FINAL

ENVIRONMENTAL ASSESSMENT FOR THE EDUCATION CENTER COMPLEX

LITTLE ROCK AIR FORCE BASE, ARKANSAS

AIR EDUCATION AND TRAINING COMMAND

26 October 2004

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ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
189 AW	189th Airlift Wing
314 AW	314th Airlift Wing
314 CES/CEV	314th Civil Engineer Squadron Environmental Flight
314 MSG	314th Mission Support Group
463 AG	463d Airlift Group
ACC	Air Combat Command
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
ADA	Americans with Disabilities Act
ADEQ	Arkansas Department of Environmental Quality
AETC	Air Education and Training Command
AFI	Air Force Instruction
AFM	Air Force Manual
AFOSH	Air Force Occupational Safety and Health
AIRFA	American Indian Religious Freedom Act
AMC	Air Mobility Command
ANG	Air National Guard
AOC	Area of Concern
AOP	Arkansas Ordnance Plant
AQCR	Air Quality Control Region
AS	Airlift Squadron
AST	aboveground storage tank
AT/FP	Anti-Terrorism/Force Protection
BMP	Best Management Practice
Btu/hr	British thermal unit per hour
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CADS	Combat Aerial Delivery School
CAO	Consent Administrative Order
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
CLEP	College Level Examination Program
CO	carbon monoxide
CWA	Clean Water Act
DoD	Department of Defense
DOL	United States Department of Labor
DOPAA	Description of Proposed Action and Alternatives
DRMO	Defense Reutilization and Marketing Office
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EO	Executive Order
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Endangered Species Act
FFCA	Federal Facility Compliance Act
FONSI	Finding of No Significant Impact
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning
HAZMART	Hazardous Materials Pharmacy
IRP	Installation Restoration Program
kg	kilogram
kV	kilovolt
LOS	level of service
LRAFB	Little Rock Air Force Base
MAC	Military Airlift Command
mgd	million gallons per day
MOU	Memorandum of Understanding
MSA	munitions storage area
msl	mean sea level
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAS	National Audubon Society
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRHP	National Register of Historic Places
O_3	ozone
Pb	lead
PCB	polychlorinated biphenyl
PIF	Partners in Flight
P.L.	Public Law
$PM_{2.5}$	particulate matter less than or equal to 2.5 micrometers in diameter
PM_{10}	particulate matter less than or equal to 10 micrometers in diameter
PME	Professional Military Education
POL	petroleum, oil, and lubricant
POV	privately-owned vehicle
ppm	parts per million
PSD	prevention of significant deterioration
PVC	polyvinyl chloride

FINDING OF NO SIGNIFICANT IMPACT FOR EDUCATION CENTER COMPLEX 314th AIRLIFT WING LITTLE ROCK AIR FORCE BASE, ARKANSAS

AGENCY: United States Air Force, Air Education and Training Command.

PURPOSE: The United States Air Force (USAF) prepared an Environmental Assessment (EA) of the potential environmental consequences of proposed construction of an Education Center Complex at Little Rock Air Force Base (LRAFB). The EA was completed pursuant to the National Environmental Policy Act (NEPA); the Council on Environmental Quality (CEQ) regulations implementing NEPA (Title 40 Code of Federal Regulations [CFR] Sections 1500-1508), Department of Defense (DoD) Directive 6050.1, 32 CFR Part 989, and Air Force Instruction (AFI) 32-7061.

PROPOSED ACTION: The Proposed Action is to construct an Education Center Complex, which will include an Education Center, a Joint Learning Center (JLC), a pavilion, and the pavements (entry road and parking area) associated with these facilities. The entire complex will encompass 100,673 square feet (SF), not including the pavements. The pavements associated with these facilities will be approximately 950,000 SF (21.7 acres) total. The two buildings that currently house this function are antiquated and will be demolished.

The proposed Education Center will be comprised of two primary facilities, the JLC and the Education Center. The JLC component of the proposal will be located inside the base boundary and will provide space for military education, training and testing. This facility will provide approximately 19,132 SF of floor space. The Education Center component of the proposal will also be located on USAF property, but *outside* the main gate to avoid unnecessarily cumbersome access for the civilian community who will utilize the facility. This facility will provide 81,541 SF of floor space. This facility will provide college classes for on-base personnel and the neighboring community, as well as office space for military and college staff.

ALTERNATIVE ACTION: Under the alternative action, the Education Center Complex would be constructed as described above, with the exception of the JLC being located at a different site. The Education Center component of the project has no viable alternative locations; however, the JLC could be located just south of the intersection of Vandenberg Boulevard and Lachmund Drive. This would meet the selection criteria by locating the JLC relatively close to the other C-130 training facilities. The building design would remain as described under the Proposed Action. Locating the JLC at this alternative site would increase impervious surfaces at the base by approximately 269,000 SF.

NO ACTION ALTERNATIVE: Under the No Action alternative, the proposed Education Center Complex would not be constructed at LRAFB. The 314th Airlift Wing (314 AW), their tenants, military personnel, and the neighboring community of Jacksonville would continue to use the existing, inadequate Education Center Complex that is housed in two old, outdated

dormitories. The spatial shortfalls would remain and educational requirements would continue to be unmet due to the lack of necessary facilities.

SUMMARY OF FINDINGS:

Earth Resources. It is estimated that approximately 24.2 acres will be temporarily disturbed as a result of construction activities, and of that acreage, 18 acres will become impervious as a result of building and pavement construction. Sedimentation ponds and well-maintained silt fences will be used to limit or eliminate soil movement, stabilize runoff, and control sedimentation during construction. Other construction Best Management Practices (BMPs) will be employed to minimize the potential for erosion and, therefore, impacts to earth resources will not be significant.

Water Resources. An additional 18 acres of impervious cover will result in a minor increase in storm water runoff. This includes approximately 0.25 acre of the Education Center entryway that will traverse the floodplain to the east of the building site. Any potential impacts to storm water associated with the Proposed Action will be managed through the implementation of a storm water pollution prevention plan as part of the construction permit requirements enforced by the United States Environmental Protection Agency (USEPA) and the State of Arkansas, which will include the use of appropriate construction BMPs as described above. There will be no significant impacts to water resources or water quality as a result of this action.

Biological Resources. An estimated 24.2 acres of land will be temporarily disturbed as a result of proposed construction activities. As a result of this disturbance, it is estimated that 17 acres of mixed hardwood forest and one acre of mowed grass will become impervious due to construction of facilities. Activities will result in a slight increase in habitat fragmentation; however, this will not likely impact the fauna that currently use the already highly fragmented habitat of LRAFB. The proposal is not expected to have an impact on threatened or endangered flora or fauna because there are none known to occur on LRAFB. There is one small (<0.1 acre) wetland located on the site of the proposed Education Center. The United States Army Corp of Engineers (USACE) has indicated that this is a non-jurisdictional wetland due to its isolated nature and they have no objection to the proposal. The wetland will not be impacted but rather incorporated into the design of the facility as a learning tool. Impacts to biological resources are not expected to be significant.

Air Quality. As a result of construction activities under the proposal, annual emissions will increase during the duration of the construction as follows: 17.3 tons of carbon monoxide (CO), 4.0 tons of volatile organic compounds (VOCs), 44.4 tons of nitrogen dioxide (NO_2), 4.1 tons of particulate matter less than or equal to 10 micrometers in diameter (PM_{10}), and 1.3 tons of sulfur dioxide (SO_2). As a result of commuting emissions after the proposal is implemented, it is expected that annual emissions will increase as follows: 70.1 tons of CO, 10.4 tons of VOCs, 6.9 tons of NO_2, 0.3 tons of PM_{10}, and <0.1 ton of SO_2. This is based on full capacity at both facilities. It is expected that these additional emissions will not result in any long-term impacts on the air quality of Pulaski County or of Air Quality Control Region (AQCR) 016. Pulaski

County is in attainment for all criteria pollutants and therefore a conformity analysis is not required and was not conducted. There will not be significant impacts to air quality.

Land Use/Visual Resources. Activities proposed are likely to enhance land use patterns on base, as a result of collocating C-130 training functions. Additionally, establishing the Education Center at the proposed location will work to improve on-base circulation seeing as non-military students will not have to travel on base to access their classes. None of the facility development will cause a change in the governing land use plan. Activities proposed will not deleteriously affect land use patterns or visual resources on base and significant impacts are not expected.

Socioeconomics. There will be no population changes within the region of influence (ROI), substantial expenditures, or major infrastructure changes as a result of the construction of the Education Center Complex. Consequently, no socioeconomic impacts are associated with implementation of the Proposed Action.

Solid and Hazardous Materials and Waste. During construction activities, diesel fuel will be stored to fuel construction equipment. The fuel will be stored within portable containment basins to manage any potential spills during construction activities. There are no Installation Restoration Program (IRP) sites located within any of the construction sites. Construction and demolition activities are not expected to generate hazardous or petroleum wastes. Approximately 7,759 tons of solid wastes will be generated as a result of demolition and construction activities. This will have a negligible impact on the local landfill. There will be no significant impacts as a result of solid and hazardous materials and wastes as a result of this proposal.

Cultural Resources. One historic archaeological site has been recorded along the boundary of the Education Center parcel. This site will be avoided during construction activities. The State Historic Preservation Office (SHPO) has indicated that impacts to historic resources are not likely to result from implementation of the Proposed Action. No archaeological resources have been identified at the JLC site. There are no known federally-recognized Native American lands or resources within the location of the proposal, and the action is not considered to have the potential to affect Native American lands, treaty rights, or other tribal interests. Impacts are not expected to be significant.

Safety. During normal construction activities, catastrophic accidents are rare. Strict adherence to all applicable occupational safety requirements will minimize the relatively low risk associated with these activities. No significant impacts to safety are expected as a result of the proposal.

Infrastructure. Minor short-term disruptions in utility services, associated with construction of the Education Center and JLC may occur. There will be an increase in vehicular traffic from establishment and operation of the Education Center Complex, specifically near the intersection of United States (U.S.) Route 67/167 and Vandenberg Boulevard. The majority of classes will be held in the evenings and therefore, impacts to circulation during peak hours is not expected.

Traffic delays and back-ups at the main gate to LRAFB should be alleviated somewhat due to locating the Education Center outside the main gate. No significant long-term impacts to transportation or utility system components are anticipated as a result of this proposal.

ENVIRONMENTAL JUSTICE: Activities associated with the Proposed Action will not impose adverse environmental effects on adjacent populations. Therefore, no disproportionately high and adverse effects will occur to minority or low-income populations.

PUBLIC INVOLVEMENT: On August 20, 2004, a notice in the *Arkansas Democrat Gazette* invited comment on the draft EA for a period of 30 days. Responses were received from seven agencies. The USFWS indicated that there are no federally listed or proposed threatened or endangered species in the area of potential impact, and that further consultation was not necessary. The USEPA had no additional comments. ADEQ indicated that the Base must apply for and comply with all provisions of the NPDES General Storm Water Construction Permit and Pollution Prevention Plan. ADEQ also visited the site and indicated an appreciation in LRAFB's commitment to protecting and restoring the environment. Arkansas Game and Fish indicated that there should be no significant impacts as a result of the proposal. The Arkansas Geological Commission indicated that the site for the proposed Education Center is underlain by a soil formation that contains clays of high expansion and shrinkage, and that specific construction methods should be employed to avoid foundation problems. The US Army Corps of Engineers had no comments on the project. One public comment was received regarding a concern about traffic at the intersection of Vandenberg Boulevard and John Harden Road. LRAFB has coordinated with the City on this issue and has determined that it would not be a significant issue. No other comments were received.

FINDING OF NO SIGNIFICANT IMPACT (FONSI): Based on my review of the facts and analysis in the EA, I conclude that the Proposed Action will not have a significant impact either by itself or considering cumulative impacts. Accordingly, the requirements of NEPA, the CEQ Regulations, and AFI 32-7061 have been fulfilled, and an environmental impact statement is not required and will not be prepared.

CURTIS L. ROSS, Colonel, USAF
Chairperson, Environmental Protection Committee

18 Oct 04
Date

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LITTLE ROCK AIR FORCE BASE, ARKANSAS

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1.0 PURPOSE AND NEED

1.1 PURPOSE AND NEED FOR THE PROPOSED ACTION

Little Rock Air Force Base (LRAFB) is the home of the 314th Airlift Wing (314 AW), and is the only C-130 training base in the Department of Defense (DoD). The 314 AW trains C-130 aircrew members from all branches of the services and 27 allied nations. Tenant units located at the base include the 463d Airlift Group (463 AG), Air Mobility Warfare Center Combat Aerial Delivery School under Air Mobility Command (AMC), and the 189th Airlift Wing (189 AW) under the Air National Guard (ANG). The combined mission is to organize, equip, and train combat-ready airlift units to operate anywhere in the world (United States Air Force [USAF] 1999).

The 314 AW at LRAFB, Arkansas is considering implementation of a project to construct an Education Center Complex, which would include an Education Center, a Joint Learning Center (JLC), and an associated outdoor pavilion. The entire complex would encompass 100,673 square feet (SF), and would replace deficient facilities. The purpose of the action is to meet facility requirements relating to the USAF.

In accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321-4347), Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] §§ 1500-1508), and 32 CFR 989, et seq., *Environmental Impact Analysis Process*, the 314 AW is preparing an Environmental Assessment (EA) that will consider the potential consequences to the human and natural environment that may result from construction of the Education Center Complex. 32 CFR 989 et seq., addresses USAF implementation of NEPA and directs USAF officials to consider the environmental consequences of any proposal as part of the decision making process.

The proposed facility has been sized to accommodate the maximum capacity of each course offered. Excess capacity may accommodate students from the local community. The Proposed Action would facilitate the academic educational pursuits of itinerant USAF personnel, military, civilian, as well as a segment of the local civilian community, who would participate in academic course offerings as availability allows. Frequently, the additional presence of civilian students assures that advanced level classes can be offered, seeing as classes can be cancelled if there is not sufficient enrollment. In fact, LRAFB is able to offer a broader curriculum of classes for military students as a result of the civilian participation.

The current Education Center Complex is housed in two inadequate, converted dormitories that do not meet USAF standards for distance learning or video teleconferencing (VTC) and seminar

requirements. The existing facilities are housed in Buildings 840 and 842, which are 25,915 and 23,715 SF, respectively. This represents an overall shortfall of 51,043 SF, or approximately 51 percent of the necessary space for the Education Center function. In addition to the spatial shortfall, the existing facilities do not:

- Accommodate more than two persons in the customer service area.
- Provide each college director with dedicated office space adequate to individually counsel students.
- House more than the single existing Distance Learning or VTC room.
- Support the use of modern office and classroom educational equipment.
- Have space for Professional Military Education (PME) seminars.
- Have adequate storage.

Enlisted skill level upgrade training and certification is currently disrupted due to lack of available facilities. The general lack of available PME seminar facilities limits enrollment options for officers, which results in delays and/or increased costs with more use of the in-residence option. VTC is limited to a single broadcast at any given time.

The range of academic offerings is severely limited due to unavoidable physical constraints at the existing Education Center, with no alternative in the local community. Available space for computer-based College Level Examination Program (CLEP) testing falls far short of demand. Students do not have the range of academic offerings they should due to the limited facility space. Also, civilian students are unnecessarily inconvenienced by increased installation security measures coupled with routine base access procedures. Due to the lack of current scholastic offerings, the existing Memorandum of Understanding (MOU) with participating colleges is currently unfulfilled. The MOU states that the University will provide educators if the USAF provides adequate facilities for their staff to teach, advise, and conduct administrative activities. Additionally, existing facilities do not meet Americans with Disabilities Act (ADA) compliance.

This project would serve military personnel who increasingly require use of facilities to accomplish certification of training, as well as academic courses essential to support the needs of the USAF.

1.2 LOCATION OF THE PROPOSED ACTION

LRAFB is a USAF training installation under the Air Education and Training Command (AETC). The installation comprises 6,128 acres and is located approximately 15 miles north of the city of Little Rock in central Arkansas (Figure 1.2-1). The base lies in Pulaski County, in the town of Jacksonville. Figure 1.2-2 shows the general layout of LRAFB. United States (U.S.) Route 67/167 borders LRAFB on the eastern boundary and State Route (SR) 107 borders the base on the western boundary. Vandenberg Boulevard is the main access to LRAFB.

The main runway at LRAFB (07/25) is 12,000 feet long and is classified as a Class B runway, based on the type of aircraft that use it (primarily C-130s). Class B runways are primarily intended for high performance and large, heavy aircraft. Class A runways are primarily intended for small, light aircraft, are ordinarily less than 8,000 feet long, and less than 10 percent of their operations involve aircraft in the type B category (Unified Facilities Criteria [UFC] 3-260-01, 2001).

LRAFB was designed and constructed as a medium jet bomber Base in 1953, and the Base was officially dedicated and opened to air traffic on 1 August 1955. Originally operated under the Strategic Air Command (SAC), the Base served as a facility for reconnaissance aircraft, medium jet bombers, and aerial refueling aircraft. The Base has since been operated under the Tactical Air Command (TAC) (1970-1974), the Military Airlift Command (MAC) (1974-1992), the AMC (1992-1993), the Air Combat Command (ACC) (October 1993-April 1997), and the AETC from May 1997 to the present (USAF 2001a).

The current LRAFB dual military mission consists of C-130 crew training and operational airlifts. Base units involved in these missions include the 314 AW, the 189 AW, the 463 AG, and the Air Mobility Warfare Center Combat Aerial Delivery School.

The 314 AW trains all C-130 crewmembers from all branches of the U.S. armed services, the U.S. Coast Guard and students from 27 allied nations. The 314 AW is comprised of four groups—operations, maintenance, mission support, and medical—and a headquarters element. Two airlift squadrons (AS), (the 53 AS and 62 AS) and the 314 Operations Support Squadron, along with the flight simulator contractor, make up the "schoolhouse" and together accomplish the wing's primary mission of training C-130 crewmembers.

Figure 1.2-1.
Regional Location Map, Little Rock AFB, Arkansas

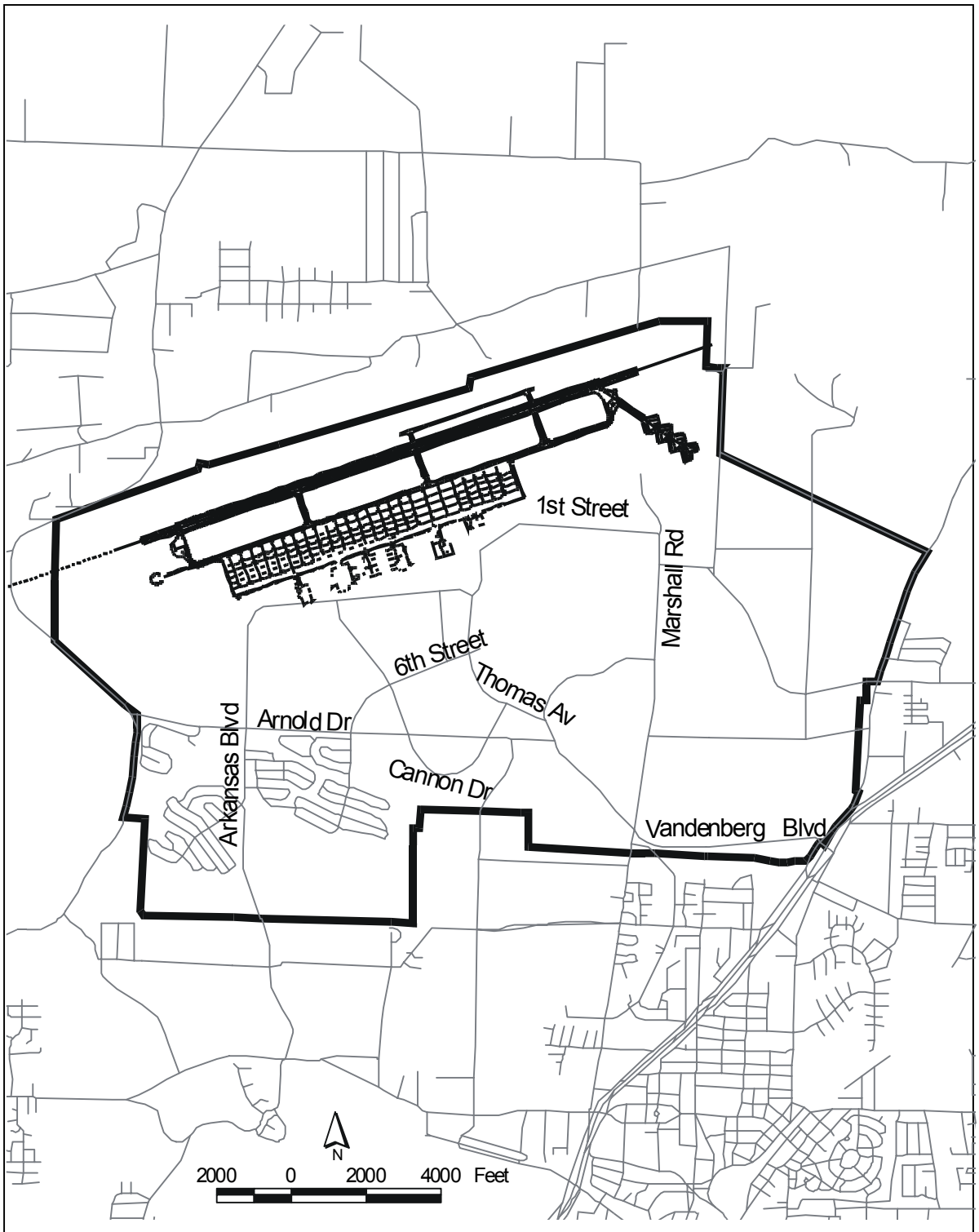


Figure 1.2-2.
Base Boundary Map
Little Rock AFB, Arkansas

The 189 AW of the Arkansas ANG works with the 314 AW to provide C-130 aircrew training. In times of emergency, as declared by the governor of Arkansas, the 189 AW operates at the direction of the state adjutant general.

The 463 AG, a tenant unit assigned to AMC, comprises two flying squadrons, the 50 AS and 61 AS, which carry out operational airlift missions throughout the world. The 463 AG also has support and logistics squadrons that provide vital support to help make the group's mission possible.

The Mobility Weapons School (MWS) is a selectively manned Mobility Air Forces Center of Excellence. The MWS consists of three Weapons Squadrons (the 29, 57, and the 509 WS); the Tactics Division (which teaches the Combat Aircrew Tactics School [CATS] and Senior Officer Tactician's Course [SOTC]); and the Intelligence Division which oversees the three Intelligence Formal Training Unit (IFTU) courses and provides critical support to the AMC mission..

The 314th Civil Engineer Squadron Environmental Flight (314 CES/CEV) manages the environmental program at LRAFB. The 314 CES is part of the 314th Mission Support Group (314 MSG), under the 314 AW. The primary responsibility of the 314 CES/CEV is to maintain environmental compliance with Federal, State, and local laws and regulations, as well as DoD and USAF policies and regulations. The base is not listed on the National Priorities List (NPL), but is currently operating under a Consent Administrative Order (CAO) issued by the Arkansas Department of Environmental Quality (ADEQ) (USAF 2001a).

1.3 DECISION TO BE MADE

The decision to be made by the USAF is whether to accomplish construction of two facilities that would provide necessary military and academic training opportunities for LRAFB and the community. The two facilities are the Education Center and the JLC. There are no alternatives to siting the Education Center and there is one siting alternative for the JLC. The No Action alternative is also considered under this review.

1.4 SCOPE OF THE ENVIRONMENTAL REVIEW

The EA will identify, describe, and evaluate the potential environmental impacts that may result from implementing construction activities associated with the Education Center Complex. As appropriate, the affected environment and environmental consequences of the Proposed Action may be described in terms of site-specific descriptions or regional overview. Finally, the EA will identify measures that would prevent or minimize environmental impacts.

The resources that could be impacted and will thereby be analyzed in the EA include: earth resources, water resources, biological resources, air quality, cultural resources, land use and

visual resources, socioeconomics, infrastructure, safety, and solid and hazardous materials and wastes.

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued by the President on February 11, 1994. In the EO, the President instructed each Federal Agency to make "achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." The Federal Interagency Working Group on Environmental Justice defines 'adverse' as "having a deleterious effect on human health or the environment that is significant, unacceptable, or above generally accepted norms." Based on analysis of impacts is this EA, a determination on significance of impacts will be made in a decision document. If anticipated impacts would be significant, the Air Force would either prepare an EIS or not implement the proposal. If impacts would not be significant, a Finding of No Significant Impact (FONSI) would be prepared. Accordingly, Environmental Justice will be addressed either in a FONSI or in a Record of Decision (ROD) based on an EIS.

1.5 APPLICABLE REGULATORY REQUIREMENTS

1.5.1 NATIONAL ENVIRONMENTAL POLICY ACT

NEPA requires federal agencies to take into consideration the potential environmental consequences of proposed actions in their decision-making process. The intent of NEPA is to protect, restore, and enhance the environment through well-informed federal decisions. The CEQ was established under NEPA to implement and oversee federal policy in this process. The CEQ subsequently issued the Regulations for Implementing the Procedural Provisions of the NEPA (40 CFR Sections 1500–1508) (CEQ 1978). These requirements specify that an EA be prepared to:

- Briefly provide sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).
- Aid in an agency's compliance with NEPA when an EIS is not necessary.
- Facilitate preparation of an EIS when one is necessary.

The activities addressed within this EA constitute a federal action and therefore must be assessed in accordance with NEPA. To comply with NEPA, as well as other pertinent environmental requirements, the decision-making process for the Proposed Action includes the development of this EA to address the environmental issues related to the proposed activities. The USAF

implementing procedures for NEPA are contained in Air Force Instruction (AFI) 32-7061, *Environmental Impact Analysis Process* (32 CFR 989 et seq.).

1.5.2 ENDANGERED SPECIES ACT

The Endangered Species Act (ESA) of 1973 (16 USC §§ 1531–1544, as amended) established measures for the protection of plant and animal species that are federally listed as threatened and endangered, and for the conservation of habitats that are critical to the continued existence of those species. Federal agencies must evaluate the effects of their proposed actions through a set of defined procedures, which can include the preparation of a Biological Assessment and can require formal consultation with the United States Fish and Wildlife Service (USFWS) under Section 7 of the Act.

1.5.3 CLEAN AIR ACT

The Clean Air Act (CAA) (42 USC §§ 7401–7671, as amended) provided the authority for the United States Environmental Protection Agency (USEPA) to establish nationwide air quality standards to protect public health and welfare. Federal standards, known as the National Ambient Air Quality Standards (NAAQS), were developed for six criteria pollutants: ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter, and lead (Pb). The Act also requires that each state prepare a State Implementation Plan (SIP) for maintaining and improving air quality and eliminating violations of the NAAQS. Under the CAA Amendments of 1990, federal agencies are required to determine whether their undertakings are in conformance with the applicable SIP and demonstrate that their actions will not cause or contribute to a new violation of the NAAQS; increase the frequency or severity of any existing violation; or delay timely attainment of any standard, emission reduction, or milestone contained in the SIP.

