AD-A261 368 DISPOSAL AND REUSE OF EAKER AIR FORCE BASE ARKANSAS. FINAL ENVIRONMENTAL IMPACT STATEMENT(U) AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE BROOKS AFB TX

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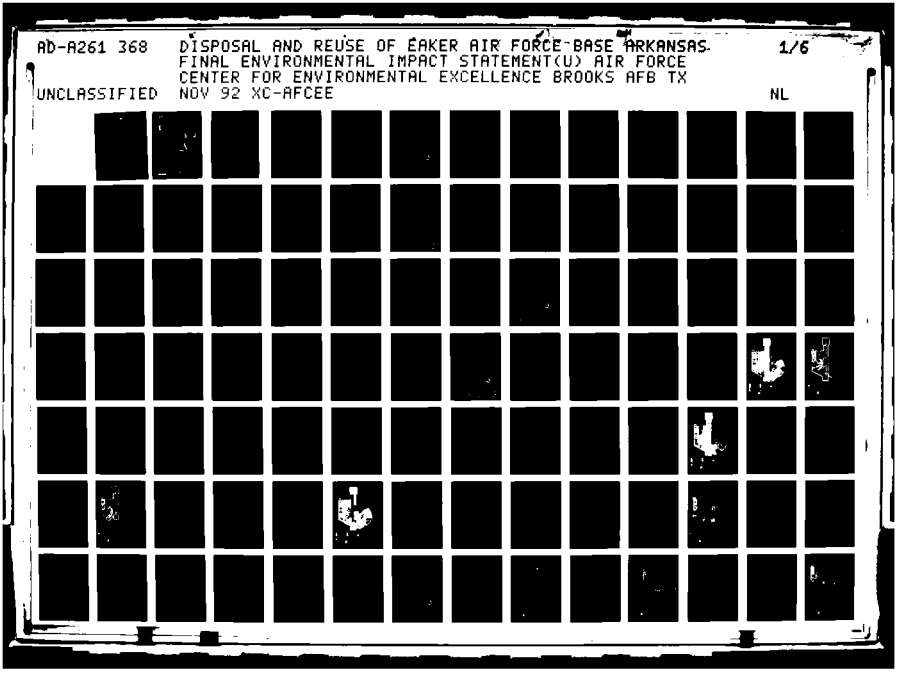

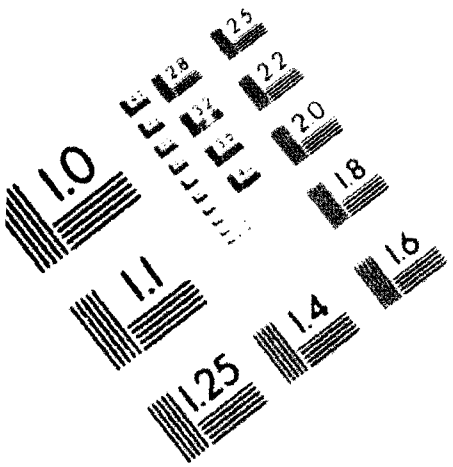

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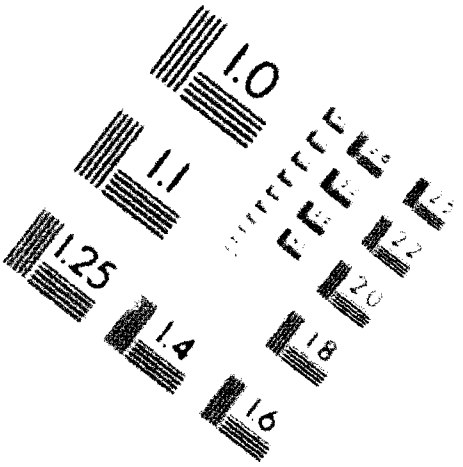

