orange-safety fencing to help direct wildlife away from the LAAF.
- Develop a plan for removal of large wildlife such as deer, javelina, coyotes, etc. within the LAAF before the airfield is completely enclosed. The plan will involve use of personnel, horse-mounted riders, and/or all-terrain vehicles to sweep the airfield and herd the wildlife towards the final open section of the fence prior to completion.

Because many wildlife species are adaptable to changes in their surroundings, incorporation of these environmental design considerations are expected to result in less severe impacts or little impact over time.

4.0 CONCLUSIONS

It is the conclusion of this analysis that neither the Proposed Action nor any of the alternatives constitute a major federal action with significant adverse impact on the human environment, an EIS is not required, and a Finding of No Significant Impact (FNSI) for the Proposed Action should be issued to complete the documentation. Table 4-1 summarizes the anticipated impacts resulting from each of the three alternatives.

TABLE 4-1
COMPARISON OF ANTICIPATED IMPACTS

Resource	*Proposed Action*	*Alternative 1*	*No Action Alternative*
Land Use	No impact	No impact	No impact
Aesthetics and Visual Resources	No impact	No impact	No impact
Air Quality	Temporary impacts - not significant	Temporary impacts - not significant	No impact
Noise	Temporary impacts - not significant	Temporary impacts - not significant	No impact
Geology and Soils	Impacts can be mitigated - not significant	Impacts can be mitigated - not significant	No impact
Water Resources	Impacts can be mitigated - not significant	Impacts can be mitigated - not significant	No impact
Biological Resources	Impacts can be mitigated - not significant	Impacts can be mitigated - not significant	Minor, not significant
Cultural Resources	Not significant	Not significant	No impact
Human Health and Safety	Significant beneficial impact	Significant beneficial impact	No impact
Socio-Economics	No impact	No impact	No impact
Environmental Justice	No impact	No impact	No impact
Protection of Children	No impact	No impact	No impact
Infrastructure	Not significant	Not significant	No impact
Trans-Boundary	No impact	No impact	No impact
Hazardous and Toxic Materials/ Wastes	No impact	No impact	No impact

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8.0 ACRONYMS

AAC	Arizona Administrative Code
AGFD	Arizona Game and Fish Department
AHPA	Archeological and Historic Data Preservation Act
AR	Army Regulation
ARPA	Archeological Resources Protection Act
ASM	Arizona State Museum
AZPDES	Arizona Pollutant Discharge Elimination System
BMP	Best Management Practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulation
EA	Environmental Assessment
EIS	Environmental Impact Statement
ENRD	Environmental and Natural Resources Division
EPA	Environmental Protection Agency
FNSI	Finding of No Significant Impact
ICRMP	Integrated Cultural Resource Management Plan
ISCP	Installation Spill Contingency Plan
LAAF	Libby Army Airfield
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOI	Notice of Intent
SEMA	Special Electronic Mission Equipment
SHPO	State Historic Preservation Officer
SWPPP	Storm Water Pollution Prevention Plan
TCP	traditional cultural properties
USC	United States Code
USAG	United States Army Garrison
USFWS	United States Fish and Wildlife Service
WSCA	Wildlife of Special Concern in Arizona