1.5.4 WATER RESOURCES REGULATORY REQUIREMENTS

The Clean Water Act (CWA) of 1977 (33 USC § 1251 *et seq*.) regulates pollutant discharges that could affect aquatic life forms or human health and safety. Section 404 of the CWA, and Executive Order (EO) 11990, *Protection of Wetlands*, regulate development activities in or near streams or wetlands. Section 404 regulates development in streams and wetlands and requires a permit from the United States Army Corps of Engineers (USACE) for dredging and filling in wetlands. EO 11988, *Floodplain Management*, requires federal agencies to take action to reduce the risk of flood damage; minimize the impacts of floods on human safety, health, and welfare; and to restore and preserve the natural and beneficial values served by floodplains. Federal agencies are directed to consider the proximity of their actions to or within floodplains.

1.5.5 CULTURAL RESOURCES REGULATORY REQUIREMENTS

The National Historic Preservation Act (NHPA) of 1966 (16 USC § 470) established the National Register of Historic Places (NRHP) and the Advisory Council on Historic Preservation (ACHP), outlining procedures for the management of cultural resources on federal property. Cultural resources can include archaeological remains, architectural structures, and traditional cultural properties such as ancestral settlements, historic trails, and places where significant historic events occurred. The Act requires federal agencies to consider potential impacts to cultural resources that are listed, nominated to, or eligible for listing on the NRHP; designated a National Historic Landmark; or valued by modern Native Americans for maintaining their traditional culture. Section 106 of the act requires federal agencies to consult with State Historic Preservation Officers (SHPO) if their undertakings might affect such resources. *Protection of Historic and Cultural Properties* (36 CFR 800 [1986]) provided an explicit set of procedures for federal agencies to meet their obligations under the NHPA, including inventorying of resources and consultation with SHPO.

The American Indian Religious Freedom Act (AIRFA) (42 USC § 1996) established federal policy to protect and preserve the rights of Native Americans to believe, express, and exercise their traditional religions, including providing access to sacred sites. The Native American Graves Protection and Repatriation Act (NAGPRA) (25 USC §§ 3001–3013) requires consultation with Native American tribes prior to excavation or removal of human remains and certain objects of cultural importance.

1.5.6 ENVIRONMENTAL COORDINATION

EO 12372, *Intergovernmental Review of Federal Programs*, requires intergovernmental notifications prior to making any detailed statement of environmental impacts. Through the process of Interagency and Intergovernmental Coordination for Environmental Planning (IICEP), the proponent must notify concerned federal, state, and local agencies and allow them sufficient time to evaluate potential environmental impacts of a Proposed Action. Comments from these agencies are subsequently incorporated into the Environmental Impact Analysis Process (EIAP).

In a recently formulated policy to address EO 13084, *Consultation and Coordination with Indian Tribal Governments*, the DoD has clarified its policy for interacting and working with federally recognized American Indian and Alaska Native governments. Under this policy guidance, proponents must provide timely notice to, and consult with, tribal governments prior to taking any actions that have the potential to affect protected tribal resources, tribal rights, or Indian lands. Tribal input must be solicited early enough in the planning process that it may influence the decision to be made.

1.6 INTRODUCTION TO THE ORGANIZATION OF THE DOCUMENT

This EA is organized into seven chapters. Section 1.0 contains a statement of the purpose and need for the action, the location of the Proposed Action. It also provides a summary of the scope of the environmental review, the decision to be made, identification of applicable regulatory requirements, and a description of the organization of the EA.

Section 2.0 contains a brief introduction, describes the history of the formulation of alternatives, describes the alternatives eliminated from further consideration, provides a detailed description of the Proposed Action, describes the No Action and other action alternatives, summarizes other actions anticipated for LRAFB and the surrounding community, and provides a comparison matrix of environmental effects for all alternatives. This section also identifies the preferred alternative, and discusses mitigation or Best Management Practices (BMPs), as required.

Section 3.0 contains a general description of the current conditions of the resources that potentially could be affected by the Proposed Action. Section 4.0 is an analysis of the environmental consequences of the Proposed Action, the action alternative and the No Action alternative. Section 5.0 lists the preparers of this document. Section 6.0 lists persons and agencies consulted in the preparation of this EA. Section 7.0 is a list of source documents relevant to the preparation of this EA. Appendix A contains all interagency correspondence regarding the Proposed Action.

1.7 PUBLIC INVOLVEMENT

On August 20, 2004, a notice in the *Arkansas Democrat Gazette* invited comment on the draft EA for a period of 30 days. Responses were received from seven agencies. The USFWS indicated that there are no federally listed or proposed threatened or endangered species in the area of potential impact, and that further consultation was not necessary. The USEPA had no additional comments. ADEQ indicated that the Base must apply for and comply with all provisions of the National Pollutant Discharge Elimination System (NPDES) General Storm Water Construction Permit and Pollution Prevention Plan. ADEQ also visited the site and indicated an appreciation in LRAFB's commitment to protecting and restoring the environment. Arkansas Game and Fish indicated that there should be no significant impacts as a result of the proposal. The Arkansas Geological Commission indicated that the site for the proposed Education Center is underlain by a soil formation that contains clays of high expansion and shrinkage, and that specific construction methods should be employed to avoid foundation problems. The USACE had no comments on the project. One public comment was received regarding a concern about traffic at the intersection of Vandenberg Boulevard and John Harden Road. LRAFB has coordinated with the City on this issue and has determined that it would not be a significant issue. No other comments were received.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVE

2.1 INTRODUCTION

The Proposed Action is to construct an Education Center Complex, which would include an Education Center, a JLC, a pavilion, and the pavements (entry road and parking area) associated with these facilities. The entire complex would encompass 100,673 SF, not including the pavements. The pavements associated with these facilities would be approximately 950,000 SF (21.7 acres) total.

The existing Education Center Complex is housed in two inadequate converted dormitories, Buildings 840 and 842. Both these facilities are located in the main cantonment area (Figure 2.1-1). These facilities encompass a total of 49,630 SF, which is 51,043 SF less than the necessary square footage for the Education Center Complex.

The proposed Education Center would be comprised of two primary facilities, the JLC and the Education Center. The JLC component of the proposal would be located inside the base boundary and would provide space for military education, training and testing. This facility would provide 19,132 SF of floor space. The Education Center component of the proposal would also be located on USAF property, but *outside* the main gate to avoid unnecessarily cumbersome access for the civilian community who utilize the facility. This facility would provide 81,541 SF of floor space. This facility would provide college classes for on-base personnel and the neighboring community, as well as office space for military and college staff. Additionally, there would be a pavilion for outdoor activities at the Education Center that would be 667 SF.

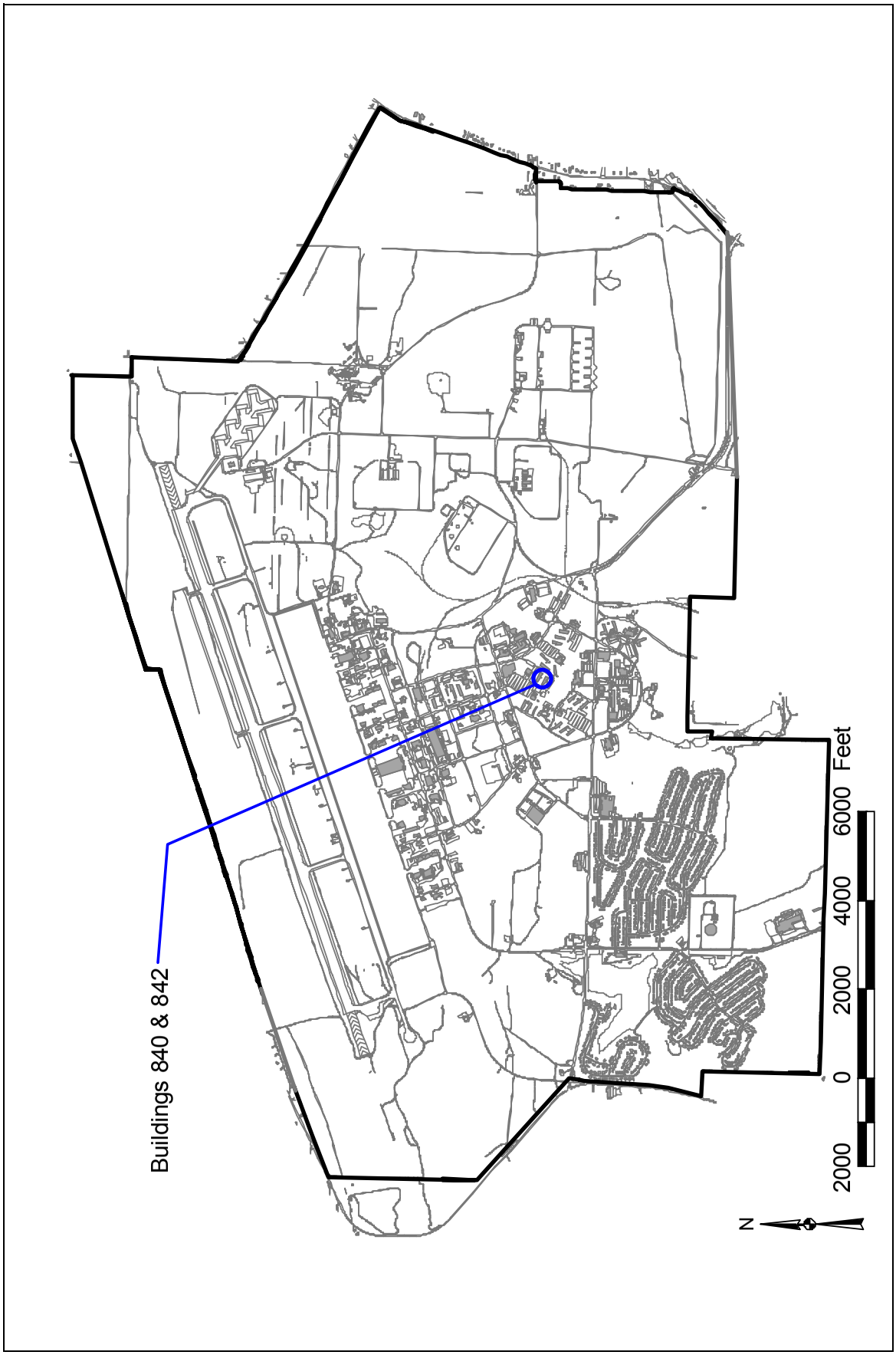


Figure 2.1-1.
Existing Education Center Complex Facilities, Buildings 840 and 842, Little Rock, Arkansas

2.2 HISTORY OF THE FORMULATION OF ALTERNATIVES

During the process of proposal development, sites for the Education Center Complex were identified that could potentially accommodate the project requirements. Criteria for the selection of the site were identified and are described below.

Selection criteria for the site include the following considerations:

- The JLC must be located on USAF property (inside the security gate), and must be an integral component of the C-130 Flight Training Campus, which is located within the vicinity of the Flight Simulator and C-130 Maintenance Training Detachment Facility.
- The Education Center must be located on USAF property, but outside the security gate.
- Both facilities must comply with applicable Anti-Terrorism/Force Protection (AT/FP) requirements.
- The Education Center must be of sufficient size to accommodate all requirements at one location and have high visibility to the surrounding community.
- Both facilities must minimize traffic/congestion impacts.
- Both facilities must be accessible to utilities.

2.3 IDENTIFICATION OF ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

During the process of proposal development, there were three potential sites identified for the Education Center and two potential sites identified for the JLC, as shown in Figure 2.3-1. The alternative sites for the Education Center comply with some of the major selection criteria, but they fail several of the others. For instance, Alternative Site #1 is located just southwest of the proposed site and is also located on Vandenberg Boulevard. However, under DoD *Minimum Antiterrorism Standards for Buildings* (UFC 4-010-01), AT/FP offset requirements dictate there must be a minimum 148-foot setback between the controlled perimeter of the facility and any roadway. Additionally DoD 6055.9-STD *Explosive Safety Standard*, and Air Force Manual (AFM) 91-201, *Explosive Safety Standards*, require there be a minimum Quantity-Distance (QD) arc of 2,435 feet surrounding the munitions storage facility, which is north of the proposed site and Alternative Site #1.

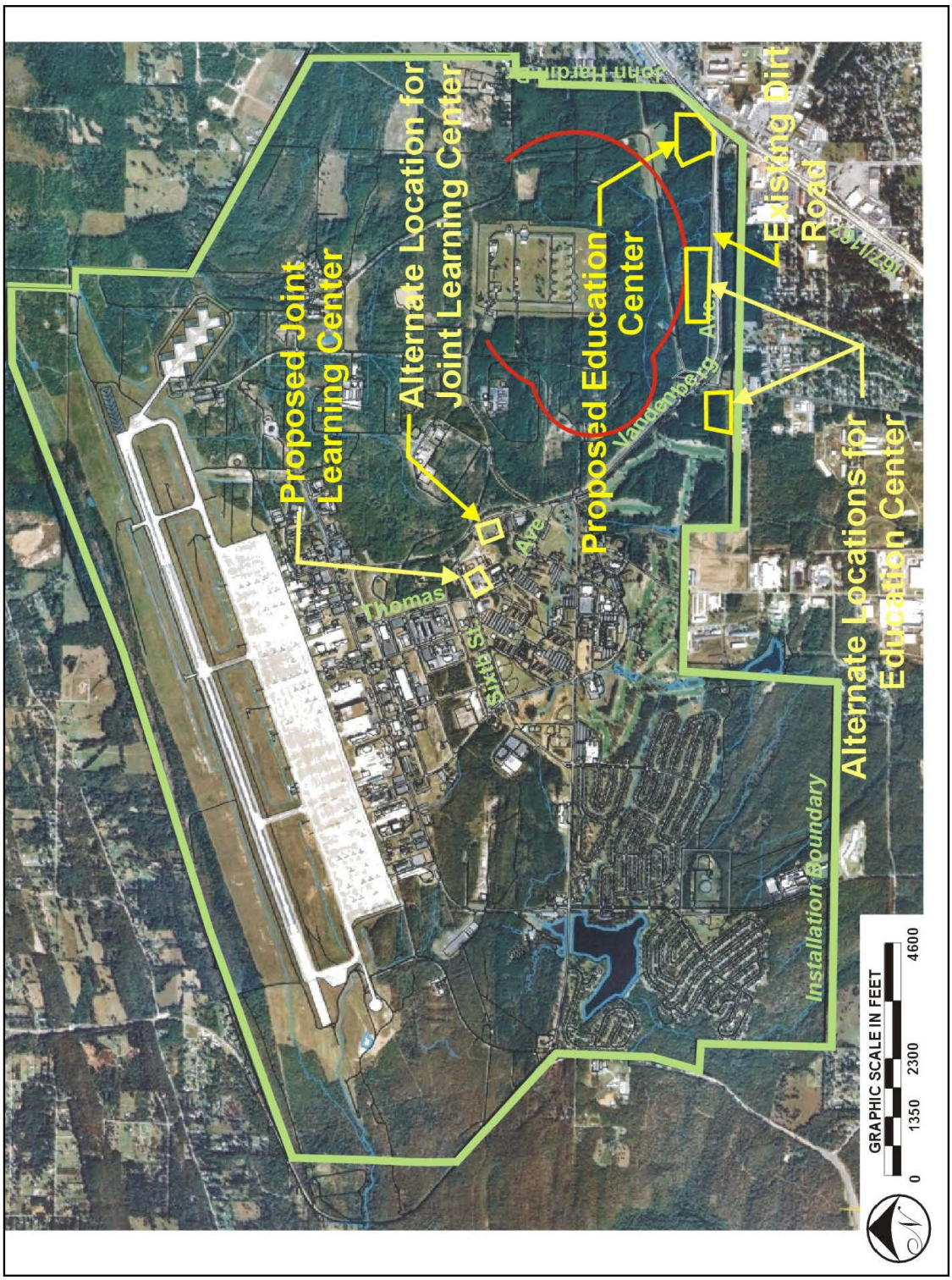


Figure 2.3-1.
Proposed and Alternative Sites for Education Center and Joint Learning Complex, Little Rock, Arkansas

Neither Alternative Sites #1 nor #2 would be large enough to accommodate all the facilities required at the Education Center facility (Figure 2.3-2). This would require that some of these functions be placed at remote locations and the facility would not function efficiently under those circumstances. Alternative Site #2 is located at the northwest corner of the intersection of Vandenberg Boulevard and Marshall Road. This is just outside the main gate, where the visitor gains entrance to LRAFB. At this intersection are several other facilities including a bank and an electrical substation. Again, due to the offset requirements discussed above, and the presence of overhead utility lines, this site is not large enough to accommodate all the required facilities and to provide for the necessary setbacks. Additionally, this site would present technical challenges to vehicular circulation at this intersection. The traffic at this intersection is already problematic due to the configuration of the intersection and the backed up traffic at the gatehouse.

Education Center Alternative Site# 2 at the intersection of Vandenberg Boulevard and Marshall Road.

There are no other available sites at LRAFB that meet the selection criteria for the Education Center component of this project; therefore, further analysis of potential impacts of this component of the proposal will be based only upon the proposed site for the Education Center and the No Action alternative.

There is a feasible alternative site identified for the JLC and it fits all selection criteria. This alternative site will be addressed in the following section.

2.4 PROPOSED ACTION

Under the Proposed Action the 314 AW would implement a project to construct an Education Center Complex, which would include an Education Center, a JLC, and an associated outdoor pavilion. The entire complex would encompass 100,673 SF, not including the associated pavements (entry drive and parking area).

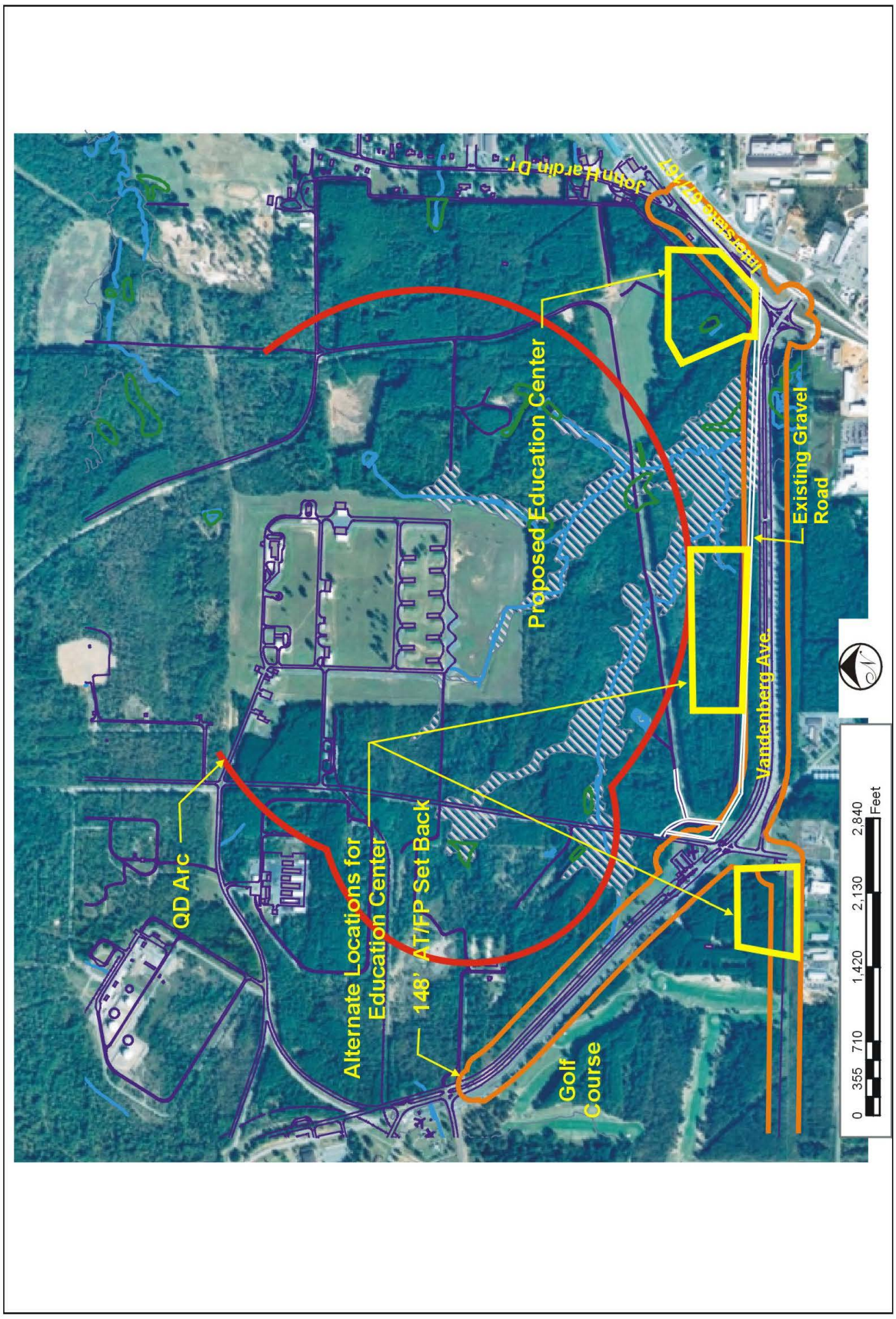
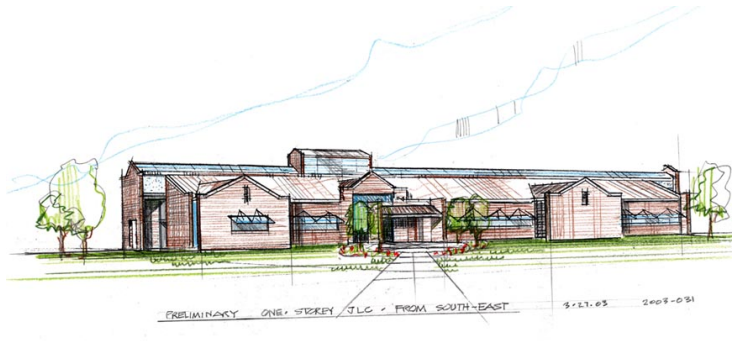


Figure 2.3-2.
Constraints to Alternative Sites for the Education Center Complex, Little Rock, Arkansas

Joint Learning Center. The JLC component of the proposal would be located inside the base boundary and would provide space for military education, training, and testing. The proposed site for this facility is at the intersection of Thomas Avenue and Sixth Street, which would collocate it with several other C-130 training functions, including the C-130 Maintenance Trainer, and the C-130 Flight Trainers (Figure 2.4-1). This facility would provide approximately 19,132 SF of floor space.



Design concept for the single story JLC.

The JLC would be a single-story multi-purpose building that would have a footprint of approximately 19,000 SF and, under the Proposed Action, would be located on a site that was previously used as the base gymnasium (Building 1220). It would be built on a concrete slab with masonry walls and a standing seam metal roof. The facility would be ADA compliant and would contain a communications systems, fire protection systems, and covered entryways. All current AT/FP attributes would be included. The site would have associated pavements (entry road and parking area) of approximately 250,000 SF (5.7 acres), and would be landscaped to maintain the natural quality of the landscape to the extent possible. Total temporary disturbance expected as a result of constructing the proposed JLC would be approximately 6.2 acres. Because this site is currently hardened (paved), there would be no net increase in impervious surface.

The JLC would provide exclusively military related learning experiences for personnel involved in maintenance and operations of the C-130 aircraft. The JLC would provide LRAFB military personnel facilities including: classrooms of various sizes, computer laboratories, distance learning equipment, VTC capabilities, conference and training capabilities, and more. It would provide a state-of-the-art educational facility for the 314 AW, its tenants, and military personnel.

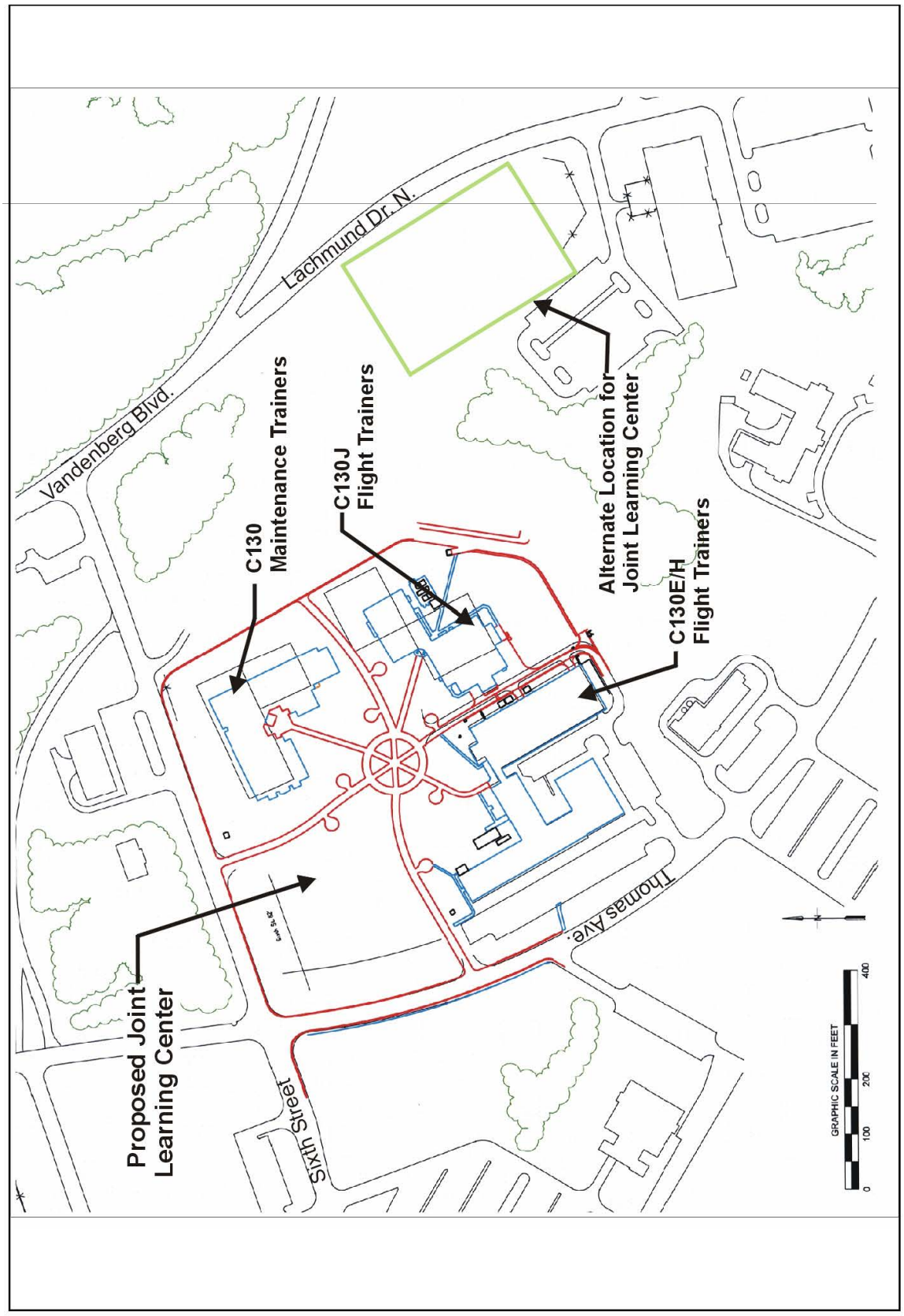
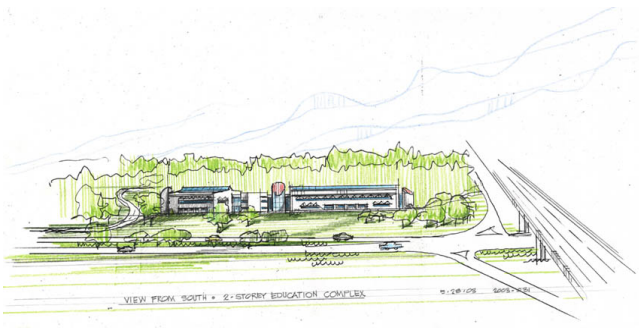


Figure 2.4-1.
Proposed and Alternative Sites for the Joint Learning Center

Education Center. Under the Proposed Action, the Education Center would be located on LRAFB property, but outside of the security gatehouse. The proposed site is at the intersection of Vandenberg Boulevard and U.S. Route 67/167 for reasons described in Section 2.1.