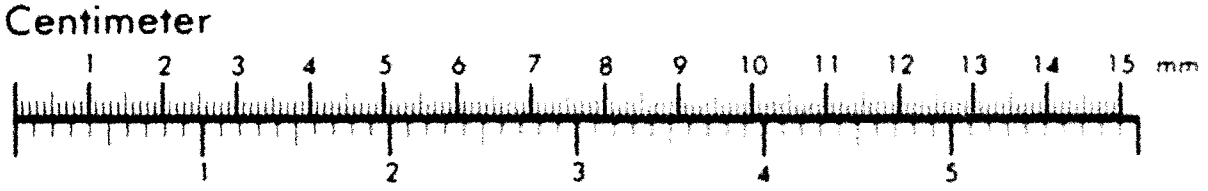

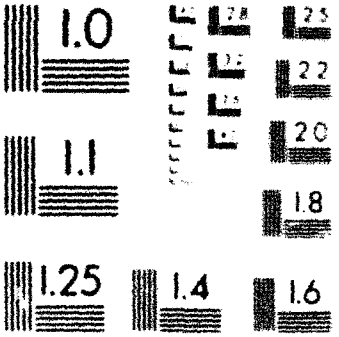

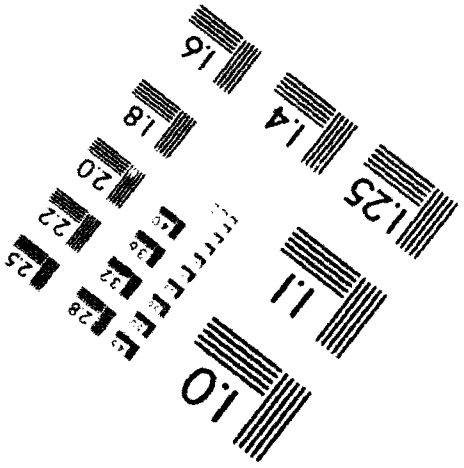

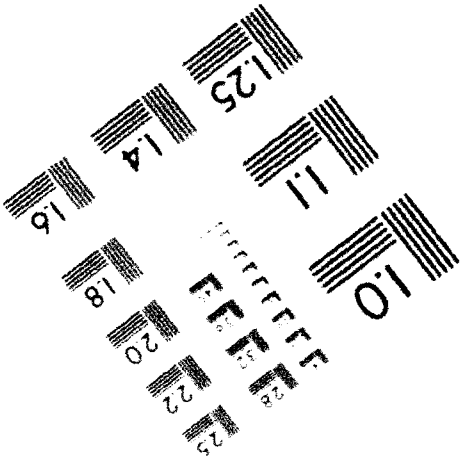

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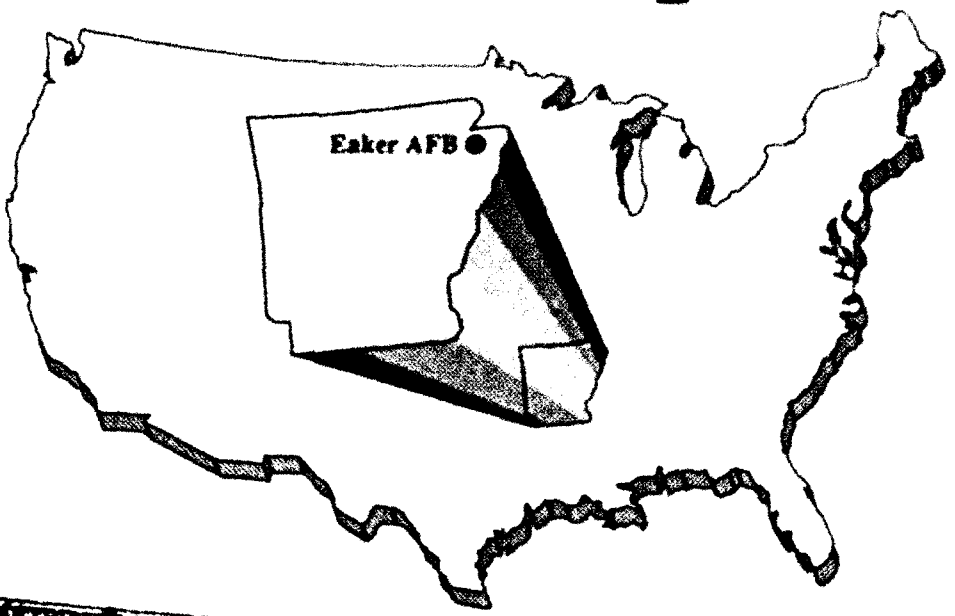
FINAL
ENVIRONMENTAL IMPACT STATEMENT
November 1992