Proposed location for the Education Center located at the intersection of Vandenberg Boulevard and I-67/167.

The Education Center would be approximately 81,541 SF and would be located on a site that is approximately 22 acres (Figure 2.4-2). The building would be a two-story multi-purpose building that would have a footprint of approximately 35,000 SF. It would be built on a concrete slab with masonry walls and a standing seam metal roof. The facility would be ADA compliant and would contain elevators, communications systems, fire protection systems, and covered entryways. All current AT/FP attributes would be included. The site would have associated pavements (entry road and parking area) of approximately 700,000 SF (16 acres), and would be landscaped to maintain the natural quality of the landscape to the extent possible. Total disturbance expected as a result of constructing the Education Center would be approximately 18 acres, which would largely become impervious surface.



The proposed Education Center 2-story design concept.

The Education Center would provide many different types of learning experiences and would offer LRAFB and the community facilities including: science laboratories, computer laboratories, a conference room, auditoriums, classrooms of various sizes, counseling offices, faculty lounge, study areas, and a library facility. It would provide for a state-of-the-art educational experience for the 314 AW, its tenants, and the neighboring community.

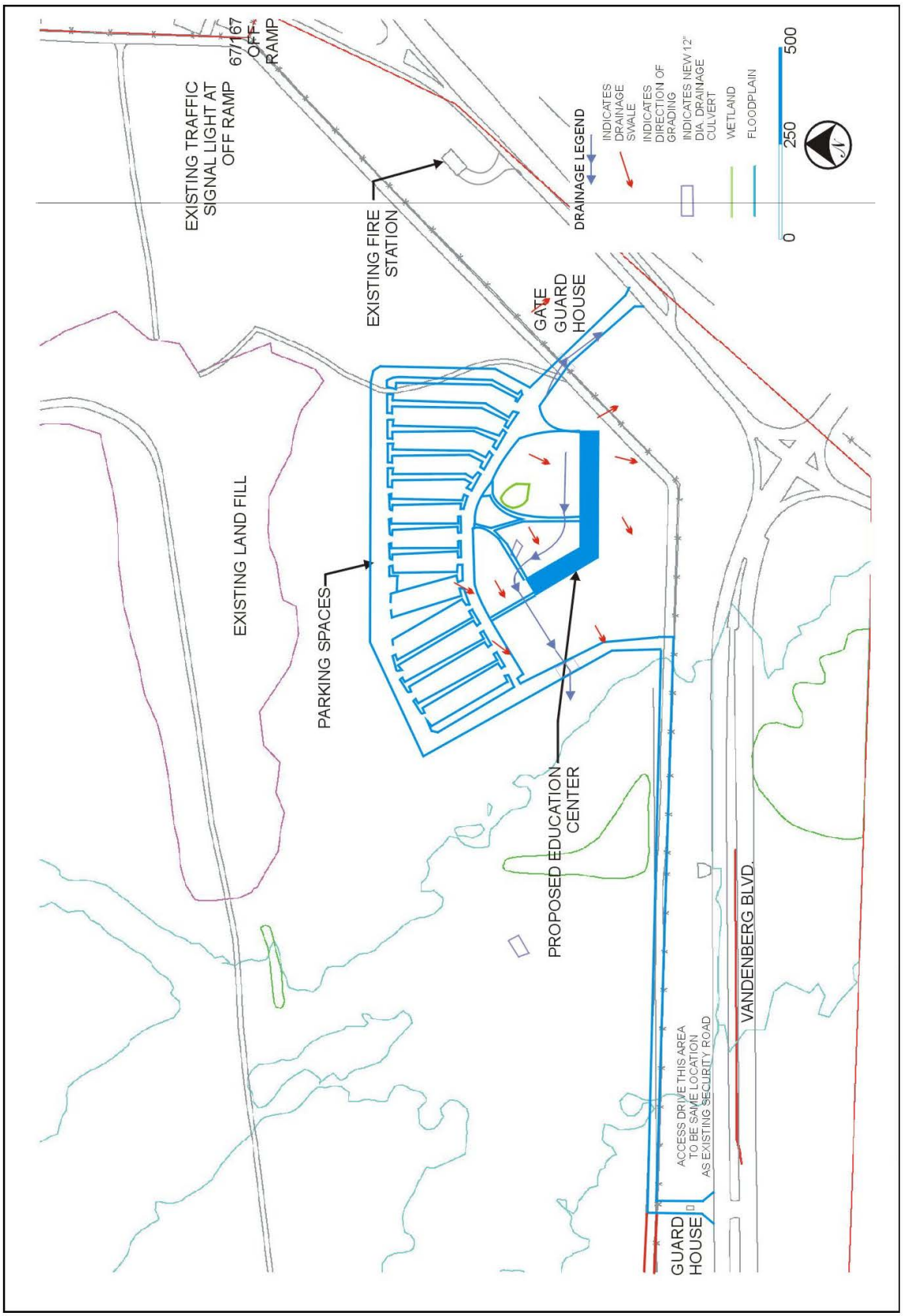


Figure 2.4-2.
Proposed Education Center, Little Rock, Arkansas

The site is currently partly landscaped and partly wooded. Approximately 16 acres of woodlands would be cleared to provide space for the facility. There is a small (less than 0.10 acre) wetland on the site, which would be left intact. The wetland would be incorporated into the design of the facility.

This small (less than 0.10 acre) wetland has been evaluated by the USACE Little Rock District. It is not considered a jurisdictional wetland. Despite that, the facility is being designed to ensure the functional value of the wetland is not impaired.

All utilities would be supplied to this facility including: natural gas, electric, water, sanitary sewer, phone and cable lines. These utilities would be accessed from the nearest possible hubs. These hubs have not yet been determined.

The Education Center would have a staff of 40 permanent employees, and would be able to seat up to 1,266 students and teachers at one time in the various internal facilities.

The Education Center would not be located within the perimeter fence of LRAFB, and therefore would not require Security Forces resources. However, if the Base Commander determined at some point in the future that the Education Center was a potential target for attack, then Security Forces resources would be engaged to secure the area.

Demolition. In association with the Proposed Action, two buildings would be demolished that are obsolete and deteriorated. The buildings proposed for demolition (Buildings 840 and 842) are substandard and cannot be cost-effectively renovated to serve as adequate dormitory space. They would therefore be demolished under the Proposed Action. These buildings are described in Table 2.4-1.

Table 2.4-1. Building Demolitions

Building Number	***Facility***	***Year Built***	***Approximate Area (SF)***
840	Existing Education Center	1956	25,915
842	Existing Education Center	1956	23,715
		Total	49,630

2.5 ALTERNATIVE ACTION

Under the alternative action, the Education Center Complex would be constructed as described in Section 2.4 (including demolition of buildings 840 and 842), with the exception of the JLC being located at a different site. As described in Section 2.4, the Education Center has no viable alternative locations; however, the JLC could be located just south of the intersection of Vandenberg Boulevard and Lachmund Drive (refer to Figure 2.4-1). This would meet the selection criteria by locating the JLC relatively close to the other C-130 training facilities. The building design would remain as described under the Proposed Action. Total disturbance expected as a result of implementing this JLC alternative would be approximately 6.2 acres (same as under the Proposed Action); however under this alternative, the site is currently undeveloped and therefore this 6.2 acres would be new impervious surface. Locating the JLC at this alternative site would increase impervious surfaces at the base by approximately 269,000 SF.

2.6 NO ACTION ALTERNATIVE

Under the No Action alternative, the proposed Education Center Complex would not be constructed at LRAFB. The 314 AW, their tenants, military personnel, and the neighboring community of Jacksonville would continue to use the existing, inadequate Education Center Complex that is housed in two old, outdated dormitories. The spatial shortfalls would remain and educational requirements would continue to be unmet due to the lack of necessary facilities.

Enlisted skill level upgrade training and certification would continue to be disrupted due to lack of available facilities. The general lack of available PME seminar facilities, which limits enrollment options for officers, would also remain. Additionally, the range of academic offerings would continue to be severely limited due to unavoidable physical constraints at the existing Education Center.

2.7 PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS IN THE REGION OF INFLUENCE

Cumulative impacts to environmental resources result from incremental effects of proposed actions when combined with other past, present, and reasonably foreseeable future projects in the region of influence (ROI). Cumulative impacts can result from individually minor, but collectively substantial, actions undertaken over a period of time by various agencies (federal, state, and local) or individuals. In accordance with NEPA, a discussion of cumulative impacts resulting from projects that are proposed, under construction, recently completed, or anticipated in the near future is required.

Short and long-term planning efforts at LRAFB and the ROI include this action as well as several others.

Recently completed projects include:

- Construction of a new Squadron Operations facility. The new Squadron Operations Center has consolidated four separate buildings into one state of the art facility. The new facility is approximately 23,000 SF.

- Construction of the Base Fitness Center. The base fitness center is an approximately 64,000 SF facility that provides year-round physical fitness and a health and wellness center.

On-going projects include:

- Construction of Temporary Living Facility (TLF). These facilities will be four separate buildings that will provide TLF for military personnel moving to or from LRAFB. There would be two 14-unit buildings, one 12-unit and one 10-unit building.

- Expansion of the Air Park Static Display. Eight to ten aircraft would be added to the existing static display of aircraft. Approximately 0.6 acre will be made impervious as a result of this action.

- Construction of the Triangle Shop. A Triangle Shop is being constructed on 1101 North Redmond Road, just south of LRAFB. The NPDES permit indicates that 40 acres could be disturbed during construction.

- Construction of the North Lake Subdivision. This subdivision is being developed well east of LRAFB, and east of U.S. Route 67/167. The NPDES permit indicates that up to 80 acres could be disturbed during construction activities.

- Construction of C-130J Flight Simulator. The flight simulator will be a two-story, 40,000 SF facility that would provide a controlled environment for cockpit training.

- Construction of a Maintenance Training Facility. This facility will provide opportunities for training of C-130 maintenance crews. The facility must be large enough to contain C-130 mock-up components. The facility will be approximately 31,000 SF.

Reasonably foreseeable planning efforts at LRAFB include the following major projects:

- Correction of several airfield clear zone violations. The clear zone surrounding the airfield would be cleared of vegetation that violates the 50:1 or the 7:1 imaginary

surfaces. Approximately 400 acres of vegetated surface will be temporarily disturbed. Approximately 48 acres of wetlands could be impacted.

- ANG development of 17 acres at the southeast corner of the existing ramp for new hangars. This will include three new facilities and some ramp space totaling approximately 143,000 SF of additional facility space with an increase in impervious surface of approximately five acres.

- Construction of Fire Station. A new fire station (crash and rescue) would be constructed on the site where two buildings have been demolished. The building would be approximately 34,000 SF.

- Redevelopment of the Base Entry Road. Under this project, the entrance roadway would be reconfigured to facilitate traffic flow and comply with AT/FP requirements. Total realignment would be approximately 100 linear feet. The project would also include a new guard shack of approximately 1,500 SF.

- Construction of Airmen Dining Facility. A new facility would be constructed to replace the inadequately sized and configured dining facility. The new facility would be approximately 18,000 SF.

- Construction of Child Development Center. The Child Development Center would provide an indoor facility and an outdoor activity area. The building would be approximately 18,000 SF.

LRAFB and the local community update facilities on a continual basis, as necessary. These planned activities have the potential to generate environmental impacts that could exacerbate impacts associated with the proposal described in this Description of Proposed Action and Alternatives (DOPAA) unless projects are planned and implemented with consideration for this potential. Each of the federal actions listed above either have been or will be the subject of subsequent NEPA analysis, which will evaluate the existing environment at the time of each proposal. The existing environment described in each of those subsequent NEPA documents will include the actions of this proposal.

2.8 SUMMARY OF IMPACTS

Potential impacts resulting from the Proposed Action, the Alternative Action, and the No Action are summarized in Table 2.8-1.

Table 2.8-1. Summary of Potential Impacts
(Page 1 of 8)

Resource Area	*Proposed Action*	*Alternative Action*	*No Action*
Earth Resources	It is estimated that approximately 24.2 acres would be temporarily disturbed as a result of construction activities, and of that acreage, 18 acres would become impervious as a result of building and pavement construction. Sedimentation ponds and well-maintained silt fences would be used to limit or eliminate soil movement, stabilize runoff, and control sedimentation during construction. Other construction BMPs would be employed to minimize the potential for erosion.	Under this alternative it is estimated that a total of approximately 24.2 acres would be disturbed as a result of construction activities and paving the new site with the parking area and roadways. Additionally, the alternative site for the JLC is not currently developed and therefore the 6.2 acres associated with site development would be rendered impervious. This would be 6.2 acres more than under the Proposed Action. Sedimentation ponds and well-maintained silt fences would be used to limit or eliminate soil movement, stabilize runoff, and control sedimentation during construction. Other construction BMPs would be employed to minimize the potential for erosion.	Under the No Action alternative, the 314 AW would maintain their existing facilities in Buildings 840 and 842, and would not build new facilities. There would be no facility demolitions. No impacts to earth resources would occur as a result of the No Action alternative.

Table 2.8-1. Summary of Potential Impacts
(Page 2 of 8)

Resource Area	*Proposed Action*	*Alternative Action*	*No Action*
Water Resources	An additional 18 acres of impervious cover would result in a minor increase in storm water runoff. This would include approximately 0.25 acre of the Education Center entryway that would traverse the floodplain to the east of the building site. Any potential impacts to storm water associated with the Proposed Action would be managed through the implementation of a storm water pollution prevention plan as part of the construction permit requirements enforced by the USEPA and the State of Arkansas, which would include the use of appropriate construction BMPs as described above.	Impacts related to the Education Center would be as described under the Proposed Action. The alternative site for the JLC is not currently developed and therefore the 6.2 acres associated with site development would be rendered impervious. This would be 6.2 acres more than under the Proposed Action. Well maintained silt fences, wetting of the construction site, daily site inspections, and other BMPs would be used to limit or minimize sedimentation of nearby waterways. This small increase in impervious surface would have a negligible additional impact from the Proposed Action.	Under the No Action alternative, construction associated with the Education Center and the JLC would not occur. There would be no impacts to water resources.

Table 2.8-1. Summary of Potential Impacts
(Page 3 of 8)

Resource Area	*Proposed Action*	*Alternative #2*	*No Action*
Biological Resources	An estimated 24.2 acres of land would be temporarily disturbed as a result of proposed construction activities. As a result of this disturbance, it is estimated that 17 acres of mixed hardwood forest and one acre of mowed grass would become impervious due to construction of facilities. Activities would result in a slight increase in habitat fragmentation; however, this would not likely impact the fauna that currently use the already highly fragmented habitat of LRAFB. The proposal would not be expected to have an impact on threatened or endangered flora or fauna because there are none known to occur on Little Rock AFB. There is one small (<0.1 acre) wetland located on the site of the proposed Education Center. The USACE has indicated that this is a non-jurisdictional wetland due to its isolated nature and they have no objection to the proposal. The wetland would not be impacted but rather incorporated into the design of the facility as a learning tool.	Impacts related to the Education Center would be as described under the Proposed Action. At the alternative JLC site, approximately one acre of mowed grassland would be disturbed to accommodate the JLC. The mowed grassy area provides little unique habitat. Given that there are currently approximately 2,820 acres of forested land on LRAFB, and a substantial amount of mowed, grassy areas, this would be a minor impact.	Under the No Action alternative, the Education Center Complex would not be built, and construction associated with the Education Center and the JLC would not occur. The forest and grassland plant communities would be unaffected and current wildlife use of the area would be expected to continue. This alternative would not result in impacts to biological resources over and above those that have already occurred due to habitat fragmentation and the construction of buildings and parking lots.

Table 2.8-1. Summary of Potential Impacts
(Page 4 of 8)

Resource Area	*Proposed Action*	*Alternative #2*	*No Action*
Air Quality	As a result of construction activities under the proposal, annual emissions would increase during the duration of the construction as follows: 17.3 tons of CO, 4.0 tons of volatile organic compounds (VOCs), 44.4 tons of NO_2, 4.1 tons of particulate matter less than or equal to 10 micrometers in diameter (PM_{10}), and 1.3 tons of SO_2. As a result of commuting emissions after the proposal would be implemented, it is expected that annual emissions would increase as follows: 70.1 tons of CO, 10.4 tons of VOCs, 6.9 tons of NO_2, 0.3 tons of PM_{10}, and <0.1 ton of SO_2. This is based on full capacity at both facilities. It is expected that these additional emissions would not result in any long-term impacts on the air quality of Pulaski County or of Air Quality Control Region (AQCR) 016.	Under the Alternative Action, construction and operational emissions are expected to be equivalent to those described under the Proposed Action. It is expected that these emissions would not result in any long-term impacts on the air quality of Pulaski County or AQCR 016.	Under the No Action Alternative, no construction or new operational emissions would occur and the Base's emissions would be identical to current baseline emissions.

Table 2.8-1. Summary of Potential Impacts
(Page 5 of 8)

Resource Area	*Proposed Action*	*Alternative #2*	*No Action*
Land Use/Visual Resources	Activities proposed would be likely to enhance land use patterns on base, as a result of collocating C-130 training functions. Additionally, establishing the Education Center at the proposed location would work to improve on-base circulation seeing as non-military students would not have to travel on base to access their classes. None of the facility development would cause a change in the governing land use plan. Activities proposed would not deleteriously affect land use patterns or visual resources on base.	Impacts related to the Education Center would be as described under the Proposed Action. Although the alternative JLC site is close to the existing C-130 classroom training area, from a land use and design standpoint, this would be a less ideal location than the proposed site because it would create new impervious surface and would be further away from the C-130 training complex than the proposed site. Functionality of the C-130 classroom training area would not be particularly enhanced by this alternative.	Under the No Action alternative, the use of the existing, inadequate Education Center Complex housed in two old, outdated dormitories would continue. The spatial and functional shortfalls for these functions would remain. The improved locational arrangement of the Education Center, in particular, would be lost. Both military and civilian students would continue to have to negotiate through the main entrance gate to attend the classes. The benefits of having an aesthetically pleasing area in which to conduct college courses for on-base personnel and the neighboring community would be lost.
Socioeconomics	There would be no population changes within the region of influence, substantial expenditures, or major infrastructure changes as a result of the construction of the Education Center Complex. Consequently, no socioeconomic impacts would be associated with implementation of the Proposed Action.	Impacts as a result of the Alternative Action would be expected to be similar to the Proposed Action.	Under the No Action alternative, the use of the existing, inadequate Education Center Complex housed in two old, outdated dormitories would continue. No socioeconomic impacts would be expected under this alternative.

Table 2.8-1. Summary of Potential Impacts
(Page 6 of 8)

Resource Area	*Proposed Action*	*Alternative #2*	*No Action*
Solid and Hazardous Materials and Waste	During construction activities, diesel fuel would be stored to fuel construction equipment. The fuel would be stored within portable containment basins to manage any potential spills during construction activities. There are no Installation Restoration Program (IRP) sites located within any of the proposed construction sites. Construction and demolition activities would not be expected to generate hazardous or petroleum wastes. Approximately 7,759 tons of solid wastes would be generated as a result of demolition and construction activities. This would have a negligible impact on the local landfill.	Under this alternative, impacts to solid and hazardous materials and waste would be expected to be approximately the same as those described for the Proposed Action. There are no IRP sites at the alternative JLC location, and waste generation would be expected to be virtually identical.	Under this alternative, there would be no change to the current operations at LRAFB. Therefore, conditions related to solid and hazardous materials and wastes within the ROI would remain at baseline conditions.

Table 2.8-1. Summary of Potential Impacts
(Page 7 of 8)

Resource Area	*Proposed Action*	*Alternative #2*	*No Action*
Cultural Resources	One historic archaeological site has been recorded along the boundary of the Education Center parcel. This site would be avoided during construction activities. The SHPO has indicated that impacts to historic resources are not likely to result from implementation of the Proposed Action. No archaeological resources have been identified at the JLC site. There are no known federally-recognized Native American lands or resources within the location of the proposal, and the action would not be considered to have the potential to affect Native American lands, treaty rights, or other tribal interests.	Impacts under this alternative are expected to be similar to those described under the Proposed Action.	No impacts to cultural resources are expected under the No Action alternative. The resources would continue to be managed in compliance with Federal law and USAF regulation. Cultural resources would remain at baseline conditions.

Table 2.8-1. Summary of Potential Impacts
(Page 8 of 8)

Resource Area	*Proposed Action*	*Alternative #2*	*No Action*
Safety	During normal construction activities, catastrophic accidents are rare. Strict adherence to all applicable occupational safety requirements would minimize the relatively low risk associated with these activities.	Impacts under this alternative would be expected to be similar to those under the Proposed Action.	No impacts would be expected under the No Action alternative.
Infrastructure	Minor short-term disruptions in utility services, associated with construction of the Education Center and JLC could occur. There would be an increase in vehicular traffic from establishment and operation of the Education Center Complex, specifically near the intersection of U.S. Route 67/167 and Vandenberg Boulevard. The majority of classes would be held in the evenings and therefore, impacts to circulation during peak hours would not be expected. Traffic delays and back-ups at the main gate to LRAFB should be alleviated somewhat due to locating the Education Center outside the main gate.	Impacts to infrastructure would be expected to be very similar as under the Proposed Action. However, any increases in traffic or congestion related to the JLC would likely be found along Lachmund Drive rather than at the intersection of Sixth Street and Thomas Avenue, as described under the Proposed Action. Both these roadways should have an adequate level of service to manage these minor increases; therefore, no substantial impact to traffic at either site would be expected.	No impacts would be anticipated to utilities or transportation facilities under the No Action alternative.

3.0 EXISTING CONDITIONS

Chapter 3.0 describes the existing environmental and socioeconomic conditions likely to be affected by the Proposed Action. The potential environmental and socioeconomic impacts of implementing the Proposed Action or its alternative are described in Chapter 4.0.

In compliance with NEPA, CEQ guidelines, and AFI 32-7061, the description of the affected environment focuses on those resources and conditions potentially subject to impacts. These resources and conditions include: earth resources, water resources, biological resources, air quality, land use and visual resources, socioeconomics and environmental justice, solid and hazardous materials and wastes, cultural resources, safety, and infrastructure.

3.1 EARTH RESOURCES

3.1.1 DEFINITION OF THE RESOURCE

Earth resources include topography, geology, and soils. Geologic resources of an area typically consist of surface and subsurface materials and their inherent properties. The term soils refers to unconsolidated materials formed from the underlying bedrock or other parent material. Soils play a critical role in both the natural and human environment. Soil drainage, texture, strength, shrink-swell potential, and erodibility all determine the suitability of the ground to support man-made structures and facilities.

These resources may have scientific, historical, economic, and recreational value. The ROI for geology and soils includes the area immediately underlying the proposed Education Center and the JLC.

3.1.2 EXISTING CONDITIONS

3.1.2.1 Geology

The state of Arkansas is divided into several very distinct physiographic regions. A southwest to northeast diagonal line divides the state into the Ozark/Ouachita highlands and the Mississippi Alluvial Plain/Gulf Coastal Plain. The highland regions are further divided by the Arkansas River Valley, which follows the flow of the Arkansas River through the highland regions.

LRAFB lies on the diagonal transition between the Ouachita highlands and the lowlands. The rock formations in the highland area are dominated by well-lithified sandstones, shales, limestones, and dolostones of Paleozoic age. A thin drape of younger unconsolidated clays, sands, and gravel (alluvium), is often found in valley floors and associated with the streams and rivers. The sedimentary deposits of the lowlands are mainly unconsolidated clay, sand, and

gravel of Quaternary age, poorly consolidated deposits of clay, sand, silt, limestone, and lignite of Tertiary age, and consolidated deposits of Cretaceous marl, chalk, limestone, sand, and gravel (United States Department of Agriculture [USDA] 1975, Natural Resources Conservation Service 2002).

The proposed site for the JLC is located on the Atoka Formation of Pennsylvanian age, which is composed of sandstone and shale. The alternate site along Lachmund Drive is likely located on the Midway Formation of Paleocene age, which is composed of clay with minor limestone components. The clay of the Midway Formation has a high index of shrinkage and expansion, which has caused foundation problems in the central Arkansas area (Arkansas Geological Commission 2004).

3.1.2.2 Soils

Soils in the LRAFB area of Pulaski County are generally formed in weathered material from acid sandstone and shale, and in valley fill from local highlands. Two soil associations are identified on the base. The northern half of the base is predominantly the Leadvale-Guthrie-Linker association; the Linker-Mountainburg association occurs in the southern half of the base. Most of the improved and some of the semi-improved portions of the base are classified as Urban Land or Urban Land complexes of several soil series. Urban Land is either significantly covered by works and structures or has been so altered during construction that separate classification is impractical (USDA 1975).

There are seven major soil series identified as originally occurring on LRAFB. In general, these soils are acidic and over much of the base are shallow and well drained (USDA 1975).

The *Amy* soil series is comprised of silt loam and is located in broad upland flats and on flood plains of local drainage ways. This soil series is deep, poorly drained with a high seasonal water table, and generally presents severe limitations for construction. *Amy* soils are present in the eastern portions of the base (USDA 1975).

The *Guthrie* soil series is comprised of level, poorly drained silt loam on stream terraces and in depressions on the top of mountains. This soil series is deep and poorly drained, with a high seasonal water table and severe construction limitations. The *Guthrie* series is present in northern and eastern portions of the base (USDA 1975).

The *Leadvale* series is comprised of nearly level and gently sloping silt loam in valleys and on the top of low mountains. This series is suitable for most uses and occurs in the northern and southeastern portions of the base (USDA 1975).

The *Linker* soil series consists of well-drained, gently sloping to moderately steep soils on the top and sides of mountains, on benches and on low ridges in valleys. The series is composed of fine sandy loam in the upper layers and clay loam in the deeper layers. The depth to bedrock is about 30 inches. The shallow depth to bedrock of this series presents a moderate construction constraint. *Linker* soils are present over a large portion of the base (USDA 1975).

The *Mountainburg* soil series consists of well-drained fine sandy loam on gently to moderately steep slopes on the top and sides of mountains, on benches, and on low ridges in valleys. This series is very shallow, with an average depth to bedrock of 15 inches, presenting severe limitations to excavation. *Mountainburg* complexes are present over large portions of the base (USDA 1975).

The *Smithdale* soil series is comprised of fine sandy loam, clay loam and sandy loam. It is present in gently to moderately sloping upland areas. The soil is deep, well-drained and generally occurs in the eastern portions of the base (USDA 1975).

The *Tiak* soil series is comprised of a fine sandy loam surface layer over a deep layer of silty clay. The soil is moderately well drained and nearly level to gently sloping. *Tiak* soils are present in the southern portions of the base and present moderate to severe construction limitations due to their high clay content (USDA 1975).

The land for the proposed Education Center is classified as Tiak fine sandy loam primarily, with smaller portions of the undulating Amy complex and Amy silt loam along the drainage just west of the proposed entryway. The Tiak soils are moderately well drained, nearly level to gently sloping soils. Permeability is slow and available water capacity is high. The Amy soils are poorly drained level soils that generally occur along floodplains of waterways. Permeability is slow and available water capacity is high (USDA 1975).

The land for both the proposed and alternate sites for the JLC is in an area of historic development on the base and is classified as *Urban land* (USDA 1975). Pavement or buildings cover most of these areas, and the land that is not covered by pavement has been so altered during construction activities that it is not practical to map. Soil grading has severely altered the original soils and they can no longer be classified other than as Urban soil.

3.1.2.3 Topography

Most of LRAFB has rolling topography with gentle slopes. Steeper slopes occur in the stream valleys in the northwest and southwest corners of the base. Long, narrow ridges, oriented from East to West, typify the region to the north of the base. The southernmost of these ridges lies just north of the airfield (Parsons Engineering Science 1998).

The elevations on the base range from the highest point of 421 feet above mean sea level (msl) to a low of 258 feet above msl along the eastern perimeter (Parsons Engineering Science 1998).

3.2 WATER RESOURCES

3.2.1 DEFINITION OF THE RESOURCE

Water resources analyzed in this EA include surface water and groundwater quantity and quality. Surface water resources comprise lakes, rivers, and streams and are important for a variety of reasons, including economic, ecological, recreational, and human health. Groundwater comprises the subsurface hydrologic resources of the physical environment and is an essential resource. Groundwater properties are often described in terms of depth to aquifer or water table, water quality, and surrounding geologic composition.

Other issues relevant to water resources include the downstream water and watershed areas affected by existing and potential runoff, and hazards associated with 100-year floodplains. Floodplains are defined by EO 11988, *Floodplain Management*, as "the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year" (that area inundated by a 100-year flood). The values served by floodplains include natural moderation of floods, water quality maintenance, groundwater recharge, as well as habitat for many plant and animal species.

3.2.2 EXISTING CONDITIONS

3.2.2.1 Surface Water

LRAFB lies within the Arkansas River Basin of central Arkansas and is located within the Bayou Meto drainage area. This area receives a mean annual precipitation of 48 inches per year (National Oceanic and Atmospheric Administration 2002). Drainage on LRAFB is controlled by open drainage courses and underground storm drains, and joins the area-wide drainage flowing into three secondary streams: Cypress Branch on the west, Rocky Branch on the south, and Jacks Bayou on the east. Additional unnamed secondary streams are located southwest, southeast, and northeast of the base. All streams from the base eventually flow into Bayou Meto, which flows southeast and joins the Arkansas River approximately 100 miles downstream from the base (USAF 1993).

The proposed Education Center site drains toward the west and eventually to Outfall 3, and eventually to Rocky Branch. The proposed JLC site drains toward Outfall 4, and subsequently to Jacks Bayou.

There are a number of impoundments and open water bodies at LRAFB including Base Lake (a 37 acre lake in the southwest corner of the base), three golf course ponds used for irrigation water (ranging from 1.1 to 2.3 acres in area), seven small ponds on the east side of the base (ranging from 0.2 to 1.2 acres), and a number of small "borrow" ponds apparently created by excavations for fill material. There are no notable ponds within the vicinity of the JLC. There is a small wetland at the proposed Education Center site.

LRAFB is permitted to discharge storm water runoff via four discharge points into tributaries to Bayou Meto. Storm water discharges are permitted in accordance with LRAFB's NPDES permit and are regulated by USEPA. Water quality is monitored at these four locations (Figure 3.2-1) and may also be monitored at three inactive, alternate sites. Testing of the effluent is conducted on a monthly basis and the system is in compliance with all NPDES and ADEQ standards (USAF 2001b). According to the ADEQ, the nearest surface water quality stations within the drainage basin are on Bayou Meto and Bayou Two Prairie at distances of 50 to 75 miles downstream (USAF 1996).

3.2.2.2 Groundwater

The base obtains all its water supply from surface water reservoirs in Little Rock. There are no water production wells on the base. Groundwater is not used for drinking, irrigating, or industrial purposes. Municipal wells for the city of Jacksonville are located approximately 4.5 miles southeast of LRAFB and reportedly take water from a deep alluvial aquifer approximately 104 to 129 feet below the surface.

The limited available information about groundwater at LRAFB is from IRP monitoring wells. Generally, these wells are shallow and have low yield. Depth to the groundwater table varies across the base with depth to bedrock and season. In some locations, the bedrock is very shallow and the groundwater table occurs near the surface. At other locations, the water table is as much as 30 feet (nine meters) below the surface.

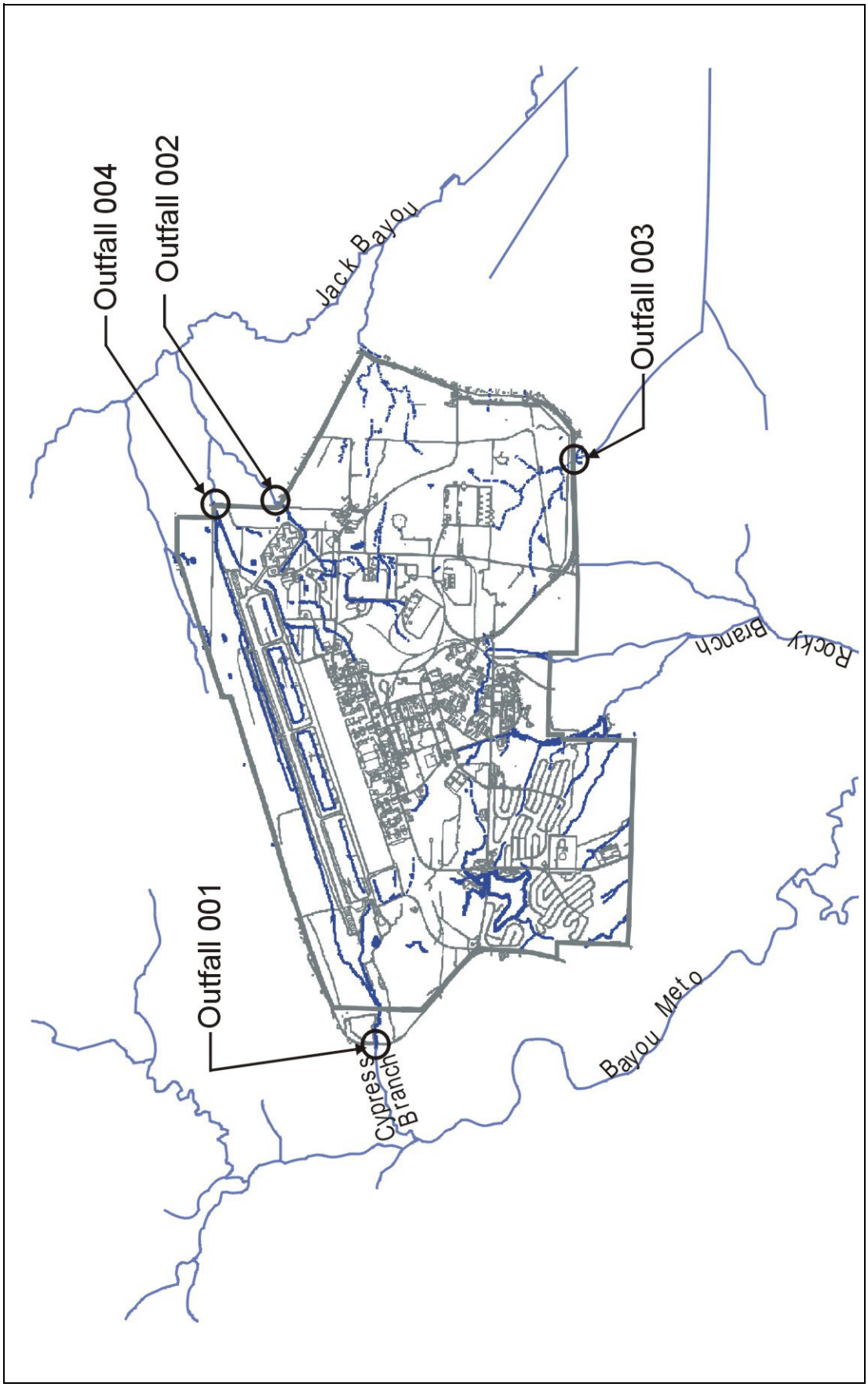


Figure 3.2-1.
Water Resources and Outfalls, Little Rock, Arkansas

3.2.2.3 Floodplain

There is the potential for several areas of LRAFB to be impacted by a 100-year flood. The areas subject to flooding are primarily along the natural and man-made impoundments and drainage channels that control storm water flow on the Base. A floodplain study using two-foot contours was recently completed to provide a more precise depiction of the 100-year floodplain (URS, Inc. 2001). Figure 3.2-2 delineates the 100-year floodplain based on existing maps and information. The proposed Education Center site lies just east of a 100-year floodplain. The proposed entryway to the Education Center would cross over a 100-year floodplain that extends toward the northeast from Vandenberg Boulevard via an existing roadway. The proposed and alternate JLC sites are not within 100-year floodplains.

3.3 BIOLOGICAL RESOURCES

3.3.1 DEFINITION OF THE RESOURCE

Biological resources include native or naturalized plants and animals and the habitats, including wetlands, in which they occur. Although the existence and preservation of biological resources are intrinsically valuable, these resources also provide essential aesthetic, recreational, and socioeconomic values to society. This section focuses on plant and animal species and vegetation types that typify or are important to the function of the ecosystem, are of special societal importance, or are protected under federal or state law or statute. For purposes of this assessment, sensitive biological resources are defined as those plant and animal species listed as threatened or endangered by the USFWS and species that are considered sensitive by the state or other entities. Three categories of protection status are included in this section including 1) federal listed threatened and endangered species, 2) state listed species, and 3) other sensitive species.

Federal Listed Threatened and Endangered Species. The ESA of 1973 provides protection to species listed under this category. Endangered species are those species that are at risk for extinction in all or a large portion of their range. Threatened species are those that could be listed as endangered in the near future.

State Listed Threatened and Endangered Species. The state-threatened and endangered species list in Arkansas is identical to the federal list for Arkansas.

Other Sensitive Species. Includes federal species of concern and species listed by other agencies such as the state Natural Heritage Programs. These are usually species of regional concern that are likely on the decline. These species receive no legal protection under the ESA or other statutes.

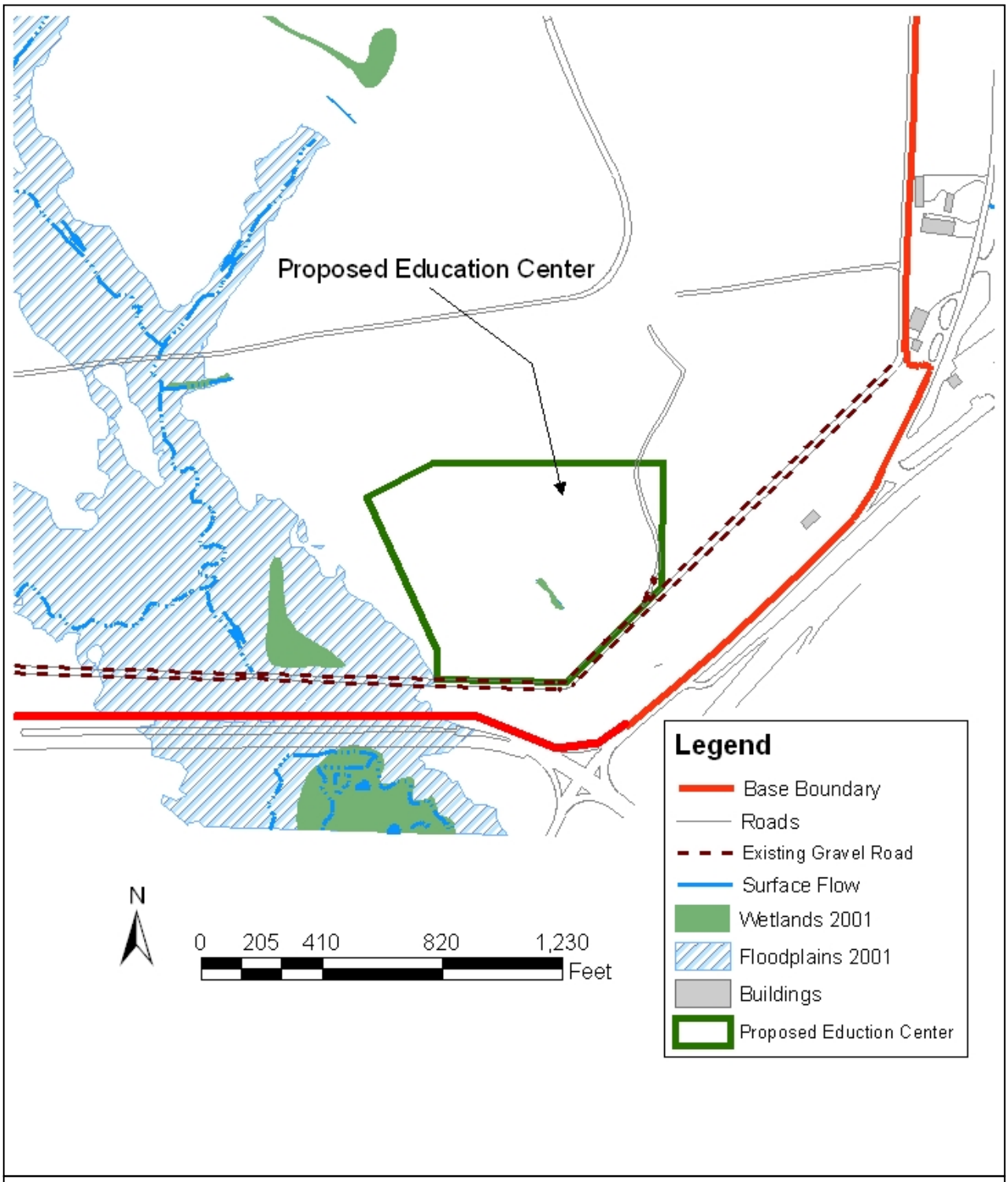


Figure 3.2-2.
100 Year Flood Plain and Wetlands
in Vicinity of Proposed Education Center,
Little Rock Air Force Base, Arkansas

3.3.2 EXISTING CONDITIONS

LRAFB is near the eastern edge of the Ouachita Mountains above the Mississippi Alluvial Plain and within the Arkansas Valley and Ridges Land resources area. The area is dominated by pines and upland hardwood forests that support a diverse flora and fauna (USAF 2002). The Proposed Action area on LRAFB contains hardwood forests, grassland plant communities, and waterways that all provide habitat for a variety of wildlife species.

3.3.2.1 Vegetation

The general vegetative cover in the area is the Southern Division of the Oak-hickory Region and more specifically, the Ouachita Mountains portion of the Interior Highlands. Historically, the pine-oak forest type was the most widespread in the uplands and common tree species were shortleaf pine (*Pinus echinata*), post oak (*Quercus stellata*), blackjack oak (*Q. marilandica*), black oak (*Q. velutina*), and white oak (*Q. alba*). Common understory species were sassafras (*Sassafras albidum*), persimmon (*Diospyros virginiana*), and flowering dogwood (*Cornus florida*). More mesic areas contained mostly hardwood species including water oak (*Q. nigra*), willow oak (*Q. phellos*), black gum (*Nyssa slyvatica*), sycamore (*Platanus occidentalis*), and sweet gum (*Liquidamber styraciflua*) (USAF 2002). Prior to the establishment of LRAFB in 1953, much of the land that historically supported the above forest types had been cleared for agricultural purposes. As a result of the base being located at this site, forest and woodland types have become reestablished. There is currently an estimated 2,820 acres of forest and woodlands on the base and the remaining land is covered with open fields and base facilities as well as a small amount of wetlands and aquatic habitat. The largest forest community is the post oak/blackjack oak type (1,686 acres), followed by loblolly pine (*Pinus taeda*)/shortleaf pine forest (540 acres), and bottomland hardwood forest where pin oak (*Quercus palustris*), sweet gum, and willow oak are common (590 acres). The pine stands are areas that were formerly cleared and then planted to pine while most of the remaining forest became established naturally (USAF 2002).

The proposed Education Center site lies on approximately 22 acres of mixed hardwood forest. The wooded portion of the property is covered with a mixed aged deciduous forest dominated by lowland tree species. The canopy and understory trees and shrub layer create dense vegetation in many areas. Mature tree species include sweet gum, red maple (*Acer rubrum*), willow oak, oak sp, and ash sp (*Fraxinus* sp.). Some of these trees are approximately 55 to 65 feet tall and 18 to 30 inches diameter at breast height. There is a dense groundcover in some places, which includes greenbrier (*Smilax* sp.) and poison oak (*Rhus radicans)*. The proposed JLC site lies in the footprint of the old gymnasium, which has been demolished. The alternative JLC site lies in an area of mowed grasses (USAF 2002).

3.3.2.2 Wildlife

Invertebrates

Seven species of crayfish are found on LRAFB. *Procambarus acutus* is the most abundant and widespread species, and is found in all habitat types including man made drainages. A total of 451 insect taxa have been recorded on LRAFB (USAF 2002). Aquatic macroinvertebrates and algae have been sampled from six locations on base. Eight algal taxa and six aquatic macroinvertebrate taxa have been found in streams on base (USAF 2002).

Amphibians and Reptiles

Thirty-eight species of amphibians and reptiles are documented from LRAFB. This relatively large number of species in a small geographic area represents favorable diversity (USAF 2002). Thirteen species have been recorded from the mesic forests of LRAFB, including the spotted salamander (*Ambystoma maculatum*), cricket frog (*Acris crepitans*), southern leopard frog (*Rana utricularia*), fence lizard (*Sceloporus undulatrus*), and hognose snake (*Heterodon platirhinos*). Species found in the grassy areas on base were limited to the three-toed box turtle (*Terrapene carolina triunguis*) and Fowler's toad (*Bufo woodhousei fowleri*) (USAF 2002).

Birds and Neotropical Migrants

A total of 122 species of birds were detected on base during recent surveys and 37 of these have been detected in the wooded and grassland habitat similar to the project area. Base wide, 77 species were detected in the deciduous forest/woodland/oak savannah. Of these, 54 are considered breeding species with 33 being permanent residents and 21 migrating to the base to breed. Common to fairly common forest breeding permanent residents include the Red-bellied Woodpecker (*Melanerpes carolinus*), Downy Woodpecker (*Picoides pudescens*), Blue Jay (*Cyanocitta cristata*), Carolina Chickadee (*Parus carolinensis*), Tufted Titmouse (*Parus bicolor*), and Carolina Wren (*Thryothorus ludovicianus*). Common to fairly common forest and woodland breeding species that migrate to the base include the Yellow-billed Cuckoo (*Coccyzus americanus*), Great Crested Flycatcher (*Myiarchus tyrannulus*), Eastern Wood Pewee (*Contopus sordidulus*), Acadian Flycatcher (*Empidonax occidentalis*), Red-eyed Vireo (*Vireo olivaceus*), Kentucky Warbler (*Oporornis formosus*), and Summer Tanager (*Piranga rubra*). Twenty-four species were recorded in grassland habitats on LRAFB and fairly common to common breeding species included the Eastern Kingbird (*Tyrannus tyrannus*), Field Sparrow (*Spizella pusilla*), and Eastern Meadowlark (*Sturnella magna*) (USAF 2002).

The primary game bird species on base are the Wild Turkey (*Meleagris gallopavo*) and Bobwhite Quail (*Colinus virginianus*). There are no density estimates although both are considered uncommon on the base and both could occur in the project area. There are about 5,000 acres of Wild Turkey and 500 acres of Bobwhite Quail habitat on base (USAF 2002).

Bird species that breed in temperate North America and winter in the tropics are referred to as neotropical migrants and have become the focal point of much ornithological research, management, and conservation concern (Hagan and Johnston 1992; Finch and Stangel 1993). Forest fragmentation on the breeding grounds and the elimination of optimum wintering habitat in the tropics are likely the two major reasons for these declines (Flather and Sauer 1996; Sheery and Holmes 1996). In addition, the loss of important stopover habitat used during migration may affect the survival of neotropical migrants (Moore et al. 1993).

An estimated 110 neotropical migrant land birds occur in the midwestern United States and 48 (44 percent) of these species have been report from LRAFB (Thompson et al. 1993; USAF 2002). A total of 28 neotropical migrants on base inhabit the forested and woodland plant communities and of these, 20 are nesting species and eight are only seen during migration.

LRAFB occurs in the Ozark-Ouachita Highlands Region and an analysis of population trends of forest birds in this region showed that four species of neotropical land birds were declining and seven were possibly declining (Hunter et al. 1993). The Acadian flycatcher was the only declining species reported from LRAFB and this species is considered fairly common on base. The Eastern Wood Pewee, Great Crested Flycatcher, Louisiana Waterthrush (*Seiurus motacilla*), and Scarlet Tanager (*Piranga olivacea*) were species that may be on the decline that were reported from LRAFB. The Eastern Wood Pewee and Great Crested Flycatcher are considered fairly common on base while the Louisiana Waterthrush is uncommon and the Scarlet Tanager is occasional (USAF 2002).

Another species that has been declining but not included in the above study is the Kentucky Warbler (Partners in Flight [PIF] 2002; National Audubon Society [NAS] 2002). Data from the Breeding Bird Survey indicates that all six of these species have declined in Arkansas for the period 1966 to 2000 (Table 3.3-1).

Mammals

Fifty-three species of mammals occur in Pulaski County and many of these occur on LRAFB. Nine species of small mammals were identified during sampling in various habitats on base and the cotton mouse (*Peromyscus gossypinus*) and deer mouse (*P. maniculatus*) were the two most common species. The cutover woods had the greatest diversity of species while the greatest densities of mammals were found in the young pine plantations. Five species of bats were observed and the red bat (*Lasiurus borealis*) and evening bat (*Nycticeius humeralis*) were the most commonly encountered species. Most of the bat species use a variety of habitats from grasslands to forests for foraging (USAF 2002).

Table 3.3-1. Population Trends for Arkansas (recent change per year) for Six Neotropical Migrant Land Birds that Breed in the Forest Habitat on Little Rock AFB

Species	*Relative abundance on Little Rock AFB*[1]	*Trends (% change/year)*		
		1966-2000	*1966-1979*	*1980-2000*
Eastern Wood Pewee	F	-2.3	-6.8	-0.1
Acadian Flycatcher	F	-2.3	-4.2	-1.2
Great Crested Flycatcher	F	-2.0	-3.1	-0.1
Kentucky Warbler	F	-2.8	-1.4	-4.0
Louisiana Waterthrush	U	-2.5	+1.5	-3.7
Scarlet Tanager	O	-0.4	+2.6	-1.6

Note: Relative abundance categories from breeding bird surveys on Little Rock AFB are based on the frequency and number seen during each survey. F = fairly common (usually found every visit and generally in low numbers), U =uncommon (usually present in suitable habitat and season but not likely detected on every visit, O = occasional (not always present, likely detected 2 to 5 times per year in suitable habitat).
Sources: Sauer et al. 2001, USAF 2002

The white-tailed deer (*Odocoileus virginianus*) is the principal game species on the base. Other less important mammal game species include the eastern cottontail rabbit (*Syvilagus floridanus*), fox squirrel (*Sciurus niger*), and gray squirrel (*S. carolinensis*). There are an estimated 5,000 acres of white-tailed deer habitat on the base. This habitat is rated as good for deer. Deer density ranged from one deer per 10 acres in 1995 to one deer per 23 acres in 2000 (USAF 2002).

3.3.2.3 Threatened, Endangered and Other Sensitive Species

A list of federally threatened and endangered species that have the potential to occur in Pulaski County is shown in Table 3.3-2. Most of these species are not known to occur on LRAFB. The Bald Eagle (*Haliaeetus leucocephalus*) is the only species on this list observed on base when an immature was seen to fly over in the fall of 1998. Future occurrences of this species in the area of LRAFB will likely be limited to very sporadic flyovers such as occurred in 1998 (USAF 2002).

Table 3.3-2. Federally Listed Species That Have the Potential to Occur in the Area of Little Rock AFB

Species	*Status*[1]	*Comments*
Fish		
Leopard darter *Percina pantheria*	T	Not found in any aquatic habitat on base (USAF 2002).
Birds		
Bachman's Warbler *Vermivora bachmanii*	E	Not detected on the base during bird surveys (USAF 2002) and would not occur on base.
Bald Eagle *Haliaeetus leucocephalus*	T	An immature bald eagle observed flying over the base in the fall of 1998 (USAF 2002). May occur very sporadically flying over the base.
Ivory-billed Woodpecker *Campephilus principalis*	E	Likely extinct.
Red-cockaded Woodpecker *Picoides borealis*	E	Not detected on the base and very unlikely to occur because habitat was judged to be unsuitable due the forest composition (mostly oak), its age structure (too few old pines), and physical structure (too much undergrowth) (USAF 1995).
Mammals		
Indiana bat *Myotis sodalis*	E	Not detected on base during bat surveys. Should not occur on base due to the lack of suitable habitat (USAF 2002).

Note: 1. T = threatened, E = endangered
Source: USAF 2002

Ten non-federally listed sensitive species have been detected on LRAFB. Two sensitive species of invertebrates were detected during insect sampling on LRAFB including the Eryngium borer moth (*Papaipema eryngii*) found only in the mesic prairie on base and the Diana fritillary butterfly (*Speyeria diana*) also found in this prairie as well as mesic oak/hickory forest. The alligator snapping turtle (*Macroclemys temminckii*) was found in one stream on base and may occur in other aquatic habitats on base (USAF 2002).