DISPOSAL AND REUSE OF
EAKER AIR FORCE BASE, ARKANSAS

FINAL

ENVIRONMENTAL IMPACT STATEMENT

DISPOSAL AND REUSE OF EAKER AIR FORCE BASE, ARKANSAS

NOVEMBER 1992

COVER SHEET

FINAL ENVIRONMENTAL IMPACT STATEMENT
DISPOSAL AND REUSE OF EAKER AIR FORCE BASE, ARKANSAS

a. Responsible Agency: U.S. Air Force

b. Cooperating Agency: Federal Aviation Administration

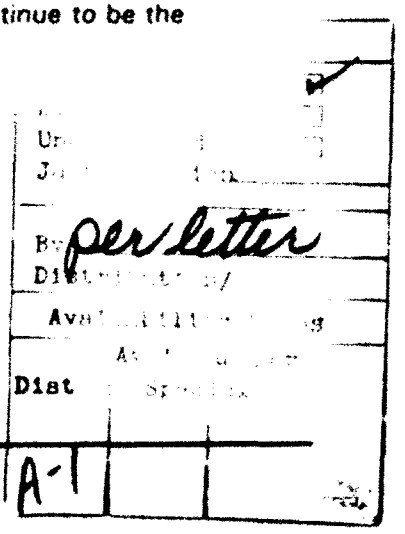
c. Proposed Action: Disposal and Reuse of Eaker Air Force Base (AFB), Mississippi County, Arkansas

d. Written comments and inquiries on this document should be directed to: Lt. Col. Gary Baumgartel, Chief of Environmental Planning Division, AFCEE-ESE, 8106 Chennault Road, Brooks Air Force Base, Texas, 78235-5318, (210) 536-3869.

e. Designation: Final Environmental Impact Statement (FEIS).

f. Abstract: On January 29, 1990, the Secretary of Defense announced the closure of Eaker AFB, Arkansas, pursuant to the Base Closure and Realignment Act. Previous environmental documentation culminated in the filing of a *Draft Environmental Impact Statement for the Closure of Eaker AFB* in July 1990. The base is scheduled for closure in December 1992. This EIS has been prepared in accordance with the National Environmental Policy Act to analyze the potential environmental consequences of the disposal and reasonable alternatives for reuse of the base. The document includes analyses of community setting, land use and aesthetics, transportation, utilities, hazardous materials/wastes, soils and geology, water resources, air quality, noise, biological resources, and cultural resources.

Potential environmental impacts are increased noise levels, traffic, and emissions of air pollutants over closure baseline conditions. Redevelopment could result in wind and water erosion, and would require enactment of preventive measures. Wetland acreage could be lost due to implementation of the reuse alternatives. If avoidance of impacts is not viable, mitigation in the form of replacement, restoration, or enhancement is possible. Cultural resources could be impacted by conveyance of the property to a non-federal entity as well as by ground disturbance. Preservation covenants within disposal documents could eliminate or reduce these effects to a non-adverse level. Because the Air Force is disposing of the property, some of the mitigation measures are beyond the control of the Air Force. Remediation of Installation Restoration Program sites is and will continue to be the responsibility of the Air Force.



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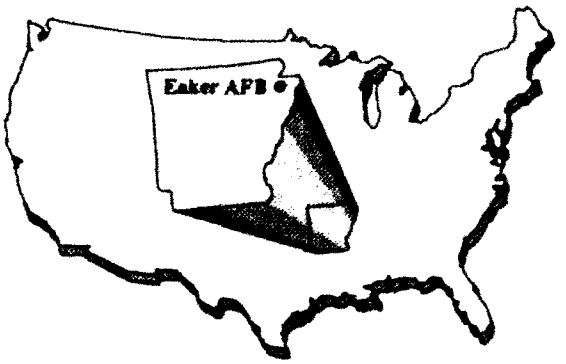


SUMMARY

SUMMARY

PURPOSE AND NEED

Eaker Air Force Base (AFB), Arkansas, was one of the bases recommended for closure by the 1991 Defense Base Closure and Realignment Commission. The Commission's recommendations were accepted by the President and submitted to Congress on July 12, 1991. As Congress did not disapprove the recommendations in the time given under the Defense Base Closure and Realignment Act (DBCRA) of 1990 (Public Law 101-510, Title XXIX), the recommendations have become law.