The remaining eight sensitive species are birds and are being monitored by the Arkansas Natural Heritage Commission, PIF, or are on the NAS Watchlist (NAS 2002, PIF 2002). The Grasshopper Sparrow (*Ammodramus savannarum*) has been observed only during migration while the Red-shouldered Hawk (*Buteo linaetus*) has been observed in the forest habitat on base but is not believed to be a breeding species. The Field Sparrow is considered a fairly common permanent resident at LRAFB and is undergoing declines in the Ozark and Ouachitas physiographic region (PIF 2002). This species could occur in the grassland habitat in the project area. The Dickcissel (*Spiza americana*) is an uncommon migrant and breeding species in grassland habitat on base and could occur in the project area (alternative JLC site). The Prairie Warbler (*Dendroica discolor*) and Painted Bunting (*Passerina versicolor*) are occasional migrant and breeding species in shrub habitat on base and are not likely to occur in the project area due to the lack of suitable habitat. The Kentucky Warbler and Louisiana Waterthrush occur primarily in wet woods and are considered fairly common and uncommon, respectively, on base and could occur in the floodplain woods along the entryway to the proposed Education Center (USAF 2002).

3.3.2.4 Wetlands

Wetlands were described and mapped on LRAFB during a 1996-97 wetlands study (USAF 1997). Wetland delineations followed the USACE 1987 wetlands delineation manual (Environmental Laboratory 1987). This study expanded on a wetlands study conducted on LRAFB in 1993 (Woolpert Consultants 1993). According to these data, there are a total of approximately 51 wetland sites, covering 145 acres that have the potential to be considered USACE jurisdictional wetlands on LRAFB (USAF 1997,USAF 2001b; personal communication, Popham 2002-03). There is a small wetland on the site for the proposed Education Center, which has been preliminarily evaluated by the USACE. The wetland is approximately 0.10 acre and is not considered to be jurisdictional due to its isolated nature (personal communication, Jasper 2003). There are no wetlands associated with the proposed or alternate JLC sites.

3.4 AIR QUALITY

This section discusses air quality considerations and conditions in the area around LRAFB in Pulaski County, Arkansas. It addresses air quality standards and describes current air quality conditions in the region.

3.4.1 DEFINITION OF THE RESOURCE

Federal Air Quality Standards. Air quality is determined by the type and concentration of pollutants in the atmosphere, the size and topography of the air basin, and local and regional meteorological influences. The significance of a pollutant concentration in a region or

geographical area is determined by comparing it to federal and/or state ambient air quality standards. Under the authority of the CAA, the USEPA has established nationwide air quality standards to protect public health and welfare, with an adequate margin of safety. These federal standards, known as the NAAQS, represent the maximum allowable atmospheric concentrations and were developed for six "criteria" pollutants: O_3, NO_2, CO, PM_{10}, SO_2, and Pb. Table 3.4-1 summarizes the federal standards associated with criteria pollutants.

Table 3.4-1. National Ambient Air Quality Standards

Air Pollutant	*Averaging Time*	*Federal NAAQS*	
		Primary	***Secondary***
Carbon Monoxide (CO)	8-Hour 1-Hour	9 ppm 35 ppm	-- --
Nitrogen Dioxide (NO_2)	AAM 24-Hour	0.053 ppm --	0.053 ppm --
Sulfur Dioxide (SO_2)	AAM 24-Hour 3-Hour	0.03 ppm 0.14 ppm --	-- -- 0.5 ppm
Particulate Matter (PM_{10})	AAM 24-Hour	50 µg/m^3 150 µg/m^3	50 µg/m^3 150 µg/m^3
Particulate Matter ($PM_{2.5}$) [(a)]	AAM 24-Hour	15 µg/m^3 65 µg/m^3	15 µg/m^3 65 µg/m^3
Ozone (O_3) [(b)]	1-Hour 8-Hour	0.12 ppm 0.08 ppm	0.12 ppm --
Lead (Pb) and Lead Compounds	Calendar Quarter	1.5 µg/m^3	1.5 µg/m^3

Notes: AAM = Annual Arithmetic Mean
ppm = Parts per Million
µg/m^3 = micrograms per cubic meter

(a) The $PM_{2.5}$ standard (particulate matter with a 2.5 micron diameter) was promulgated in 1997, and will be implemented over an extended time frame. Areas will not be designated as in attainment or nonattainment of the PM 2.5 standard until the 2002 – 2005 timeframe.

(b) The 8-hour Ozone standard was promulgated in 1997, and will eventually replace the 1-hour standard. The USEPA plans to implement this standard beginning in 2004. During the interim, the 1-hour ozone standard will continue to apply to areas not attaining it.

Source: 40 CFR Part 50; ADEQ Regulation 19, Chapter 3

The USEPA designates areas of the U.S. as having air quality equal to or better than the NAAQS (attainment) or worse than the NAAQS (nonattainment). Nonattainment areas that achieve attainment are redesignated as maintenance areas for a period of 10 or more years. Areas are designated as unclassifiable for a pollutant when there is insufficient ambient air quality data for the USEPA to form a basis of attainment status. For the purpose of applying air quality regulations, unclassifiable areas are treated similar to areas that are in attainment of the NAAQS.

The NAAQS are defined in terms of concentration (e.g., parts per million [ppm] or micrograms per cubic meter [$\mu g/m^3$]) determined over various periods of time (averaging periods). Short-term standards (1-hour, 8-hour, or 24-hour periods) were established by the USEPA for pollutants with acute health effects and may not be exceeded more than once a year. Long-term standards (annual periods) were established by the USEPA for pollutants with chronic health effects and may never be exceeded.

In 1997, the USEPA promulgated two new standards: a new 8-hour O_3 standard (which will eventually replace the existing 1-hour O_3 standard) and a new standard for particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$), which are fine particulates that have not been previously regulated. In addition, the USEPA revised the existing PM_{10} standard. The two new standards are scheduled for implementation over the next few years, as monitoring data becomes available to determine the attainment status of areas in the U.S. Meanwhile, the USEPA will enforce the existing 1-hour O_3 standard for areas that are still in nonattainment of the standard.

State Air Quality Standards. Under the CAA, state and local agencies may establish ambient air quality standards and regulations of their own, provided these are at least as stringent as the federal requirements. The Proposed Action would involve construction, renovation, and demolition projects within Pulaski County, Arkansas. For the criteria pollutants of concern, Arkansas standards are the same as the federal standards.

State Implementation Plan. The CAA of 1977 set provisions for the attainment and maintenance of the NAAQS. For non-attainment regions, the states are required to establish a SIP designed to eliminate or reduce the severity and number of NAAQS violations, with an underlying goal to bring state air quality conditions into (and maintain) compliance with the NAAQS by specific deadlines. This plan is to be prepared by local agencies and incorporated into the overall SIP of each state.

The Clean Air Act Amendments (CAAA) of 1990 established new federal nonattainment classifications, new emission control requirements, and new compliance dates for nonattainment areas. The requirements and compliance dates are based on the severity of nonattainment classification.

Prevention of Significant Deterioration. Section 162 of the CAA further established the goal of prevention of significant deterioration (PSD) of air quality in all international parks; national parks which exceeded 6,000 acres; and national wilderness areas which exceeded 5,000 acres if these areas were in existence on August 7, 1977. These areas were defined as mandatory Class I areas, while all other attainment or unclassifiable areas were defined as Class II areas. Under CAA Section 164, states or tribal nations, in addition to the federal government, have the authority to redesignate certain areas as (non-mandatory) PSD Class I areas, i.e., a National Park or national wilderness area established after August 7, 1977, which exceeds 10,000 acres. PSD Class I areas are areas where any appreciable deterioration of air quality is considered significant. Class II areas are those where moderate, well-controlled growth could be permitted.

Class III areas are those designated by the governor of a state as requiring less protection than Class II areas. No Class III areas have yet been so designated. The PSD requirements affect construction of new major stationary sources in the PSD Class I, II, and III areas and are a pre-construction permitting system.

Visibility. CAA Section 169A established the additional goal of prevention of further visibility impairment in the PSD Class I areas. Visibility impairment is defined as a reduction in the visual range and atmospheric discoloration. Determination of the significance of an activity on visibility in a PSD Class I area is typically associated with evaluation of stationary source contributions. The USEPA is implementing a Regional Haze rule for PSD Class I areas that will address contributions from mobile sources and pollution transported from other states or regions. Emission levels are used to qualitatively assess potential impairment to visibility in PSD Class I areas. Decreased visibility may potentially result from elevated concentrations of PM_{10} and SO_2 in the lower atmosphere.

General Conformity. CAA Section 176(c), General Conformity, established certain statutory requirements for federal agencies with proposed federal activities to demonstrate conformity of the proposed activities with the state's SIP for attainment of the NAAQS. In 1993, the USEPA issued the final rules for determining air quality conformity. Federal activities must not:

a) cause or contribute to any new violation;

b) increase the frequency or severity of any existing violation; or

c) delay timely attainment of any standard, interim emission reductions, or milestones in conformity to a SIP's purpose of eliminating or reducing the severity and number of NAAQS violations or achieving attainment of NAAQS.

General conformity applies only to nonattainment and maintenance areas. If the emissions from a federal action proposed in a nonattainment area exceed annual thresholds identified in the rule,

a conformity determination is required of that action. Conformity does not apply to LRAFB because it is in an attainment area. The thresholds become more restrictive as the severity of the nonattainment status of the region increases.

Stationary Sources Operating Permits. Title V of the CAAA of 1990 also requires states to issue Federal Operating Permits for major stationary sources. Under the Arkansas Air Pollution Control Code (Regulation #18) and the Arkansas Plan of Implementation of Air Pollution Control (Regulation #19), a major stationary source in Pulaski County is a source as defined in 40 CFR Part 70.2. The purpose of the permitting rule is to establish regulatory control over large, industrial-type activities and to monitor their impact upon air quality.

3.4.2 EXISTING CONDITIONS

3.4.2.1 Climate

LRAFB is located in central Arkansas, between the Ouachita Mountains to the west and the flat lowlands to the east. The climate in Pulaski County is described as subtropical humid continental, which is characterized by long, hot, and humid summers and mild winters. Factors influencing Pulaski County's weather patterns include moist air masses from the Gulf of Mexico and cool northern winds from the continental plains to the north.

The average summer temperature is 82 degrees Fahrenheit (ºF) with average highs in the nineties and lows in the seventies. Daily high temperatures greater than 100º F occur frequently. Winters are generally mild with an average temperature of 40º F, average highs in the high forties and lows around freezing. Low temperatures of 10º F are not uncommon during arctic outbreaks in January. The average growing season, with temperatures above freezing, is about 233 days.

Precipitation is well distributed throughout the year, with average annual precipitation of 49.2 inches per year and an average of 104 days per year with some form of precipitation. April has the highest average precipitation at 5.3 inches per year; August has the lowest at 3.2 inches per year. Thunderstorms are common, occurring an average of eight days per month from April through August. Snow is rare, with an average amount of 5.4 inches per year.

3.4.2.2 Regional Air Quality

LRAFB is located in the northeastern portion of Pulaski County, in central Arkansas. Pulaski County, according to 40 CFR 81.138, is part of the Central Arkansas Intrastate AQCR (AQCR Number 016). A review of Federally published attainment status for Arkansas in 40 CFR 81.304 indicated that this region is designated as attainment or meeting national standards for all criteria pollutants, including CO, NO_2, SO_2, PM_{10}, O_3, and Pb. Based on recent monitoring data, the

ADEQ expects Pulaski County to be designated as a nonattainment area for the new 8-hour ozone standard when the USEPA makes its designations, which is expected to occur in 2004.

Mandatory PSD Class I areas established under the CAA Amendments of 1977 for the state of Arkansas are listed in 40 CFR 81.404. These are areas where visibility has been determined to be an important issue by the Administrator, in consultation with the Secretary of the Interior. According to the USEPA, sulfates and nitrates from utility and industrial boilers are the main pollutants of concern in Arkansas forests (USEPA 2002). The nearest mandatory PSD Class I areas to the region potentially affected by the action alternative are:

- Caney Creek Wilderness, located in Polk County, Arkansas. This 14,460-acre area is managed by the U.S. Forest Service and is located approximately 100 miles west of LRAFB.

- Upper Buffalo Wilderness, located in Newton County, Arkansas. This 12,018-acre area is managed by the U.S. Forest Service and is located approximately 80 miles northwest of LRAFB.

3.4.2.3 Current Air Emissions

Air emissions at LRAFB are from mobile and stationary sources. The mobile sources include aircraft operations, ground support equipment, and motor vehicles. Stationary sources include external combustion, fuel dispensing operations, internal combustion engines, jet engine testing, painting, and underground storage tanks. Storage tanks and fuel dispensing operations dominate air emissions from stationary sources at LRAFB. The Base has a Title V Minor Source Air Permit from the Arkansas DEQ in accordance with the Regulations of the Arkansas Operating Air Permit Program (Regulation 26). Table 3.4-2 summarizes the results of a stationary source emissions inventory for calendar year 2001. No inventory of mobile source emissions is available at this time.

Table 3.4-2. Little Rock AFB Stationary Source Emissions CY 2001

Pollutants (In Tons per Year)				
CO	***SO_2***	***NO_2***	***PM_{10}***	***VOC***
6.1	0.3	14.3	1.2	40.6

Source: CY2001 Air Emissions Inventory, Little Rock AFB (Excel spreadsheet)

At this time, no stationary sources other than external combustion boilers and heaters are currently present in two buildings that would be demolished as a result of the Proposed Action. The two boilers in Building 840 and one in Building 842 each have an input capacity rating of

2,230,000 British thermal units per hour (Btu/hr) and are included in the Base's *ADEQ Minor Source Air Permit, Permit Number 865-AR-4* (ADEQ 2001) as Source Numbers 05 and 38 (for Building 840) and Source Number 39 for the boiler in Building 842. The permit includes specific allowable emission limits for criteria pollutants and opacity for each of these boilers. Based on the total number of air emission sources at LRAFB (i.e., a total of 61 "significant boilers"), then the emissions from these three boilers are estimated to be insignificant (less than 1 percent) compared to the totals in Table 3.4-2.

3.5 LAND USE AND VISUAL RESOURCES

3.5.1 DEFINITION OF THE RESOURCE

Land use comprises natural conditions or human-modified activities occurring at a particular location. Human-modified land use categories include residential, commercial, industrial, transportation, communications and utilities, agricultural, institutional, recreational, and other developed use areas. Management plans and zoning regulations determine the type and extent of land use allowable in specific areas and are often intended to protect specially designated or environmentally sensitive areas.

Visual resources are the natural and man-made features that give a particular environment its aesthetic qualities. In undeveloped areas, landforms, water surfaces, and vegetation, are the primary components that characterize the landscape. Man-made elements such as buildings, fences, and streets may also be visible. These may dominate the landscape or be relatively unnoticeable. In developed areas, the natural landscape is more likely to provide a background for more obvious man-made features. The size, forms, materials, and functions of buildings, structures, roadways, and infrastructure will generally define the visual character of the built environment. These features form the overall impression that an observer receives of an area or its landscape character. Attributes used to describe the visual resource value of an area include landscape character, perceived aesthetic value, and uniqueness.

The scenic qualities of some special areas are protected by laws (such as the Wilderness Act or the National Wild and Scenic Rivers Act). Federal land managers also clarify the scenic value of lands in accordance with federal land management regulations. In urban areas, there may be ordinances or zoning provisions that guide physical development.

The ROI for land use and visual resources includes the area surrounding the proposed construction, which includes the area in the vicinity of the intersection of Vandenberg Boulevard and U.S. Route 67/167, and the central portion of the installation, where the classroom C-130 training functions occur.

3.5.2 EXISTING CONDITIONS

Land use at the base, and its associated visual character, is typical of a military airfield and can be divided into five general categories: airfield and aircraft support, administrative, residential, recreational, and open space. Airfield and aircraft support land use is focused on the runway, hangars, and aircraft service areas located in the northern third of the base. Administrative facilities are generally located in the central portion of the base, with residential areas in the base's southwestern portion. The south-central portion of the base is dedicated to community facilities and outdoor recreation (e.g., the base golf course). Much of the eastern half of the base and perimeter areas remain open space, either undeveloped or used for training.

Development of LRAFB is guided by a General Plan (USAF 2001b), which provides base leaders with goals and objectives to assist in planning decisions. The overall goal of the plan is to provide a framework for effective planning, programming, design, construction, and resource management. In November 2000, the Main Base 20-Year Area Development Plan was prepared, which is a supplement to the General Plan. The vision of this plan was to design a base center that would connect home, work and leisure (USAF 2001b). In addition, in early 2001 the Central Campus Area Development Plan was prepared. This plan combined the elements of the General Plan and the Main Base 20-Year Area Development Plan while incorporating the AETC Design Standards for Installation Excellences (USAF 2001b). This plan focuses on development of the central part of the base.

LRAFB encompasses 6,128 acres and is zoned as a planned community with various land uses such as industrial, administrative and training areas, housing areas and recreational areas. Approximately 1,182 buildings are currently located on the base.

The non-industrial area of the base has administrative office and training buildings; 1,535 family housing units; unaccompanied housing for personnel; an Army and Air Force Exchange Service; three social clubs; a bowling alley; and physical fitness center.

Outdoor recreational facilities consist of softball fields, a batting cage, tennis courts, two swimming pools, a nature trail, Family Camp, and an 18-hole golf course. The 39-acre base lake, located in the southwestern quadrant of the base, is the central feature of the Military Family Housing area and can be used for non-motor boating, and fishing.

The industrial section of the base consists of the airfield and its runway and associated aircraft operations and maintenance areas and includes roughly the northern third of the base.

The existing Education Center Complex is housed in two inadequate converted dormitories, Buildings 840 and 842. Both these facilities are centrally located in the main cantonment area (Figure 2.1-1). These facilities encompass a total of 49,630 SF. Land use in this area is typical

of the non-industrial portion of the AFB and is primarily used for administrative and training functions. This portion of the AFB is landscaped with pockets of natural areas intermixed between functional areas.

3.6 SOCIOECONOMICS

3.6.1 DEFINITION OF THE RESOURCE

Socioeconomic resources are defined as the basic attributes associated with the human environment, particularly population and economic activity. Population is described by the change in magnitude, characteristics, and distribution of people. Economic activity is typically composed of employment distribution, personal income, and business growth. Any impact on these two fundamental socioeconomic indicators can have ramifications for secondary considerations, such as housing availability and public service provision. The ROI for socioeconomics and environmental justice include the base and its immediately surrounding community.

3.6.2 EXISTING CONDITIONS

The Base is located in the town of Jacksonville, Arkansas, a city of approximately 30,000 people. Jacksonville provides many services to the base, such as civilian police and ambulance support. LRAFB is located in Pulaski County approximately 14 miles north of the City of Little Rock in Central Arkansas.

3.6.2.1 Population

The population in Pulaski County has grown in the last 10 years from 349,660 in 1990 to 361,967 in 2000. This represents a 3.4 increase overall, and an annual growth rate of 0.33 percent (U.S. Bureau of Census 2000). However, this is slower than the State of Arkansas, which experienced a 13.7 percent change in population and a 1.29 percent growth rate over the same 10-year period. Compared to the rest of the nation, Pulaski County experienced less than half the population increase. The U.S. had a 13 percent overall increase in population and a 1.2 annual rate of growth in the last 10 years (U.S. Bureau of the Census 2000).

LRAFB has a total population of approximately 12,000. The military population contributes about 5,000 personnel (including an average daily student load of about 200), with 5,600 dependents and 1,400 civilians (USAF 2001c).

3.6.2.2 Economic Activity

The total annual payroll is roughly $270 million (USAF 2003a). Approximately 2,939 indirect jobs are created by base activities generating a payroll of roughly $97 million. The annual expenditures for construction, services, and procurement of materials, equipment and supplies come to over $145 million. The total annual economic impact estimate of LRAFB to Central Arkansas is more than $512 million (USAF 2003a). The socioeconomic characteristics of Pulaski County and Arkansas as a whole are shown in Table 3.6-1.

Table 3.6-1. Socioeconomic Characteristics of Pulaski County and the State of Arkansas

	Jacksonville	***Pulaski County***	***State of Arkansas***
Total Population, 2000	29,916	361,474	2,673,400
Percent Non White Population	28.95%	37.1%	21.4%
Number of Households	10,890	137,210	1,042,696
Number of Housing Units	11,890	161,135	1,173,043
Median Value Owner Occupied	$73,100	$85,300	$72,800
Percent Persons Below Poverty Level	14.2%	13.3%[1]	15.8%[1]
Median Household Income	35,460	$38,120	$32,182

Note: 1. The average poverty threshold for a family of four in 1999 was $17,029 in annual income.
Source: U.S. Bureau of Census 2000.

3.7 SOLID AND HAZARDOUS MATERIALS AND WASTE

3.7.1 DEFINITION OF THE RESOURCE

The terms "hazardous materials" and "hazardous waste" refer to substances defined as hazardous by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Solid Waste Disposal Act (SWDA), as amended by the Resource Conservation and Recovery Act (RCRA). In general, hazardous materials include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present substantial danger to public health or the environment when released into the environment. Hazardous wastes that are regulated under RCRA are defined as any solid, liquid, contained gaseous, or semisolid waste, or any combination of wastes that either exhibit one or more of the hazardous characteristics of ignitability, corrosivity, toxicity, or reactivity, or are listed as a hazardous waste under 40 CFR Part 261. Petroleum products include petroleum-based fuels,

oils, and their wastes. The IRP is a USAF program to identify, characterize, and remediate environmental contamination from past activities at USAF installations.

Issues associated with hazardous material and waste typically center around waste streams, underground storage tanks (USTs), aboveground storage tanks (ASTs), and the storage, transport, use, and disposal of pesticides, fuels, lubricants, and other industrial substances. When such materials are improperly used in any way, they can threaten the health and well being of wildlife species, habitats, and soil and water systems, as well as humans. This section also considers solid waste.

Specific environmental statutes govern the management of hazardous materials and hazardous waste. The key regulatory requirements include:

Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 USC 9601–9675) as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986. CERCLA/SARA regulates the prevention, control, and compensation of environmental pollution.

Community Environmental Response Facilitation Act of 1992 (CERFA) (42 USC 9620). This act amended CERCLA to require that, prior to termination of federal activities on any real property owned by the federal government, agencies must identify real property where hazardous substances were stored, released, or disposed of.

Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 (42 USC 11001–11050). EPCRA requires emergency planning for areas where hazardous materials are manufactured, handled, or stored and provides citizens and local governments with information regarding potential hazards to their community.

Resource Conservation and Recovery Act or 1976 (42 USC 6901–6992). RCRA established standards and procedures for handling, storage, treatment, and disposal of hazardous waste.

Federal Facility Compliance Act (FFCA) of 1992 (Public Law [P.L.] 102-426). This act provides for a waiver of sovereign immunity on the part of federal agencies with respect to federal, state, and local requirements relating to RCRA solid and hazardous waste laws and regulations.

Pollution Prevention Act of 1990 (42 USC 13101–13109). This act encourages minimization of pollutants and waste through changes in production processes.

USEPA Regulation on Identification and Listing of Hazardous Waste (40 CFR Part 261). This regulation identifies solid wastes subject to regulation as hazardous and to notification requirements under RCRA.

USEPA Regulation on Standards for the Management of Used Oil (40 CFR Part 279). This regulation delineates requirements for storage, processing, transport, and disposal of oil that has been contaminated by physical or chemical impurities during use.

USEPA Regulation on Designation, Reportable Quantities, and Notification (40 CFR Part 302). This regulation identifies reportable quantities of substances listed in CERCLA and sets forth notification requirements for releases of those substances. It also identifies reportable quantities for hazardous substances designated in the CWA.

The ROI for hazardous materials, hazardous waste, and petroleum products is defined as the area contained within the proposed Education Center Complex and any additional area upon which modifications to the site might occur.

3.7.2 EXISTING CONDITIONS

This section describes the affected environment and management activities associated with hazardous materials and petroleum products, hazardous and petroleum wastes, IRP sites, and solid waste at the proposed and alternate sites for the Education Center Complex.

3.7.2.1 Hazardous Materials and Petroleum Products

A Hazardous Materials Pharmacy (HAZMART) tracking system has been implemented at LRAFB to manage documentation and handling of hazardous materials. This is a single source, pharmaceutical approach to inventory, monitor, and reduce the quantities of stored materials (USAF 2001d).

In the past, LRAFB engaged in a variety of activities that may have resulted in the release of hazardous materials. These activities have included petroleum, oils, and lubricants (POLs) from fuel storage and distribution and other activities; explosive ordnance disposal; fire training exercises; and landfill operations.

Currently, hazardous materials and petroleum products (including transformers containing polychlorinated biphenyls [PCBs] and buildings with asbestos and lead-based paint) are not used or stored within the proposed Education Center Complex.

3.7.2.2 Hazardous and Petroleum Wastes

Hazardous waste management at LRAFB adheres to RCRA regulations and is guided by the March 2001 *Hazardous Waste Management Plan* (USAF 2001d). Typical hazardous wastes generated at the base include waste paint, paint stripper, paint-contaminated rags, and degreasers. However, hazardous and petroleum wastes are not generated within the proposed Education Center Complex.

3.7.2.3 Installation Restoration Program Sites

The IRP established a process to evaluate past disposal sites, control the migration of contaminants, assess potential hazards to human health and the environment, and conduct environmental restoration activities. The USAF coordinates IRP activities with the USEPA and the State of Arkansas.

LRAFB has the responsibility for 36 active IRP sites and 38 active Areas of Concern (AOCs). LRAFB is actively pursuing cleanup at all sites, consistent with federal and state regulations and guidance (USAF 2003b). No IRP sites are located within the boundaries of the proposed or alternate sites for the Education Center Complex.

3.7.2.4 Solid Waste

Municipal solid waste management and compliance at USAF installations is established in AFI 32-7042, *Solid and Hazardous Waste Compliance*. In general, AFI 32-7042 establishes the requirements for installations to have a solid waste management program to incorporate the following: a solid waste management plan; procedures for handling, storage, collection, and disposal of solid waste; record-keeping and reporting; and pollution prevention. Source reduction, resource recovery, and recycling of solid waste are addressed in AFI 32-7080, *Pollution Prevention Program*.

A private contractor accomplishes the collection of municipal solid waste at LRAFB. This contract includes collection of municipal waste from base office facilities and curbside collection of solid waste. LRAFB utilizes a contractor that operates a base-wide recycling program as part of their facilities (USAF 2003b).

Currently, municipal solid waste from LRAFB is transported and disposed of at Two Pines Landfill, located in the city of Jacksonville. This is a Subtitle D Landfill permitted to accept municipal waste. The currently permitted and operating disposal cells have an expected operating period of approximately 4 years before reaching capacity (USAF 2003b). The Two Pines Landfill currently receives a maximum of about 5,000 tons of solid waste per day (personal communication, Magnum 2004).