The Air Force is required to comply with the National Environmental Policy Act (NEPA) in the implementation of the base disposal and realignments. The Air Force must now make a series of interrelated decisions concerning the disposition of base property. In support of these decisions, this environmental impact statement (EIS) has been prepared to provide information on the potential impacts resulting from disposal and proposed reuse of the base property. The Federal Aviation Administration (FAA) is a cooperating agency in the preparation of this EIS, which will assist them in making related decisions concerning Eaker AFB property. Several alternative reuse concepts are studied to identify the range of potential direct and indirect environmental consequences of disposal.

After completion and consideration of this EIS, the Air Force will prepare decision documents stating what property is excess and surplus, and the terms and conditions under which the dispositions will be made. These decisions may affect the environment by influencing the nature of the future use of the property.

ALTERNATIVES INCLUDING THE PROPOSED ACTION

The land to be disposed of by the Air Force comprises 3,286 acres, including the airfield, aviation support, industrial, institutional (medical), commercial, residential, recreational, and agricultural areas, as well as vacant land throughout the base.

For the purpose of evaluating potential environmental impacts resulting from the incidental reuse of this land, the Air Force has based its Proposed Action on the community's reuse plan, prepared by the Blytheville-Gosnell Development Authority (BGDA) which is a comprehensive reuse plan based around a civilian general aviation facility. The reuse plan focuses on the assumption that the existing Blytheville Municipal Airport will be closed and relocated to Eaker AFB. The primary non-aviation land use of the Proposed Action is identified as light industrial, and would be located on the west and

east sides of the base. The alert facility would be used as a training academy for emergency response personnel. The closure of the Blytheville Municipal Airport would result in negligible impacts on that area. All operations would be relocated to the airfield at Eaker AFB. Utility demands would be eliminated and hazardous materials/wastes would no longer be stored or generated at the site. Aircraft emissions and noise would also not be generated. The base hospital would be demolished. Most of the residential areas would be retained, although 220 units are proposed for demolition to reduce the density in that area. The recreational facilities, including the nine-hole golf course, would be retained with 330 acres of archaeological/open space left virtually undeveloped as a cultural historic component of the plan. Of the existing agricultural land, 275 acres would be retained for farming purposes.

The following alternatives to the Proposed Action are being considered:

- Redevelopment of the base as a general aviation airport is identified as the General Aviation Alternative. The primary differences from the Proposed Action are the use of a shorter runway with fewer flights and smaller aircraft. More residential use is proposed with new residential development to be located on the eastern side of the base. The base hospital would be reused as a life care facility. The golf course would be expanded to 18 holes and less area would be set aside for archaeological purposes. Agricultural land used for farming purposes would comprise 476 acres.

- Redevelopment of the base primarily for industrial and agricultural use with no aviation activity is identified as the Non-Aviation Alternative. The main developed area of the base would be used for a mixture of industrial, commercial, and educational purposes. The base hospital would be demolished. Approximately 400 of the existing residential units would be demolished. Recreational use would be similar to the Proposed Action with less area set aside for archaeological purposes. Agricultural land used for farming purposes would comprise 1,370 acres.

- Other land use concepts have been identified for discrete facilities or areas of the base. These include reuse plans which typically involve only a portion of the property available for disposal and, therefore, could be implemented in conjunction with one another and/or with the Proposed Action or any of the alternatives under consideration.

- The No-Action Alternative would leave the base in caretaker status under federal control.

SCOPE OF STUDY

The Notice of Intent (NOI) to prepare an EIS for the disposal and reuse of Eaker AFB was published in the Federal Register on October 9, 1991. Issues related to the disposal and reuse of Eaker AFB were identified during a subsequent scoping period. A public scoping meeting was held on October 28, 1991, in the Ritz Civic Center, Blytheville, Arkansas. The comments and concerns expressed at this meeting and in written correspondence received by the Air Force, as well as information from other sources, were used to determine the scope and direction of studies and analyses required to accomplish this EIS.