3.8 CULTURAL RESOURCES

3.8.1 DEFINITION OF THE RESOURCE

Cultural resources are any prehistoric or historic district, site, or building, structure, or object considered important to a culture, subculture, or community for scientific, traditional, religious or other purposes. They include archaeological resources, historic architectural and engineering resources, and traditional resources. Cultural resources are protected by federal law when they meet established criteria for listing on the NRHP. Such properties require consideration regarding adverse impacts from a proposed undertaking. Both archaeological and architectural resources must be evaluated in light of four NRHP eligibility criteria. The criteria that prehistoric or historic sites, districts, buildings or structures must meet are as follows (36 CFR 60.4):

a. Properties are associated with events that have made a significant contribution to the broad patterns of our history.

b. Properties are associated with the lives of significant persons in our past.

c. Properties that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

d. Properties that have yielded, or may be likely to yield, information important to prehistory or history.

On 21 November 1999, the DoD promulgated its Native American and Alaska Native Policy, which emphasizes the importance of respecting and consulting with tribal governments on a government-to-government basis. The Policy requires an assessment, through consultation, of the affect of proposed DoD actions that may have the potential to significantly affect protected tribal resources, tribal rights, and Indian lands before decisions are made by the services.

The area of potential effect for cultural resources consists of the sites where proposed construction would occur.

3.8.2 EXISTING CONDITIONS

3.8.2.1 Historical Setting

The LRAFB region has been inhabited for at least 12,000 years. It was first occupied by small nomadic bands that hunted large game and gathered wild plant foods. As the climate warmed,

and large game animals declined, people became more dependent on deer and a variety of nuts and other plant foods. Eventually native seed plants were cultivated and settlement became more stationary, concentrating in the bottomlands and river valleys (Parsons Engineering Science 1998). Ceramics were introduced and long-distance trade of raw materials and artifacts increased, as did population. With the introduction of maize cultivation, larger villages, with mounds and other earthworks developed (Parsons Engineering Science 1998).

In the mid-1500s, Spanish explorers recorded complex societies in the region that were no longer present 130 years later (Parsons Engineering Science 1998). The French encountered the Quapaw people, a southeastern Siouan group who left the Ohio Valley in the early 1600s and moved down the Mississippi River into Arkansas where they were known to other tribes as "Ugaxpa," or "downstream people." They settled four villages at the mouth of the Arkansas River where they remained until they were displaced by Euroamericans (Quapaw Tribal Office 2002). The French remained allies with the Quapaw through the Seven Years' War (French-Indian War) when France ceded all land west of the Mississippi to the Spanish (1762). Spanish rule was marked by Spanish and English competition for the allegiance of the Quapaw (Quapaw Tribal Office 2002). In 1818, the U.S. government was granted a cession of land encompassing all of what is now southern Arkansas, Oklahoma, and part of Louisiana from the Quapaw. Land speculators petitioned the government to remove the Quapaw, and in 1824, the state terminated all Quapaw claims to Arkansas lands (Quapaw Tribal Office 2002). The Quapaw were removed from their homeland to the Red River in northwestern Louisiana where they joined the Caddo temporarily. In 1833, the Quapaw signed another treaty removing them from Arkansas for the last time to northeastern Indian Territory in Oklahoma (Quapaw Tribal Office 2002).

Active Euroamerican settlement in the Pulaski County area began after the Louisiana Purchase in 1803. The population grew slowly and the area remained primarily agricultural (Parsons Engineering Science 1998). The Jacksonville-Gray township area was established in 1820-21 (Jacksonville Chamber of Commerce 2000). After Arkansas became a state in 1836, the area continued to grow. During the Civil War, Union forces came through the area on the way to an assault on Little Rock in 1863 (Jacksonville Chamber of Commerce 2000). Jacksonville expanded during the 1870s after a right-of-way was granted to the Cairo and Fulton Railroad Company and lots were established along both sides of the railway. By 1892, Jacksonville had a population of 200, which was maintained for many years.

In the Depression of the 1930s, the Civilian Conservation Corps, Camp Jacksonville, provided construction employment for many area men. The Arkansas Ordnance Plant (AOP), a fuse and detonator manufacturing plant built in 1941, provided employment for thousands. At its peak, the plant employed 13,500 (Jacksonville Chamber of Commerce 2000). Pulaski County received a total of $137 million in war contracts between 1940 and 1945. The ordnance plant ceased

operations at the close of the war in 1945 and the town was left without employment for much of its population (Jacksonville Chamber of Commerce 2000).

After the war, AOP land and facilities were sold to a number of parties. The Federal government retained the northern part of AOP land. This parcel later became part of LRAFB (USAF 2001b). In 1952, the USAF announced plans to build a $31 million jet bomber base near Jacksonville and LRAFB opened in 1955. The base was assigned to the SAC with the 70th Reconnaissance Wing as the first assigned unit (USAF 2001b). In 1956, the first B-47 medium bombers arrived. The 308th Strategic Missile Wing assumed operational command of 18 Titan II missile sites located around central Arkansas in 1962. The 64th Tactical Airlift Wing took over the base and the first C-130 arrived in 1970. In 1971, the 314 Tactical Airlift Wing moved from a base in Taiwan to Little Rock (USAF 2001b).

3.8.2.2 Cultural Resources

A survey of all accessible portions of the base recorded a total of 38 archaeological sites (Cliff et al. 1997). None of these sites is listed on the NRHP (National Register Information Service 2002). One historic archaeological site (3PU444) has been recorded along the boundary of the proposed Education Center parcel. This site is associated with rural settlement during the early to mid 20th century and is unevaluated for NRHP-eligibility (Cliff et al 1997). A building inventory identified more than 90 buildings with the potential to be historic resources. Of these, three buildings constructed before the Cold War are potentially eligible for the NRHP (Cliff et al. 1997). Inventory of 110 Cold War-era facilities (Lowe et al. 1997) identified one that is eligible for the NRHP, the SAC Bomber Alert Facility (Facility 160). The remaining facilities were not evaluated for NRHP eligibility (Lowe et al. 1997). No traditional resources have been identified at the base (Cliff et al. 1997). There are no known federally-recognized Native American lands or resources in the area of the Proposed Action. The Quapaw Indian Tribe, the Caddo Indian Tribe of Oklahoma, and the Tunica-Biloxi Indians of Louisiana, Inc., have been contacted regarding this action. Coordination with SHPO is on-going.

3.9 SAFETY

3.9.1 DEFINITION OF THE RESOURCE

This section addresses ground and explosive safety associated with activities conducted by the 314 AW at LRAFB. Ground safety considers issues associated with human activities, and operations and maintenance activities that support unit operations. Explosive safety discusses the management and use of ordnance or munitions associated with installation operations and training activities. The ROI for safety in this EA includes the proposed projects sites at LRAFB and the area immediately adjacent to them.

3.9.2 EXISTING CONDITIONS

On LRAFB, day-to-day operations and maintenance activities conducted by the 314 AW in direct support of mission performance, maintenance of unit facilities, and in the use and operation of the airfield are performed in accordance with applicable USAF and Command safety regulations, published Air Force Technical Orders, and standards prescribed by Air Force Occupational Safety and Health (AFOSH) requirements.

In terms of ground safety, personnel assigned to the 314 AW perform no unusual or unique activities; all are those normally performed by staff required to maintain and operate an operational and industrial facility.

Ordnance is handled and stored in accordance with USAF explosive safety directives AFI 91-201, and all munitions maintenance is carried out by trained, qualified personnel using USAF-approved technical data.

All ordnance required for 314 AW operations is properly stored in approved facilities. There are no waivers in effect. Required Clear Zones around munitions storage facilities have been established, and comply with all DoD and USAF explosive safety standards.

3.10 INFRASTRUCTURE

3.10.1 DEFINITION OF THE RESOURCE

Resources discussed in this section include transportation facilities on LRAFB and the local utility services. The ROI for these resources encompasses LRAFB and areas in the immediate vicinity of the installation.

3.10.2 EXISTING CONDITIONS

3.10.2.1 Transportation

The performance of a roadway segment is generally expressed as level of service (LOS). The LOS scale ranges from A to F with each level defined by a range of volume-to-capacity ratios. LOS A and B are considered good operating conditions where roadway speeds approach the speed limit and passing is generally not a problem. Speeds drop slightly for LOS C conditions and passing demand exceeds passing capacity. Under LOS D conditions, passing is almost impossible and speeds drop slightly lower. Approximately 75 percent of the motorists feel they are being delayed. LOS E conditions result in more than 75 percent of the motorists being delayed and speed drops below 50 miles per hour. The service volume for LOS E represents the maximum capacity of the roadway. Often, the roadway begins to fail and becomes extremely congested with even lower speeds which is known as LOS F conditions. The LOS for urban

roadways should be maintained at LOS D or higher, while the LOS for rural roads should be C or higher.

The primary entrance to the base is through the Vandenberg Boulevard Gate, which is accessed via U.S. Route 67/167. Major functional areas within the base, such as aircraft support, administration, and residential areas are served by confined street systems linked by base arterials. Important cross-base roads that link these functional areas include Vandenberg Boulevard, Thomas Avenue, and Arnold Drive. A transportation study has not been conducted for LRAFB (personal communication, Farrow 2004).

The base transportation network consists of approximately 100 miles of roadways and 687,000 square yards of paved parking lots and driveways (USAF 2003). The majority of the roads are paved with asphalt, and most of the primary and secondary roads have curb and gutter. The area affected by the proposal would include the roads surrounding the proposed Education Center Complex.

3.10.2.2 Utilities

Water Supply

LRAFB is supplied with potable water by the City of Jacksonville, which obtains its water from the North Little Rock municipal system. Water is drawn primarily from Lake Maumelle, treated by the Little Rock Municipal Water Works, distributed by the North Little Rock municipal system, and piped to Jacksonville and LRAFB. The City of Jacksonville's potable water system design capacity is 10 million gallons per day (mgd) with an average daily output of 4 mgd. Peak demand occurs during the summer with a daily average of about 6 mgd (personal communication, Anderson 2004).

Water is stored in one 1.3 million gallon (4.94 million liter) and two 30,000-gallon (114,000 liter) elevated tanks and supplied to base users by gravity flow. The base performs supplemental chlorination of water prior to distribution. Areas of reduced flow along the flight line experience heavy tuberculinity, or iron deposits, which produce a reddish discoloration in the water. Twenty-three automatic pipe-flushing devices have been installed. These devices automatically flush the system in areas of reduced flow and dead-end conditions to alleviate turbidity and low chlorine content caused by low usage. Base Civil Engineering maintains the water distribution system and 314 Medical Squadron periodically tests for chlorine, pH, pathogens, and contaminants such as Pb, copper, and pesticides. Between October 2003 and January 2004, LRAFB consumed an average of 1.57 million gallons of potable water per month (personal communication, Baker 2004).

Sanitary Sewer System

The sanitary sewer system consists of approximately 55 miles of main and secondary lines, 645 manholes, and four major lift stations and force mains. There are ten smaller lift stations and force mains serving individual facilities. The majority of the system is concrete pipe, with some small sections of polyvinyl chloride (PVC), ductile iron, cast iron, vitrified clay, and transite. The effluent discharges through two miles of USAF-owned outfall pipeline into the city's sanitary sewer system, and is treated at the Jacksonville sewage treatment facility. The permit issued by the Jacksonville Wastewater Utility regulates the base's discharge to the utility. Wastewaters are treated at the Dr. J. Albert Johnson Regional Wastewater Treatment Plant which has a permitted design capacity of 12 mgd, with average and peak daily flows of 5 and 20 mgd (through the use of retention basins), respectively. Wastewater treatment plant expansions were completed in 2001 which included the closure of the West Wastewater Treatment Plant. Treatment processes include activated sludge treatment with anaerobic digestion of sludge (personal communication, Zehtaban 2004).

Electrical Service

Power is delivered to LRAFB at the main switching station, located on Marshall Road south of the intersection with Vandenberg Boulevard. Electrical service is provided to the base via four 13.8 kilovolt (kV) circuit switches. Circuits A and B provide service to the main cantonment area, flightline, and airfield, while C and D serve the family housing area. The system consists of approximately 328 miles of primary and secondary distribution lines with 80 percent overhead and 20 percent underground (USAF 2003).

Natural Gas Distribution System

A contractor supplies natural gas to the base. An 8-inch steel main connects the base to the contractor's district regulator located just west of Redmond Avenue at the southern boundary. The cantonment area of the base is served by a looped system. Several non-looped lines provide service to individual facilities or areas, such as the Defense Reutilization and Marketing Office (DRMO) and recycling area, the AMC Combat Aerial Delivery School (CADS) facilities at the east end of the flight line, the fuel farm, and the munitions storage area (MSA). The gas service system, which is predominately steel pipe, is protected by a cathodic protection system, to prevent corrosion. Recent service lines have been installed using polyethylene pipe. While more likely to be damaged by digging, this piping is not susceptible to corrosion and does not require cathodic protection.

Storm Drainage System

The storm drainage system is made up of about 32 miles of underground piping, drop inlets, and manholes. In addition to the underground drainage network, portions of the base are drained by

overland surface flow to man-made and natural drainage courses that carry the storm water to one of the discharge points. As depicted on Figure 2.4-2, there are drainage swales located in the area of the proposed Education Center north of the proposed center, located between the building and the parking lot. Drainage swales are not located in the vicinity of the JLC.

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4.0 ENVIRONMENTAL CONSEQUENCES

This chapter of the EA assesses potential environmental consequences associated with the Proposed Action and its alternative. Potential impacts are addressed in the context of the scope of the Proposed Action and the alternative as described in Chapter 2.0 and in consideration of the potentially affected environment as characterized in Chapter 3.0.

4.1 EARTH RESOURCES

4.1.1 METHODOLOGY

Protection of unique geologic features, minimization of soil erosion, and siting facilities in relation to potential geologic hazards and soil limitations are considered when evaluating impacts to earth resources. Generally, impacts can be avoided or minimized if proper construction techniques, erosion control measures, and structural engineering designs are incorporated into project development.

Analysis of potential impacts to geologic resources typically includes identification and description of resources that could potentially be affected, examination of the potential effects that an action may have on the resource, and provision of mitigation measures, if necessary. Analysis of impacts to soil resources resulting from proposed activities examines the suitability of locations for proposed operations and activities. Impacts to soil resources can result from earth disturbance that would expose soil to wind or water erosion.

4.1.2 IMPACTS

4.1.2.1 Proposed Action

Under the Proposed Action, the physiography, underlying geology, and topography of the area would not change; however, the soil would be disturbed by construction activities. Under this alternative, approximately 18 acres of land would be rendered impervious as a result of building footprints and associated pavements.

The area where soil would be disturbed due to the Proposed Action is classified as the Tiak and Amy soil series, and Urban Land. The Tiak soils are moderately well drained, nearly level to gently sloping soils. Permeability is slow and available water capacity is high. Bearing capacity is generally low, and the Tiak soils have a high shrink-swell potential. The Amy soils are poorly drained, level soils that generally occur along floodplains of waterways. Permeability is slow and available water capacity is high. These soils also have a low bearing capacity (USDA 1975). Very little, if any disturbance would occur on the Amy soils given that they are along waterways.

Urban Land soils have been significantly disturbed by past activities and can no longer be classified as the original soil or any other native soil. Further disturbance of Urban Land soils would have no impact in terms of preserving unique soils.

Under the Proposed Action, it is estimated that a total of approximately 24.2 acres would be disturbed as a result of construction activities and repaving the parking and roadways. Well maintained silt fences, wetting of the construction site, daily site inspections, and other BMPs would be used to limit or eliminate soil movement, stabilize runoff, and control sedimentation. Following construction, disturbed areas not covered with impervious surfaces would be reestablished with appropriate vegetation and managed for future erosion. Given the relatively small area potentially disturbed and the employment of engineering practices that would minimize potential erosion, impacts to earth resources are expected to be minimal.

4.1.2.2 Alternative Action

Under the Alternative Action, the physiography, underlying geology, and topography of the area would not change. Project design would ensure that appropriate foundation techniques are employed so that the high shrink-swell potential of the Midway Formation had no adverse affects on the building structure.

Under this alternative it is estimated that a total of approximately 24.2 acres would be disturbed as a result of construction activities and paving the new site with the parking area and roadways. Additionally, the alternative site for the JLC is not currently developed and therefore the 6.2 acres associated with site development would be rendered impervious. This would be 6.2 acres more than under the Proposed Action. Well maintained silt fences, wetting of the construction site, daily site inspections, and other BMPs would be used to limit or eliminate soil movement, stabilize runoff, and control sedimentation. Following construction, disturbed areas not covered with impervious surfaces would be reestablished with appropriate vegetation and managed for future erosion. Given the relatively small area potentially disturbed and the employment of engineering practices that would minimize potential erosion, impacts to earth resources are expected to be minimal.

Under this alternative, impacts to soils would be similar as those described under the Proposed Action.

4.1.2.3 No Action Alternative

Under the No Action alternative, the 314 AW would maintain their existing facilities in Buildings 840 and 842, and would not build new facilities. There would be no facility demolitions. No impacts to earth resources would occur as a result of the No Action alternative. Conditions would remain as described in Section 3.1.

4.1.2.4 Cumulative Impacts

There are several other ground-disturbing activities either currently underway, or planned over the short-term in the ROI (Section 2.6). Approximately 400 acres of soil could be disturbed as a result of the projects described in Section 2.6 over the next several years. Appropriate BMPs as described above would be employed to minimize potential erosion during construction activities and appropriate vegetation would be re-established on the sites to ensure rapid soil stabilization. Cumulative impacts to earth resources are expected to be minor.

4.2 WATER RESOURCES

4.2.1 METHODOLOGY

Criteria for evaluating impacts related to water resources associated with the proposal are water availability, water quality, and adherence to applicable regulations. Impacts are measured by the potential to reduce water availability to existing users; endanger public health or safety by creating or worsening health hazards or safety conditions; or violate laws or regulations adopted to protect or manage water resources.

The NPDES Branch of the Water Division of ADEQ and the USACE are the regulatory agencies that govern water resources in the state of Arkansas and at LRAFB. These agencies have adopted the USEPA's applicable environmental rules and regulations. The CWA of 1977 regulates pollutant discharges and development activities that could affect aquatic life forms or human health and safety.

4.2.2 IMPACTS

4.2.2.1 Proposed Action

Under the Proposed Action, approximately 24.2 acres of land would be disturbed resulting in approximately 18 acres of new impervious surfaces. This includes less than 0.25 acre located to the west of the proposed Education Center entry way that is located within the 100-year floodplain, and approximately 18 acres of forested lands also associated with the Education Center site. The proposed JLC would not add to the impervious surfaces associated with LRAFB because it would be developed on a site that is already hardened.

In general, increases in impervious surfaces act to increase peak discharge volume speed delivery of water to nearby streams and waterways, which ultimately increases chances for flooding. In undeveloped land, rainfall and snowmelt collect and are stored in vegetation, in the soil column, or in topographic depressions. Water is then utilized by plants and is respired, or it moves slowly into groundwater and/or eventually to waterbodies where it slowly moves through the

hydrologic cycle. Removal of vegetation decreases infiltration into the soil column and thereby increases the quantity and timing of runoff. Replacement of vegetation with an impervious surface eliminates any potential for infiltration and also speeds up delivery of the water to nearby drainage and stream channels. With less storage capacity in the soil column and vegetation, urban streams rise more quickly during storm events and have higher peak discharge rates, which both increase the potential for flooding.

An addition of approximately 18 acres of impervious surface to this area would act to increase peak discharge volume and speed delivery of water to Jack's Bayou and Rocky Branch, and ultimately to Bayou Meto. However, procedures would be implemented to moderate the volume and slow the discharge to these streams. Landscaping would be installed strategically in the Education Center parking lot to increase infiltration capability. The parking lot would be sized to minimize the amount of impervious surface to the extent possible.

The entry road to the Education Center has been designed to utilize an existing roadway that crosses the floodplain, which would eliminate any additional impacts to the surrounding floodplain.

A Phase I NPDES General Construction Permit and associated Storm Water Pollution Prevention Plan (SWPPP) with associated BMPs would be required, including structural and programmatic controls for eliminating pollution from construction related runoff. During the clearing, grading, and construction of facilities, erosion control BMPs would be employed to minimize erosion into the nearby waterways on the site. These measures would include installation of silt fences or a berm between these streams and the ongoing construction processes.

Impacts to water resources as a result of the Proposed Action are expected to be minimal.

4.2.2.2 Alternative Action

Under the Alternative Action, the Education Center would be constructed as under the Proposed Action, but the JLC would be constructed at the alternative site. The alternative site for the JLC is not currently developed and therefore the 6.2 acres associated with site development would be rendered impervious. This would be 6.2 acres more than under the Proposed Action. Well maintained silt fences, wetting of the construction site, daily site inspections, and other BMPs would be used to limit or minimize sedimentation of nearby waterways. This small increase in impervious surface would have a negligible additional impact from the Proposed Action.

4.2.2.3 No Action Alternative

Under the No Action alternative, construction associated with the Education Center and the JLC would not occur. The entryway into the Proposed Education Center would not be built and there

would be no impacts to the 100-year floodplain. No impacts to water resources would occur, and conditions would remain as described in Section 3.2.2.

4.2.2.4 Cumulative Impacts

There are several other ground-disturbing activities either currently underway, or planned over the short-term in the ROI (Section 2.6). Under the planned construction activities described in Section 2.6, there will be an addition of approximately 8 acres of impervious surface added at LRAFB. There will also be approximately 160 acres in the 100-year floodplain temporarily disturbed as a result of vegetation removal in the Clear Zone surrounding the airfield as a result of requirements to comply with UFC safety criteria. Appropriate construction BMPs as described above would be employed to minimize potential runoff and sedimentation during construction activities and appropriate vegetation would be re-established on the sites to ensure rapid soil stabilization. The slight increase in impervious surface would require that the storm water management system is monitored and updated, as necessary to accommodate increased runoff. Permanent retention basins may be required depending on the increase in runoff. Cumulative impacts to water resources are expected to be minor given BMPs employed.

4.3 BIOLOGICAL RESOURCES

4.3.1 METHODOLOGY

Evaluation of impacts is based upon (1) the importance (legal, commercial, recreational, ecological, or scientific) of the resource, (2) the rarity of a species or habitat regionally, (3) the sensitivity of the resource to proposed activities, and (4) the duration and magnitude of ecological ramifications. Impacts to biological resources are considered to be greater if priority species or habitats are adversely affected over relatively large areas and/or disturbances cause reductions in population size or distribution of a priority species.

4.3.2 IMPACTS

4.3.2.1 Proposed Action

Upland Vegetation

Under the Proposed Action, a total of approximately 24.2 acres of land would be disturbed. To accommodate the Education Center, approximately 17 acres of mixed hardwood forest on the southeast corner of the base would be cleared of vegetation and replanted with landscaping, where practical. Also approximately 1 acre of mowed grass would be temporarily disturbed. There would be virtually no vegetation cleared as a result of the JLC seeing as this facility would be sited on the footprint of a previous facility. The 17 acres of mixed hardwood forest would be

a permanent loss. Given that there are currently approximately 2,820 acres of forested land on LRAFB, this would be a minor impact.

Wildlife

The permanent loss of 17 acres of forest would decrease available habitat at LRAFB for species as discussed in Section 3.3. Because the species found on LRAFB are typically well adapted to the human environment, impacts to these species are expected to be minimal.

Threatened, Endangered and Other Sensitive Species

The implementation of the Proposed Action would have no impact on federal and state listed species because these species are not known to occur on LRAFB. While some of the sensitive species described in Section 3.3.2 could currently utilize the proposed site, the potential for negative impacts to them is slight, given the small amount of habitat that would be affected. Any species currently occupying these sites are typically fairly well-adapted to human influences and should not be negatively impacted. No impacts to threatened, endangered, or otherwise sensitive species are expected as a result of the Proposed Action.

Wetlands and Other Aquatic Habitat

There is a small wetland on the site for the proposed Education Center, which has been preliminarily evaluated by the USACE. The wetland is approximately 0.10 acre and is not considered to be jurisdictional due to its isolated nature. Despite its non-jurisdictional nature, the Education Center would be designed around the wetland, incorporating the natural feature into the facility and the educational experience. This would ensure that any functional value of the wetland would be retained. There are no wetlands associated with the proposed JLC site.

4.3.2.2 Alternative Action

Upland Vegetation

Under the Alternative Action, a total of approximately 24.2 acres of land would be disturbed. To accommodate the Education Center, approximately 17 acres of mixed hardwood forest on the southeast corner of the base would be cleared of vegetation and replanted with landscaping, where practical. At the alternative JLC site, approximately one acre of mowed grassland would be disturbed to accommodate the JLC. The mowed grassy area provides little unique habitat. Given that there are currently approximately 2,820 acres of forested land on LRAFB, and a substantial amount of mowed, grassy areas, this would be a minor impact.

Wildlife

The permanent loss of 17 acres of mixed hardwood forest would decrease available habitat at LRAFB for species as discussed in Section 3.3. The loss of approximately one acre of mowed grassy area would be minimal seeing as this provided little unique or critical habitat for wildlife species. Because the species found on LRAFB are typically well adapted to the human environment, impacts to these species are expected to be minimal.

Threatened, Endangered and Other Sensitive Species

The implementation of the Proposed Action would have no impact on federal and state listed species because these species are not known to occur on LRAFB. While some of the sensitive species described in Section 3.3.2 could currently utilize the proposed site, the potential for negative impacts to them is slight, given the small amount of habitat that would be affected. Any species currently occupying these sites are typically fairly well-adapted to human influences and should not be negatively impacted. No impacts to threatened, endangered, or otherwise sensitive species are expected as a result of the Proposed Action.

Wetlands and Other Aquatic Habitat

There is a small wetland on the site for the proposed Education Center, which has been preliminarily evaluated by the USACE. The wetland is approximately 0.10 acre and is not considered to be jurisdictional due to its isolated nature. Despite its non-jurisdictional nature, the Education Center would be designed around the wetland, incorporating the natural feature into the facility and the educational experience. This would ensure that any functional value of the wetland would be retained. There are no wetlands associated with the alternative JLC site.

4.3.2.3 No Action Alternative

Under the No Action alternative, the Education Center Complex would not be built, and construction associated with the Education Center and the JLC would not occur. The forest and grassland plant communities would be unaffected and current wildlife use of the area would be expected to continue. This alternative would not result in impacts to biological resources over and above those that have already occurred due to habitat fragmentation and the construction of buildings and parking lots.

4.3.2.4 Cumulative Impacts

There are several other activities either currently underway, or planned over the short-term in the ROI (Section 2.6). All construction projects are sited within the existing cantonment area, and because this area is previously disturbed and there are no threatened or endangered species

known to occur at these sites, impacts to biological resources are not expected as a result of the construction plans. There are several wetlands, consisting of approximately 70 acres that may be filled or otherwise impacted as a result of the UFC compliance projects. Coordination with the USACE is underway and the Section 404 permit is in process. Any potential impacts as a result of this particular project will be managed in close coordination with the agency and through the permit process. Cumulative impacts to biological resources as a result of these projects are expected to be minor.

4.4 AIR QUALITY

4.4.1 METHODOLOGY

Air emissions resulting from the Proposed Action were evaluated in accordance with federal, state, and local air pollution standards and regulations to determine if they:

- increase ambient air pollution concentrations above any NAAQS;
- contribute to an existing violation of any NAAQS;
- interfere with or delay timely attainment of NAAQS; or
- impair visibility within any federally mandated PSD Class I area.

The approach to the air quality analysis was to estimate the increase in emission levels due to the proposal. A conformity analysis is not required in an attainment area. Since Pulaski County is an attainment area for all criteria air pollutants, a conformity analysis is not required. There are two PSD Class I areas in Arkansas: the Upper Buffalo Wilderness and the Caney Creek Wilderness. None are located within 100 kilometers of LRAFB. Therefore, the Proposed Action would be unlikely to have a substantial impact on these areas.

4.4.2 IMPACTS

4.4.2.1 Proposed Action

The Proposed Action would involve demolition of Buildings 840 and 842; construction of the Education Center, JLC, and pavilion (totaling 101,340 square feet); clearing of 17 woodland acres, and addition of 950,000 square feet of new pavement.

Construction Emissions. Emissions during the construction period were quantified to determine the potential impacts on regional air quality. Calculations of VOC, nitrogen oxide (NO_x), CO, and PM_{10} emissions from construction, demolition, grading, and paving activities

were performed using USEPA emission factors compiled in the *California Environmental Quality Air Quality Handbook* (South Coast Air Quality Management District 1993), *Calculations Methods for Criteria Air Pollution Emission Inventories* (Jagielski and O'Brien 1994), and *Air Emissions Inventory Guidance Document for Mobile Sources at Air Force Installations* (O'Brien and Wade 2002). The emission factors for building construction include contributions from engine exhaust emissions (i.e., on-site construction equipment, material handling, and workers' travel) and fugitive dust emissions (e.g., from grading activities). Tree clearing emissions were calculated based on the assumption that a backhoe, trencher, grader, scraper, roller, and two chain saws would be operating eight hours per day for approximately eight days, with two acres per day of clearing activity. Emissions from log skidders and tractor-trailers, if the valuable timber is sold prior to land clearing, are expected to be relatively minor, depending on the number of loads per day and the mileage of each trip required to bring the timber to its next destination. Paving emissions were calculated based on the assumption that six bulldozers, six rollers, and six asphalt pavers would be operating eight hours per day for approximately 160 working days, and include emissions from hauling pavement materials by truck to the site. These should all be conservative estimates and likely overestimate the projected emissions.

Emissions generated by construction, demolition, and paving projects are temporary in nature and would end when construction is complete. The emissions from fugitive dust (PM_{10}) would be significantly less due to the implementation of control measures in accordance with standard construction practices. For instance, frequent spraying of water on exposed soil during construction, proper soil stockpiling methods, and prompt replacement of ground cover or pavement are standard landscaping procedures that could be used to minimize the amount of dust generated during construction. Using efficient grading practices and avoiding long periods where engines are running at idle may reduce combustion emissions from construction equipment. Vehicular combustion emissions from construction worker commuting may be reduced by carpooling.

In general, combustive and fugitive dust emissions would produce localized, short-term elevated air pollutant concentrations (Table 4.4-1), which would not result in any long-term impacts on the air quality Pulaski County or AQCR 016.

Table 4.4-1. Construction Emissions – Proposed Action

Source	*Pollutants (In Tons per Construction Period)*				
	CO	***VOC***	***NO_2***	***SO_2***	***PM_{10}***
Construction	5.3	1.7	24.4	< 0.1	1.7
Demolition	1.2	0.2	1.2	< 0.1	0.4
Tree clearing	1.8	0.3	0.6	<0.1	0.5
New Pavement	9.0	1.8	18.2	1.2	1.5
TOTAL	**17.3**	**4.0**	**44.4**	**1.3**	**4.1**

Operational Emissions. The Proposed Action would include removal of three natural gas-fired boilers during the demolition of Buildings 840 and 842, and addition of natural gas-fired heating equipment in the new buildings that would be constructed. It is likely that the new equipment would be more efficient and have lower emissions than the heating equipment currently present in the buildings. Nevertheless, the boiler and heater installations or modifications may trigger an update of the Base's *ADEQ Minor Source Air Permit* (ADEQ 2001).

The increase in annual commuting emissions due to vehicular travel by the 4,600 additional students to the new Education Center after implementation of the Proposed Action were calculated using emission factors from *Calculation Methods for Criteria Pollutant Emission Inventories* (Jagielski and O'Brien 1994). All privately-owned vehicles (POVs) were assumed to be light-duty, gasoline-powered vehicles with 1995 as the average vehicle model year. Annual criteria pollutant emissions from commuting, assuming an average round-trip commuting distance of 10 round-trip miles and a carpooling ratio of 1.2 students per vehicle, two days per week for 50 weeks per year are shown in Table 4.4-2.

Table 4.4-2. Operational Emissions – Proposed Action

Source	*Pollutants (In Tons per Year)*				
	CO	***VOC***	***NO_2***	***SO_2***	***PM_{10}***
Commuting	70.1	10.4	6.9	< 0.1	0.3
TOTAL	**70.1**	**10.4**	**6.9**	**< 0.1**	**0.3**

It is expected that these additional operational emissions due to POV commuting would not result in any long-term impacts on the air quality of Pulaski County or AQCR 016.

4.4.2.2 Alternative Action

Under the Alternative Action, construction and operational emissions are expected to be equivalent to those shown in Tables 4.4-1 and 4.4-2, respectively, for the Proposed Action. It is expected that these emissions would not result in any long-term impacts on the air quality of Pulaski County or AQCR 016.

4.4.2.3 No Action Alternative

Under the No Action Alternative, no construction or new operational emissions would occur and the Base's emissions would be identical to current baseline emissions presented in Section 3.4.2.

4.4.2.4 Cumulative Impacts

Other proposed and/or ongoing activities within the ROI are expected to generate increased emissions over the short term and decreased emissions in one case, over the long-term. It is expected that emissions would decrease over the long-term as a result of the C-130J beddown, which has a more efficient engine with reduced emissions. Under the other construction activities, typical short-term construction emissions would be expected over the next several years. These emissions are typical for an active USAF base and are not atypical for LRAFB. Impacts would be temporary in nature, and would not result in any long-term impacts to the air quality of Pulaski County or AQCR 016.

4.5 LAND USE AND VISUAL RESOURCES

4.5.1 METHODOLOGY

Land use impacts can result if an action displaces an existing use or reduces the suitability of an area for its current, designated or formally planned use. In addition, a proposed activity may be incompatible with local plans and regulations that provide for orderly development to protect the general welfare of the public, or conflict with management objectives of a federal or state agency of an affected area. Compatible land use development would need to comply with federal and state environmental laws and regulations.

There are no federal laws specifically protecting visual resources; however, federal land custodians and states often adopt regulations and procedures to protect resources within their jurisdiction. In urban areas, local agencies may enforce standards to control the appearance of development. To assess impacts to visual resources, areas that have high visual value or low tolerance for visible modification or have prescribed guidelines are identified. The degree to which an action would modify the existing surroundings is used to assess the level of impact.

4.5.2 IMPACTS

4.5.2.1 Proposed Action

The JLC component of the proposal would be located inside the base boundary and would provide space for military education, training, and testing. The proposed site for this facility is at the intersection of Thomas Avenue and Sixth Street, which would collocate it with several other C-130 training functions, including the C-130 Maintenance Trainer, and the C-130 Flight Trainers, which would enhance functionality of the training area (Figure 2.4-1). This would be consistent with existing land use in this area of the base. Because the facility would be located on a site that was previously used as the base gymnasium (Building 1220), no physical surface changes would occur on the site. The site would have associated pavements (entry road and parking area), and would be landscaped to maintain the natural quality of the landscape to the extent possible.

The Education Center component (building and associated entry road/parking areas) of the proposal would be located on LRAFB property, outside of the security gatehouse at the intersection of Vandenberg Boulevard and U.S. Route 67/167. Because the location of the proposed structure conforms to the General Plan, no impact is expected to the land use plan for LRAFB.

The site is currently partly landscaped and partly wooded. Approximately 17 acres of woodlands and one acre of mowed grass would be cleared to provide space for the facility, and the small (less than 0.10 acre) wetland on the site (not considered a jurisdictional wetland) would be left intact and incorporated into the facility. The Education Center and grounds would be landscaped to maintain the natural quality of the existing landscape to the extent possible, following the Architectural Compatibility Guide as described in the General Plan. The exterior of the proposed Education Center would be consistent with the existing base architectural design.

The area would be enhanced visually as a result of the Proposed Action. The replacement of Buildings 840 and 842 with the Education Center Complex with its integrated wetlands area and pavilion would provide a unique environment for college classes for on-base personnel and the neighboring community, as well as office space for military and college staff.

4.5.2.2 Alternative Action

Under the alternative action, the Education Center would still be located at the intersection of Vandenberg Boulevard and U.S. Route 67/167; however, the JLC would be located at an alternate site along Lachmund Drive. This site is located in the same general vicinity as the proposed site for the JLC, and would still be integrated into the administrative and training portion of the base. The site is currently vacant; however, there are existing buildings and

parking areas adjacent to this site. Although this site is close to the existing C-130 classroom training area, from a land use and design standpoint, this would be a less ideal location than the proposed site because it would create new impervious surface and would be further away from the C-130 training complex than the proposed site. Functionality of the C-130 classroom training area would not be particularly enhanced by this alternative.

4.5.2.3 No Action Alternative

Under the No Action alternative, the use of the existing, inadequate Education Center Complex housed in two old, outdated dormitories would continue. The spatial and functional shortfalls for these functions would remain. The improved locational arrangement of the Education Center, in particular, would be lost. Both military and civilian students would continue to have to negotiate through the main entrance gate to attend the classes. The benefits of having an aesthetically pleasing area in which to conduct college courses for on-base personnel and the neighboring community would be lost. There would be no impacts under this alternative.

4.5.2.4 Cumulative Impacts

There are numerous other projects either on-going or planned at LRAFB, as described in Section 2.6. All projects listed are consistent with the base Master Plan and existing surrounding land uses. The long-term objective at LRAFB is to combine like activities spatially, and these projects work toward that end. There would be a general overall positive result from implementation of these projects.

4.6 SOCIOECONOMICS

4.6.1 METHODOLOGY

The socioeconomic analysis addresses the social and economic resources of the region and how they may be affected by project-related actions. A general, and primarily qualitative assessment was made of socioeconomic resources, as they currently exist in the area (see Section 3.6). Potential socioeconomic impacts are typically driven by proposed changes in personnel levels and/or project-related expenditures that affect local employment, population, and community resources. In the event that population or expenditure levels would be expected to change, economic multipliers would be used to determine the total economic effect of such changes. The total economic effect is then compared to the existing socioeconomic conditions in the ROI to determine the potential impacts.

4.6.2 IMPACTS

4.6.2.1 Proposed Action

Under the Proposed Action, it is anticipated that staffing would remain unchanged. Currently, the annual student load at the single Education Center (which includes those activities that would be handled at the separate Education Center and JLC) is approximately 10,500. The annual student load would increase from 10,500 to 19,600 if the Education Center Complex were constructed. Because the student population is temporary and transient, it would not be expected to impact the local economy. However, the net result of the construction of the 100,673 SF Education Center Complex and associated pavements would be a minor short-term benefit to the local economy from construction-related purchases and other activities.

4.6.2.2 Alternative Action

As with the Proposed Action, under the Alternative Action it is anticipated that staffing would remain unchanged. The annual student load would increase from 10,500 to 19,600 if the Education Center Complex were constructed with the Education Center located at the proposed site at the intersection of Vandenberg Boulevard and U.S. Route 67/167 and the JLC located at an alternate site along Lachmund Drive. Because the student population is temporary and transient, it would not be expected to impact the local economy. However, the net result of the construction of the 100,673 SF Education Center Complex and associated pavements would be a minor short-term benefit to the local economy from construction-related purchases and other activities.

4.6.2.3 No Action Alternative

Under the No Action alternative, the use of the existing, inadequate Education Center Complex housed in two old, outdated dormitories will continue. No socioeconomic impacts would be expected under this alternative. Conditions would remain as described under section 3.6.2.

4.6.2.4 Cumulative Impacts

There are several other on-going and/or proposed activities at LRAFB, as described in Section 2.6. The net result of these activities would be a minor short-term benefit to the local economy from construction-related purchases and other activities. These would be minor and short-term. No long-term cumulative impacts are expected.

4.7 SOLID AND HAZARDOUS MATERIALS AND WASTE

This section addresses the potential impacts caused by hazardous materials and waste management practices and the impacts of existing contaminated sites on reuse options. Hazardous materials and petroleum products, hazardous and petroleum wastes, IRP sites, and solid wastes will be discussed in this section.

4.7.1 METHODOLOGY

The qualitative and quantitative assessment of impacts from hazardous materials and solid waste management focuses on how and to what degree the alternatives affect hazardous materials usage and management, hazardous waste generation and management, and waste disposal. A substantial increase in the quantity or toxicity of hazardous substances used or generated would be considered undesirable. Impacts could result if a substantial increase in human health risk or environmental exposure was generated at a level that cannot be mitigated to acceptable standards. A substantial increase in human health risk would be one that increases the cancer risk to above 10^{-6}.

Regulatory standards and guidelines have been applied in evaluating the potential impacts that may be caused by hazardous materials and wastes. The following criteria were used to identify potential impacts:

- Generation of 100 kilograms (kg) (or more) of hazardous waste or 1 kg (or more) of an acutely hazardous waste in a calendar month, resulting in increased regulatory requirements.
- A spill or release of a reportable quantity of a hazardous substance as defined by the USEPA in 40 CFR Part 302.
- Manufacture, use, or storage of a compound that requires notifying the pertinent regulatory agency according to EPCRA.
- Exposure of the environment or public to any hazardous material and/or waste through release or disposal practices.

4.7.2 IMPACTS

4.7.2.1 Proposed Action

Hazardous Materials and Petroleum Products

Under the Proposed Action, LRAFB would conduct demolition and construction activities associated with the establishment of the Education Center Complex. During these construction activities, diesel fuel would be stored within the Education Center Complex to fuel the bulldozers, graders, scrapers, excavators, and rollers. The fuel tanks would be stored within portable containment basins to manage any potential spills during this period.

Hazardous and Petroleum Wastes

The demolition and construction activities would not generate hazardous or petroleum wastes.

Installation Restoration Program Sites

IRP sites would not be impacted by the proposed demolition and construction activities or operation of the Education Center Complex.

Solid Waste

The vegetation clearing and regrading in portions of the Education Center Complex would generate woody debris waste and miscellaneous debris over a short period of time. After all timber products with commercial value were sold, the remaining solid waste would be disposed of in accordance with applicable federal, state, and USAF regulations.

In addition, solid waste would be generated from the construction of the 100,673 SF Education Center Complex. Assuming the approximate rate of solid waste generation from construction and addition debris is 4.25 pounds per square foot (Murphy and Chatterjee 1976), approximately 214 tons of solid waste would be generated.

Buildings 840 and 842 totaling 49,630 SF would be demolished under the Proposed Action. Assuming the approximate loose density of burnable waste (e.g., wood, paper) is 300 pounds per square foot (Wilson 1977), approximately 7,445 tons of solid waste would be generated.

Waste generated at the proposed facilities could increase as a result of a potentially increased student load at the Education Center. Any increase in waste generated would be minor compared to the capacity of the landfill. Waste collection would be scheduled as needed to manage the waste stream.

Based on the available capacity of the Two Pines Landfill, quantities of waste from the construction and operation of the Education Center Complex would not exceed landfill storage capacity. In addition, based on the average amount of waste received daily at the Two Pines Landfill (approximately 5,000 tons per day), the amount of waste generated by the construction and demolition of facilities would reduce the life expectancy of the landfill by an estimated two days.

4.7.2.2 Alternative Action

Under this alternative, impacts to solid and hazardous materials and waste would be expected to be approximately the same as those described for the Proposed Action. There are no IRP sites at the alternative JLC location, and waste generation would be expected to be virtually identical.

4.7.2.3 No Action Alternative

Under this alternative, there would be no change to the current operations at LRAFB. Therefore, conditions related to solid and hazardous materials and wastes within the ROI would continue as described in Section 3.7.

4.7.2.4 Cumulative Impacts

There are several other on-going and/or planned projects at LRAFB, as described in Section 2.6. While ground-disturbing activities always present the potential for disturbance of previously contaminated soil, there are no known IRP sites involved in any of the planned construction sites. Should contaminated soil be encountered during these activities, the soil would be tested and properly treated in accordance with applicable laws and regulations. Demolition activities associated with the planned projects could encounter asbestos-containing material (ACM) and/or lead paint. These materials would be managed in compliance with applicable laws and USAF regulations. Cumulative impacts associated with these projects are expected to be minor.

4.8 CULTURAL RESOURCES

4.8.1 METHODOLOGY

Cultural resources are subject to review under both Federal and state laws and regulations. Section 106 of the NHPA of 1966 empowers the ACHP to comment on federally initiated, licensed, or permitted projects affecting cultural sites listed or eligible for inclusion in the NRHP. Eligibility evaluation is the process by which resources are assessed relative to NRHP eligibility criteria. Those cultural resources determined to be eligible for the NRHP are protected under the NHPA.

Analysis of potential impacts to cultural resources considers both direct and indirect impacts. Direct impacts may occur by physically altering, damaging, or destroying all or part of a resource; altering characteristics of the surrounding environment that contribute to the resource's eligibility; introducing visual or audible elements that are out of character with the property or alter its setting; or neglecting the resource to the extent that it deteriorates or is destroyed. Direct impacts can be assessed by identifying the types and locations of proposed activities and determining the exact location of cultural resources that could be affected. Indirect impacts result primarily from the effects of project-induced population increases.

4.8.2 IMPACTS

4.8.2.1 Proposed Action

One historic archaeological site (3PU444) has been recorded along the boundary of the proposed Education Center parcel. This site is associated with rural settlement during the early to mid 20th century and is unevaluated for NRHP-eligibility (Cliff et al 1997). This site is located along the edge of the parcel and would be avoided during construction. Consultation with the SHPO regarding the status of this site has indicated that no impacts are anticipated as a result of the Proposed Action. No archaeological resources have been identified on the proposed JLC parcel. The area is heavily developed and disturbed by past use (Cliff et al. 1997). In the unlikely event that archaeological resources are encountered during earthmoving, per Section 2.1 of AFI 32-7065, *Cultural Resources Management*, work would stop at that location and the resources would be managed in compliance with Section 106 of the NHPA.

Buildings 840 and 842 would be demolished under the Proposed Action. Consultation with the SHPO regarding the status of these buildings has indicated that no impacts are anticipated as a result of the Proposed Action.

There are no known federally-recognized Indian lands or resources at the location of the Proposed Action, and the action is not considered to have "the potential to significantly affect Indian lands, treaty rights, or other tribal interests" as identified in DoD American Indian and Alaska Native Policy (1999). The tribal contact letter is contained in Appendix A.

Impacts to traditional resources are not expected under the Proposed Action. There are no federally-recognized Indian lands or resources at the location of the action, and the action is not considered to have "the potential to significantly affect Indian lands, treaty rights, or other tribal interests" as identified in DoD Native American and Alaska Native Policy (1999). The tribal contact letter is contained in Appendix A.

4.8.2.2 Alternative Action

Impacts to cultural resources are expected to be virtually identical to those described under the Proposed Action. There are no anticipated cultural resources that have been identified at the alternative JLC site.

4.8.2.3 No Action Alternative

No impacts to cultural resources are expected under the No Action alternative. The resources would continue to be managed in compliance with Federal law and USAF regulation. Cultural resources would remain as described in Section 3.8.1.

4.8.2.4 Cumulative Impacts

There are several other activities either currently underway, or planned over the short-term at within the ROI. There are seven archaeological resources associated with the LRAFB Clear Zone project, which have all been determined to be ineligible for the NRHP. Nevertheless, these resources will be avoided to the extent possible. In the unlikely event that archaeological resources were encountered during earthmoving associated with any of these activities, per Section 2.1 of AFI 32-7065, *Cultural Resources Management*, work would stop at that location and the resources would be managed in compliance with Section 106 of the NHPA. Cumulative impacts to cultural resources are not expected.

4.9 SAFETY

4.9.1 METHODOLOGY

This section discusses potential safety effects resulting from the Proposed Action and alternative. Impacts are assessed according to the potential to increase or decrease safety risks to ground personnel, the public, and property. Proposal-related activities are considered to determine if additional or unique ground or explosive safety risks are associated with their undertaking. If any proposal-related activity indicated a major variance from existing conditions, it would be considered a substantial safety impact.

4.9.2 IMPACTS

4.9.2.1 Proposed Action

Activities involved in the proposed construction and use of the Education Center and JLC are not unique. Standard building and construction procedures and BMPs would be followed by the

construction contractor(s). During construction and use of the facility, all federal and state occupational safety and health requirements would be met.

Implementation of this proposal would involve ground activities that may expose workers building the facility to some risk. The United States Department of Labor (DOL), Bureau of Labor Statistics maintains data analyzing fatal and non-fatal occupational injuries based on occupation. Due to the varying range of events classified as non-fatal injuries, the considerations described below focus on fatal injuries since they are the most catastrophic. Data are categorized as incidence rates per 100,000 workers employed (on an annual average) in a specific industry [Standard Industrial Code (SIC)].

To assess relative risk associated with building the proposed facilities and demolishing Buildings 840 and 842, it was assumed that the industrial classifications of workers involved are the Construction Trades (SIC-15, 16, and 17). Based on DOL data and considerations of worker exposure, 11.6 to 15.3 workers per 100,000 employed would be statistically predicted to sustain a fatal injury per year, depending on the specific labor classification. This equates to a probability of a fatal injury of from 1.16 to 1.53 out of 10,000 (DOL 2003). Although DoD guidelines for assessing risk hazards would categorize the hazard category as "catastrophic" (since a fatality would be involved), the expected frequency of the occurrence would be considered "remote" (MIL-STD-882). While the potential result must be considered undesirable, risk is low. Strict adherence to all applicable occupational safety requirements would further minimize the relatively low risk associated with these construction and demolition activities.

During the demolition of Buildings 840 and 842, if asbestos or any other hazardous substance is encountered, it would be contained, removed, and disposed of in accordance with all applicable federal and state regulations.

The siting of the Education Center is such that the facility is outside of the 2,435-foot safety arc associated with the munitions storage facility. Therefore, it would be in compliance with all DoD distance separation requirements, and not be exposed to an explosive safety risk.

During use, the location of the facility, and access to it is designed to minimize the potential for excessive vehicle traffic congestion on Vandenberg Boulevard. Nevertheless, due to continuously changing security procedures, some security checkpoint at the Education Center entrance may be required during particular threatcon levels. Although anticipated attendance at the Education Center is expected to occur throughout the day and evening hours, the vast majority of students would attend the facility during the evening hours. This would minimize traffic issues along Vandenberg Boulevard and also minimize the influence of peak traffic.

4.9.2.2 Alternative Action

Under the Alternative Action, the Education Center would be built in the proposed location, but the JLC would be built at an alternate location (Refer to Figure 2.4-1). Despite the change of location, all safety issues discussed for the Proposed Action are approximately the same as those associated with this alternative. Safety risks would be expected to be minimal.

4.9.2.3 No Action Alternative

Under the No Action alternative, the proposed new Education Center and JLC would not be built. Training would continue to be conducted in inadequate facilities. Safety considerations on LRAFB would be unchanged from current conditions.

4.9.2.4 Cumulative Impacts

There are a number of other on-going and/or proposed projects in the ROI, as described in Section 2.6. All these projects contain a short-term construction component in which a similar accident rate as described above would be expected. There is always a possibility of construction-related accidents; however, as described above, the probability of a very serious accident occurring is considered to be remote. The long-term effect of the several projects that are planned however would have the net effect of improving the overall safety of LRAFB. The project to gain compliance with the UFC would likely improve the long-term flying safety record at LRAFB. Additionally, the construction of the Fire Station along the flightline should similarly improve overall flightline safety at LRAFB.

4.10 INFRASTRUCTURE

4.10.1 METHODOLOGY

LOS is the primary transportation and utility service issue. Criteria for evaluating impacts to transportation and utility services include potential for disruption and/or permanent degradation of the resource. The ROI for these resources encompasses LRAFB and areas in the immediate vicinity of the installation.

4.10.2 IMPACTS

4.10.2.1 Proposed Action

There would be an increase in vehicular traffic from the establishment and operation of the Education Center Complex. Specifically, vehicle traffic would be increased from vehicles accessing the proposed Education Center located in the vicinity of the intersection of

Vandenberg Boulevard and U.S. Route 67/167. The proposed facility would be designed with entrance set backs and expanded turning lanes to accommodate peak traffic conditions ingressing and egressing the facility. Commuters on access roads, Vandenberg Boulevard, and U.S. Route 67/167 in the vicinity of the Education Center could experience slight delays during peak traffic hours. However, as the majority of the classes would be in the evening, the impacts to traffic during peak conditions would be minimized. Accordingly, impacts to LOS of these roads is not expected.

In addition, vehicle traffic in the vicinity of the proposed JLC (Sixth Street and Vandenberg Boulevard) would also be increased. Overall, the majority (at least 85 percent) of the students would be military, already residing on LRAFB or in the immediate vicinity of the installation.

As students attending classes at the Education Center Complex are already residing within the ROI, overall increases in potable water consumption, wastewater generation, and electrical consumption would not be anticipated under this alternative. LRAFB would not provide utilities for the Education Center; therefore, an extension of City of Jacksonville utilities would be required to service this facility. Currently, LRAFB is coordinating with the City of Jacksonville regarding the specifics of the utilities connections (personal communication, Bryan 2004).

4.10.2.2 Alternative Action

Impacts to infrastructure would be expected to be very similar as under the Proposed Action. However, any increases in traffic or congestion related to the JLC would likely be found along Lachmund Drive rather than at the intersection of Sixth Street and Thomas Avenue, as described under the Proposed Action. Both these roadways should have an adequate LOS to manage these minor increases; therefore, no substantial impact to traffic at either site would be expected.

4.10.2.3 No Action Alternative

No impacts would be anticipated to utilities or transportation facilities under the No Action alternative. Conditions would continue as described in Section 3.10.2.

4.10.2.4 Cumulative Impacts

There are other on-going and/or proposed activities at LRAFB, as described in Section 2.6. The net result of these activities could be a minor short-term disruption in terms of transportation and circulation around the base given that construction activities could temporarily alter traffic flow. However, long-term impacts should result in improved transportation and circulation throughout the base because all on-going and/or proposed projects are components of the base Master Plan. There could be a similar brief disruption to utility services over the short-term, but long-term impacts would be expected to be similarly positive.

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6.0 PERSONS AND AGENCIES CONTACTED

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FINAL

APPENDIX A
INTERAGENCY AND INTERGOVERNMENTAL COORDINATION FOR ENVIRONMENTAL PLANNING (IICEP)

INTERAGENCY, INTERGOVERNMENTAL COORDINATION FOR ENVIRONMENTAL PLANNING (IICEP)
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Office of Intergovernmental Services
State Clearinghouse Section
Room 412, 1515 Building
1515 West Seventh Street
Little Rock, Arkansas 72201
P. 0. Box 3278
Little Rock, Arkansas 72203
Manager: Tracy Copeland
E-mail - tracy.copeland@dfa.state.ar.us
Phone (501) 682-1074
FAX (501) 682-5206

The Department of Arkansas Heritage
1500 Tower Building
323 Center Street
Little Rock, Arkansas 722201
Phone (501) 324-9150
http://www.arkansasheritage.com/

Quapaw Tribe of Oklahoma
Tamara Martin, Chairman
P.O. Box 765
Quapaw, OK 74363
Phone: (918) 542-1853
Fax: (918) 542-4694
E-mail: quapaw@eighttribes.org
http://www.geocities.com/Athens/Aegean/1388/

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 314TH AIRLIFT WING (AETC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

AUG 17 2004

314 CES/CEVA
528 Thomas Avenue
Little Rock AFB, AR 72099-4987

EPA Region 6
Compliance Assurance and Enforcement Division
Office of Planning and Coordination (6EN-XP)
1445 Ross Avenue
Dallas, TX 75202-2733

Dear Sir/Madame,

Little Rock Air Force Base (LRAFB) has prepared an Environmental Assessment (EA) for a proposal to establish an Education Center Complex at LRAFB. We previously provided your agency with a detailed description of the proposal and a request for initial comments and concerns. We appreciate your participation in this process and request that you now review the Draft EA, which can be found as an attachment to this memorandum.

The environmental analysis for the Proposed Action has been conducted by LRAFB in accordance with the Council on Environmental Quality guidelines pursuant to the National Environmental Policy Act of 1969. In accordance with Executive Order 12372, Intergovernmental Review of Federal Programs, we request your participation by reviewing this EA, and solicit your comments concerning the proposal and any potential environmental consequences of the action. A listing of Federal and state agencies that have been contacted is attached. If there are any additional agencies that you feel should review and comment on the Draft EA, please let us know. Please return your comments to our consultant within 30 days of receipt.

Any questions concerning the proposal should be directed to our consultant, Science Applications International Corporation (SAIC). The point of contact at SAIC is Ms. Kate L. Bartz. She can be reached at (520) 326-0951. Please forward your written comments to Ms. Bartz, in care of SAIC, at 2617 East 7th Street, Tucson, Arizona 85716. Thank you for your assistance.

Sincerely,

Ron Love, REM
Chief, Environmental Programs & Analysis

Attachments

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 314TH AIRLIFT WING (AETC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

AHPP

JAN 15 2004

JAN 13 2004

52371

USAF NE

RECEIVED
JAN 15 2004
DIRECTOR'S OFFICE

314 CES/CEVA
528 Thomas Avenue
Little Rock AFB AR 72099-4987

The Department of Arkansas Heritage
1500 Tower Building
323 Center Street
Little Rock AR 72201

Date 1/22/04
No known historic properties will be affected by this undertaking. This effect determination could change should new information come to light.
Ken Grunewald
Deputy State Historic Preservation Officer

Dear Sir/Madame,

Little Rock Air Force Base (LRAFB) is preparing an Environmental Assessment (EA) for a proposal to construct an Education Center Complex. Attachment A to this memorandum describes the proposal and the alternatives being analyzed, including the No Action Alternative. We will forward the Draft EA in its entirety for your review within the next couple of months; however, we are soliciting any comments or concerns regarding the proposal you may have at this time so that we might incorporate them into our analysis in a proactive manner. Understanding your comments and concerns at this time will help us to make this analysis a comprehensive one.

The environmental analysis for the Proposed Action is being conducted by LRAFB in accordance with the Council on Environmental Quality guidelines pursuant to the National Environmental Policy Act of 1969. In accordance with Executive Order 12372, Intergovernmental Review of Federal Programs, we request your participation by reviewing this memo describing the proposed action and alternatives, and solicit your comments concerning the proposal and any potential environmental consequences of the action. A listing of Federal and state agencies that have been contacted is attached (Attachment B). If there are any additional agencies that you feel should review and comment on the proposal or the Draft EA, please let us know. Please return your comments to our consultant within 30 days of receipt.

Any questions concerning the proposal should be directed to our consultant, Science Applications International Corporation (SAIC). The point of contact at SAIC is Ms. Kate L. Bartz. She can be reached at (520) 570-7665. Please forward your written comments to Ms. Bartz, in care of SAIC, 101 N. Wilmot Rd., Suite 400, Tucson, Arizona 85711-3336. Thank you for your assistance.

Sincerely,

Ron Love, REM
Chief, Environmental Programs & Analysis
314 Civil Engineer Squadron, Environmental Flight

Golden Legacy, Boundless Future...Your Nation's Air Force

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 314TH AIRLIFT WING (AETC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

AUG 17 2004

314 CES/CEVA
528 Thomas Avenue
Little Rock AFB, AR 72099-4987

EPA Region 6
Compliance Assurance and Envorcement Division
Office of Planning and Coordination (6EN-XP)
1445 Ross Avenue
Dallas, TX 75202-2733

U.S. Environmental Protection Agency
Region 6
Office of Planning & Coordination (EN-XP)
1445 Ross Avenue
Dallas, Texas 75202-2733

EPA has reviewed this document and has no comments.
Reviewer: [signature] Date: 8/24/2004

Dear Sir/Madame,

Little Rock Air Force Base (LRAFB) has prepared an Environmental Assessment (EA) for a proposal to establish an Education Center Complex at LRAFB. We previously provided your agency with a detailed description of the proposal and a request for initial comments and concerns. We appreciate your participation in this process and request that you now review the Draft EA, which can be found as an attachment to this memorandum.

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Sincerely,

Ron Love, REM
Chief, Environmental Programs & Analysis

Attachments

Arkansas GEOLOGICAL COMMISSION

VARDELLE PARHAM GEOLOGY CENTER • 3815 WEST ROOSEVELT ROAD • LITTLE ROCK, ARKANSAS 72204

Mike Huckabee
Governor

Mac B. Woodward
Director and State Geologist

August 20, 2004

Ms. Kate L. Bartz
SAIC
2617 East 7th Street
Tucson. Arizona 85716

Dear Ms. Bartz:

This letter is a response to a request for comments on the Environmental Assessment for the Education Center Complex at the Little Rock Air Force Base in Jacksonville, Arkansas. The following comments pertain to the geology of the proposed sites of the Joint Learning Complex and the Education Center.

I have no additional comment on the location of the Joint Learning Complex. I do however wish to restate that the location of the Education Center is underlain by the Midway Formation. This unit contains clays of very high expansion and shrinkage depending on moisture content. Special construction methods will be needed to avoid possible foundation problems.

If you have any questions please feel free to contact me.

Sincerely,

William Lee Prior
Geologist Supervisor

PHONE: (501) 296-1877; FAX: (501) 663-7360
agc@mail.state.ar.us
www.state.ar.us/agc/agc.htm

Arkansas Game & Fish Commission

2 Natural Resources Drive Little Rock, Arkansas 72205

David Goad
Deputy Director

Loren Hitchcock
Deputy Director

Scott Henderson
Director

August 24, 2004

Ms. Kate L. Bartz
In care of SAIC
2617 East 7th Street
Tucson, Arizona 85716

Dear Ms. Bartz:

Your letter concerning the Draft Environmental Assessment (EA) for the proposed Education Center Complex located at the Little Rock Air Force Base in Pulaski Co., Arkansas has been referred to me for reply.

Biologists from our agency have reviewed the information provided for this proposed (DEA) and we anticipate insignificant adverse impacts to fish and wildlife resources associated with these proposed activities.

We appreciate the opportunity to review this proposed project.

Sincerely,

Robert K. Leonard

Robert K. Leonard, Biologist
River Basins Division

Cc: USFWS, Conway, AR
Donny Harris
Mike Gibson

ADEQ

ARKANSAS
Department of Environmental Quality

August 27, 2004

Ron Love, Chief, Environmental Programs and Analysis
Department of the Air Force
Headquarters 314th Airlift Wing
314 CES/CEVA
528 Thomas Avenue
Little Rock AFB, AR 72099-4987

Mr. Love,

I would like to thank you and Capt. Sheets for taking the time to show me the proposed locations of the Education Center and Joint Learning Complex.

The visit to these sites helped to confirm my opinion that the activities regarding the construction of the Education Center and Joint Learning Complex, if conducted as stated in the EA prepared by your office, will not have a significant impact on environmental resources.

During the field visit, it was made apparent to me that you, your staff, and the LRAFB are committed to conducting the mission of the USAF while being considerate and responsible environmental stewards. I just wanted you to know that I recognize and appreciate that fact.

If, in the future, there is something that I can do to be of assistance in protecting and or restoring natural environmental conditions at the LRAFB, please feel free to contact me.

Again, thank you for your time.

Sincerely,

Matthew A. Van Eps, P.E.
Section Manager, Environmental Projects Section
Arkansas Department of Environmental Quality

DEPARTMENT OF THE ARMY
LITTLE ROCK DISTRICT, CORPS OF ENGINEERS
POST OFFICE BOX 867
LITTLE ROCK, ARKANSAS 72203-0867

REPLY TO
ATTENTION OF

August 27, 2004

Planning, Environmental and Regulatory Division
Planning Branch
Environmental Section

Ms. Kate L. Bartz
SAIC
2617 East 7th Street
Tucson, AZ 85716

Dear Ms. Bartz:

The Little Rock District Corps of Engineers, Planning, Environmental & Regulatory Division has reviewed the Draft EA for the Education Center Complex at the Little Rock Air Force Base in Arkansas.

We appreciate the opportunity to review this document. We have no comments on the draft EA and support the project. If you have any questions, please call the undersigned at 501-324-5629.

Sincerely,

Jim Ellis
NEPA Specialist

ADEQ

ARKANSAS
Department of Environmental Quality

September 21, 2004

Ms. Kate L. Bartz
Science Applications International Corp.
2617 East 7th Street
Tucson, Arizona 85716

RE: Little Rock Air Force Base Education Center Complex Environmental Assessment

Dear Ms. Bartz:

The Arkansas Department of Environmental Quality (ADEQ) has reviewed the information submitted on the referenced project. The following agency Division has provided comments to us on your plan:

Water Division: The Little Rock Air Force Base must apply for and comply with all provisions of the NPDES General Storm Water Construction Permit and Pollution Prevention Plan. Contact ADEQ's Water Division at (501) 682-0624 for permit information. All reasonable measures should be taken to minimize the effects of turbidity, sedimentation and erosion from this project.

If you have any questions or concerns, please coordinate them through Audree Miller at 501-682-0015.

Sincerely,

Ellen McNulty, Acting Chief
for
Sandi Formica
Chief, Environmental Preservation Division

cc: Mary Leath, Chief Deputy Director
Martin Maner, Chief, Water Division

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1500 Museum Road, Suite 105
Conway, Arkansas 72032
Tel.: 501/513-4470 Fax: 501/513-4480

IN REPLY REFER TO:

September 24, 2004

Ms. Kate L. Bartz
c/o SAIC
2617 E. 7th St.
Tucson, AZ 85716

Dear Ms. Bartz:

The U.S. Fish and Wildlife Service (Service) has reviewed the description of the proposed action alternatives in preparation of an Environmental Assessment (EA) for the construction of an Education Center Complex at Little Rock Air Force Base (LRAFB) in Jacksonville, Arkansas. Our comments and recommendations are submitted in accordance with the Endangered Species Act of 1973 (Public Law 93-205, as amended) and the Fish and Wildlife Coordination Act (Public Law 85-624; 16 U.S.C. 661-666e.).

According to our records, there are no federally listed or proposed threatened and endangered species occurring in the impact area of the project. Therefore, no further consultation regarding Section 7 of the Endangered Species Act is required. Furthermore, the Service has no additional comments or concerns regarding this project. If you have any questions, please contact me at (501) 513-4489.

Sincerely,

Lindsey Lewis
Environmental Coordinator

C:\Projects\FY2004\LRAFB\EAComments.doc

STATE OF ARKANSAS
Department of Finance and Administration

OFFICE OF INTERGOVERNMENTAL SERVICES
1515 West Seventh Street, Suite 417
Post Office Box 8031
Little Rock, Arkansas 72203-8031
Phone: (501) 682-1074
Fax: (501) 682-5206
http://www.state.ar.us/dfa

September 24, 2004

Ms. Kate L. Bartz
SAIC
2617 East 7th Street
Tucson, AZ 85716

RE: Draft Environmental Assessment for the Education Center Complex at the Little Rock Air Force Base, Arkansas

Dear Ms. Bartz:

The State Clearinghouse has received the above document pursuant to the Arkansas Project Notification and Review System.

To carry out the review and comment process, this document was forwarded to members of the Arkansas Technical Review Committee. Resulting comments received from the Technical Review Committee which represents the position of the State of Arkansas are attached.

The State Clearinghouse wishes to thank you for your cooperation with the Arkansas Project Notification and Review System.

Sincerely,

Tracy L. Copeland, Manager
State Clearinghouse

TLC/th
Enclosure
CC: Randy Young, AS&WCC

Arkansas Soil & Water Conservation Commission

J. Randy Young, PE
Executive Director

101 East Capitol, Suite 350
Little Rock, Arkansas 72201
http://www.aswcc.arkansas.gov

Phone: (501) 682-1611
Fax: (501) 682-3991
E-mail: aswcc@arkansas.gov

Mike Huckabee
Governor

MEMORANDUM

TO: Mr. Tracy Copeland, Manager
State Clearinghouse

FROM: Mr. J. Randy Young, P.E.
Executive Director

SUBJECT: Draft Environmental Assessment for the Education Center Complex at the Little Rock Air Force Base, Arkansas

DATE: September 23, 2004

Members of the Technical Review Committee have reviewed the above referenced project; proposed construction of an Education Center Complex, which will include an Education Center, a Joint Learning Center, a pavilion, and the pavements (entry road and parking area) associated with these facilities. The entire complex will encompass 100,673 square feet not including the pavements. The pavements associated with these facilities will be approximately 950,000 (21.7 acres) total. The two buildings that currently house this function are antiquated and will be demolished. The Committee supports this project. Comments are attached for your review.

The opportunity to comment is appreciated.

JRY/ddavis

STATE OF ARKANSAS

Department of Finance and Administration

OFFICE OF INTERGOVERNMENTAL SERVICES

1515 West Seventh Street, Suite 412
Post Office Box 8031
Little Rock, Arkansas 72203-8031
Phone: (501) 682-1074
Fax: (501) 682-5206
http://www.state.ar.us/dfa

#1907

MEMORANDUM

TO: All Technical Review Committee Members

FROM: Tracy L. Copeland, Manager - State Clearinghouse

DATE: August 20, 2004

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE EDUCATION CENTER COMPLEX AT THE LITTLE ROCK AIR FORCE BASE, ARKANSAS

Please review the above stated document under provisions of Section 404 of the Clean Water Act, Section 102(2) of the National Environmental Policy Act of 1969 and the Arkansas Project Notification and Review System.

Your comments should be returned by September 10, 2004 to - Mr. Randy Young, Chairman, Technical Review Committee, 101 E. Capitol, Suite 350, Little Rock, AR 72203.

IF you have no reply within that time we will assume you have no comments and will proceed with the sign-off.

NOTE: It is Imperative that your response be in to the ASWCC office by the date requested. Should your Agency anticipate having a response which will be delayed beyond the stated deadline for comments, please contact Ms. Debby Davis of the ASWCC at (501) 682-1611 or the State Clearinghouse Office.

RECEIVED
04 AUG 23 AM 9:25
SOIL & WATER COMM.

_____ Support	_____ Do Not Support (Comments Attached)
_____ Comments Attached	_____ Support with Following Conditions
✓ No Comments	_____ Non-Degradation Certification Issues (Applies to ADEQ Only)

Name(print) Collett Agency ASWCC Date 9-20-04

Telephone Number _____

STATE OF ARKANSAS

Department of Finance and Administration

OFFICE OF INTERGOVERNMENTAL SERVICES

1515 West Seventh Street, Suite 412
Post Office Box 8031
Little Rock, Arkansas 72203-8031
Phone: (501) 682-1074
Fax: (501) 682-5206
http://www.state.ar.us/dfa

MEMORANDUM

TO: All Technical Review Committee Members

FROM: Tracy L. Copeland, Manager - State Clearinghouse

DATE: August 20, 2004

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE EDUCATION CENTER COMPLEX AT THE LITTLE ROCK AIR FORCE BASE, ARKANSAS

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____ Support	____ Do Not Support (Comments Attached)
✓ Comments Attached	____ Support with Following Conditions
____ No Comments	____ Non-Degradation Certification Issues (Applies to ADEQ Only)

Name(print) BILL PRIOR Agency AGC Date 8-23-04

Telephone Number 683-0117

Arkansas GEOLOGICAL COMMISSION

VARDELLE PARHAM GEOLOGY CENTER • 3815 WEST ROOSEVELT ROAD • LITTLE ROCK, ARKANSAS 72204

Mike Huckabee
Governor

Mac B. Woodward
Director and State Geologist

August 23, 2004

Mr. Randy Young
Chairman, Technical Review Committee
101 E. Capitol, Suite 350
Little Rock, Arkansas 72203

Dear Mr. Young:

Please review the accompanying letter dated August 20, 2004 addressed to Ms. Kate Bartz. The letter contains my most recent comments pertaining to the geology at the locations of the Education Complex. If you any questions about these comments please feel free to contact me.

Sincerely:

William Lee Prior

William Lee Prior
Geologist Supervisor

PHONE: (501) 296-1877; FAX: (501) 663-7360
agc@mail.state.ar.us
www.state.ar.us/agc/agc.html
An equal opportunity employer

STATE OF ARKANSAS

Department of Finance and Administration

OFFICE OF INTERGOVERNMENTAL SERVICES

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Little Rock, Arkansas 72203-8031
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Fax: (501) 682-5206
http://www.state.ar.us/dfa

MEMORANDUM

TO: All Technical Review Committee Members

FROM: Tracy L. Copeland, Manager - State Clearinghouse

DATE: August 20, 2004

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE EDUCATION CENTER COMPLEX AT THE LITTLE ROCK AIR FORCE BASE, ARKANSAS

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✓ Support

_____ Do Not Support (Comments Attached)

_____ Comments Attached

_____ Support with Following Conditions

_____ No Comments

_____ Non-Degradation Certification Issues (Applies to ADEQ Only)

states on page 2 that Storm water permit will be acquired & Pollution Prevention plan will be submitted.

Name(print) Kevin Norman Agency ADEQ Date 8-24-04

Telephone Number 501-682-0645

STATE OF ARKANSAS

Department of Finance and Administration

OFFICE OF INTERGOVERNMENTAL SERVICES

1515 West Seventh Street, Suite 412
Post Office Box 8031
Little Rock, Arkansas 72203-8031
Phone: (501) 682-1074
Fax: (501) 682-5206
http://www.state.ar.us/dfa

MEMORANDUM

TO: All Technical Review Committee Members

FROM: Tracy L. Copeland, Manager - State Clearinghouse

DATE: August 20, 2004

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE EDUCATION CENTER COMPLEX AT THE LITTLE ROCK AIR FORCE BASE, ARKANSAS

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✓ Support

_____ Comments Attached

_____ No Comments

_____ Do Not Support (Comments Attached)

_____ Support with Following Conditions

_____ Non-Degradation Certification Issues (Applies to ADEQ Only)

Name(print) Steve Jowes Agency ADEQ Date 8-23-04

Telephone Number 501-682-7311

STATE OF ARKANSAS

Department of Finance and Administration

OFFICE OF INTERGOVERNMENTAL SERVICES

1515 West Seventh Street, Suite 412
Post Office Box 8031
Little Rock, Arkansas 72203-8031
Phone: (501) 682-1074
Fax: (501) 682-5206
http://www.state.ar.us/dfa

MEMORANDUM

TO: All Technical Review Committee Members

FROM: Tracy L. Copeland, Manager - State Clearinghouse

DATE: August 20, 2004

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✓ Support	_____ Do Not Support (Comments Attached)
_____ Comments Attached	_____ Support with Following Conditions
✓ No Comments	_____ Non-Degradation Certification Issues (Applies to ADEQ Only)

RECEIVED
04 AUG 30 AM 8:23
SOIL & WATER COMM.

Name(print) Terry Bradshaw Agency COSL Date 8/24/04

Telephone Number 673-3310

STATE OF ARKANSAS

Department of Finance and Administration

OFFICE OF INTERGOVERNMENTAL SERVICES

1515 West Seventh Street, Suite 412
Post Office Box 8031
Little Rock, Arkansas 72203-8031
Phone: (501) 682-1074
Fax: (501) 682-5206
http://www.state.ar.us/dfa

MEMORANDUM

TO: All Technical Review Committee Members

FROM: Tracy L. Copeland, Manager - State Clearinghouse TLC

DATE: August 20, 2004

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE EDUCATION CENTER COMPLEX AT THE LITTLE ROCK AIR FORCE BASE, ARKANSAS

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__✓__ Support

_____ Do Not Support (Comments Attached)

_____ Comments Attached

_____ Support with Following Conditions

_____ No Comments

_____ Non-Degradation Certification Issues (Applies to ADEQ Only)

Name(print) [illegible] Agency [illegible] Date 26 Aug 04

Telephone Number 501-251-1162

H-198

Kellar

STATE OF ARKANSAS

Department of Finance and Administration

OFFICE OF INTERGOVERNMENTAL SERVICES

1515 West Seventh Street, Suite 412
Post Office Box 8031
Little Rock, Arkansas 72203-8031
Phone: (501) 682-1074
Fax: (501) 682-5206
http://www.state.ar.us/dfa

MEMORANDUM

RECEIVED
AUG 23 2004
Outdoor Recreation Grants

TO: All Technical Review Committee Members

FROM: Tracy L. Copeland, Manager - State Clearinghouse

DATE: August 20, 2004

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE EDUCATION CENTER COMPLEX AT THE LITTLE ROCK AIR FORCE BASE, ARKANSAS

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_____ Support

_____ Do Not Support (Comments Attached)

_____ Comments Attached

_____ Support with Following Conditions

__✓__ No Comments

_____ Non-Degradation Certification Issues (Applies to ADEQ Only)

RECEIVED
04 SEP -8 AM 9:09
SOIL & WATER COMM.

Name(print) Anita Chouinard Agency ADPT Date 9-3-2004

Telephone Number 682-6996

Bob
Cr

STATE OF ARKANSAS

Department of Finance and Administration

OFFICE OF INTERGOVERNMENTAL SERVICES

1515 West Seventh Street, Suite 412
Post Office Box 8031
Little Rock, Arkansas 72203-8031
Phone: (501) 682-1074
Fax: (501) 682-5206
http://www.state.ar.us/dfa

MEMORANDUM

TO: All Technical Review Committee Members

FROM: Tracy L. Copeland, Manager - State Clearinghouse

DATE: August 20, 2004

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE EDUCATION CENTER COMPLEX AT THE LITTLE ROCK AIR FORCE BASE, ARKANSAS

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_____ Support
_____ Do Not Support (Comments Attached)
_✓_ Comments Attached
_____ Support with Following Conditions
_____ No Comments
_____ Non-Degradation Certification Issues (Applies to ADEQ Only)

RECEIVED
04 SEP -9 AM 11:49
SOIL & WATER COMM.

Name(print) Robert K. Leonard Agency AGFC Date 9-7-04

Telephone Number 501-778-7301

Arkansas Game & Fish Commission

2 Natural Resources Drive Little Rock, Arkansas 72205

David Goad
Deputy Director

Loren Hitchcock
Deputy Director

Scott Henderson
Director

August 24, 2004

Ms. Kate L. Bartz
In care of SAIC
2617 East 7th Street
Tucson, Arizona 85716

Dear Ms. Bartz:

Your letter concerning the Draft Environmental Assessment (EA) for the proposed Education Center Complex located at the Little Rock Air Force Base in Pulaski Co., Arkansas has been referred to me for reply.

Biologists from our agency have reviewed the information provided for this proposed (DEA) and we anticipate insignificant adverse impacts to fish and wildlife resources associated with these proposed activities.

We appreciate the opportunity to review this proposed project.

Sincerely,

Robert K. Leonard

Robert K. Leonard, Biologist
River Basins Division

Cc: USFWS, Conway, AR
Donny Harris
Mike Gibson

Bcc: Scott Henderson
David Goad
Craig Uyeda
Bob Leonard
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STATE OF ARKANSAS

Department of Finance and Administration

OFFICE OF INTERGOVERNMENTAL SERVICES

1515 West Seventh Street, Suite 412
Post Office Box 8031
Little Rock, Arkansas 72203-8031
Phone: (501) 682-1074
Fax: (501) 682-5206
http://www.state.ar.us/dfa

MEMORANDUM

TO: All Technical Review Committee Members

FROM: Tracy L. Copeland, Manager - State Clearinghouse TLC

DATE: August 20, 2004

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE EDUCATION CENTER COMPLEX AT THE LITTLE ROCK AIR FORCE BASE, ARKANSAS

Please review the above stated document under provisions of Section 404 of the Clean Water Act, Section 102(2) of the National Environmental Policy Act of 1969 and the Arkansas Project Notification and Review System.

Your comments should be returned by September 10, 2004 to - Mr. Randy Young, Chairman, Technical Review Committee, 101 E. Capitol, Suite 350, Little Rock, AR 72203.

IF you have no reply within that time we will assume you have no comments and will proceed with the sign-off.

NOTE: It is Imperative that your response be in to the ASWCC office by the date requested. Should your Agency anticipate having a response which will be delayed beyond the stated deadline for comments, please contact Ms. Debby Davis of the ASWCC at (501) 682-1611 or the State Clearinghouse Office.

_____ Support	_____ Do Not Support (Comments Attached)
_____ Comments Attached	_____ Support with Following Conditions
✓ No Comments	_____ Non-Degradation Certification Issues (Applies to ADEQ Only)

Name(print) John L. Harris Agency AHTD Date 8/27/04

Telephone Number (501) 569-2281

ACRONYMS AND ABBREVIATIONS

QD	Quantity-Distance
RCRA	Resource Conservation and Recovery Act
ROI	region of influence
SAC	Strategic Air Command
SARA	Superfund Amendments and Reauthorization Act
SF	square feet
SHPO	State Historic Preservation Office
SIC	Standard Industrial Code
SIP	State Implementation Plan
SO_2	sulfur dioxide
SR	State Route
SWDA	Solid Waste Disposal Act
SWPPP	Storm Water Pollution Prevention Plan
TAC	Tactical Air Command
TLF	Temporary Living Facility
$\mu g/m^3$	micrograms per cubic meter
U.S.	United States
UFC	Unified Facilities Criteria
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USC	United States Code
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
VOC	volatile organic compound
VTC	video teleconferencing