This EIS discusses the potential environmental impacts associated with the Proposed Action and alternatives. In order to establish the context in which these environmental impacts may occur, potential changes in population and employment, land use and aesthetics, transportation, and community and public utility services are discussed as reuse-related influencing factors. Issues related to current and future management of hazardous materials and wastes are also discussed. Potential impacts to the physical and natural environment are evaluated for soils and geology, water resources, air quality, noise, biological resources, and cultural resources. These impacts may occur as a direct result of disposal and reuse actions or as an indirect result of changes to the local communities.

The baseline against which the Proposed Action and alternatives are analyzed consists of the conditions projected at base closure in December 1992. Since the anticipated closure date will occur during the last two weeks of the year, 1993 was selected as the most descriptive year for the closure baseline. Although the baseline assumes a closed base, a reference to preclosure conditions is provided in several sections (e.g., air quality and noise) to allow a comparative analysis over time. This will assist the Air Force decision-maker, and other agencies that may be making decisions relating to reuse of Eaker AFB, in understanding potential long-term trends in comparison to historic conditions when the installation was active.

The Air Force is also preparing a separate Socioeconomic Impact Analysis Study on the economic impacts expected in the region as a result of the closure, disposal, and reuse of Eaker AFB. That document, although not required by NEPA, will assist the local community in planning for the transition of the base from military to civilian use.

SUMMARY OF ENVIRONMENTAL IMPACTS

This EIS considers environmental impacts of the Air Force's disposal of the installation and portrays a variety of potential land uses to cover reasonable future uses of the property and facilities by others. Several alternative scenarios, including the community's proposed plan, were used to group

reasonable land uses and to examine the environmental effects of reuse of Eaker AFB. This methodology was employed because parcelization and disposal methods represent legal processes that only indirectly affect the environment. Future use and control of use by others, however, will create direct effects. This EIS, therefore, seeks to analyze reasonable redevelopment scenarios to determine the potential indirect effects of Air Force decisions.

Influencing factors and environmental impacts for the Proposed Action and alternatives are briefly described below. Reuse-related influencing factors are also summarized in Table S-1. Influencing factors include projections of the reuse activities that would likely influence the biophysical environment, including ground disturbance, socioeconomic factors, and infrastructure demands. The resulting employment and population trends are also depicted in Figures S-1 and S-2. Changes to the level of service (LOS) designation for each of the road segments analyzed are presented for the Proposed Action and alternatives in Table S-2. Impacts of the Proposed Action and alternatives over the 20-year study period are summarized in Table S-3. A summary of mitigation and pollution prevention measures for the reuse alternatives is presented in Table S-4.

PROPOSED ACTION

Local Community. Redevelopment of base property under the Proposed Action would result in an increase in employment and population in the five-county region of influence (ROI). The ROI includes the counties of Mississippi, Poinsett, and Craighead, Arkansas; and Dunklin and Pemiscot counties, Missouri, although the communities of Blytheville and Gosnell are expected to receive the bulk of this impact. Approximately 4,200 direct jobs are projected by the year 2013, with an additional 5,500 secondary jobs. Total ROI employment would reach approximately 130,200 by 2013. Population in the ROI, as a result of the Proposed Action, would increase by approximately 11,000 by 2013 resulting in a total ROI population of 222,700. This last figure reflects both the impacts of the Proposed Action and non-project-related population increases.

Land use on base would change from the current pattern by increasing the developed areas to the north and south of the main base area. The area to the north would be developed for industrial and aviation support uses. The area to the south would be developed for industrial use with some aviation support along the southeast side of the flightline. Seven hundred eighty-seven acres of prime farmland would be converted to nonagricultural uses.

The Proposed Action incorporates plans to extend Highland Avenue onto the base and, in addition to the three existing gates, adds three additional new entries to the base area. No airspace or air transportation impacts are associated with the Proposed Action.

Table S-1. Summary of Reuse-Related Influencing Factors

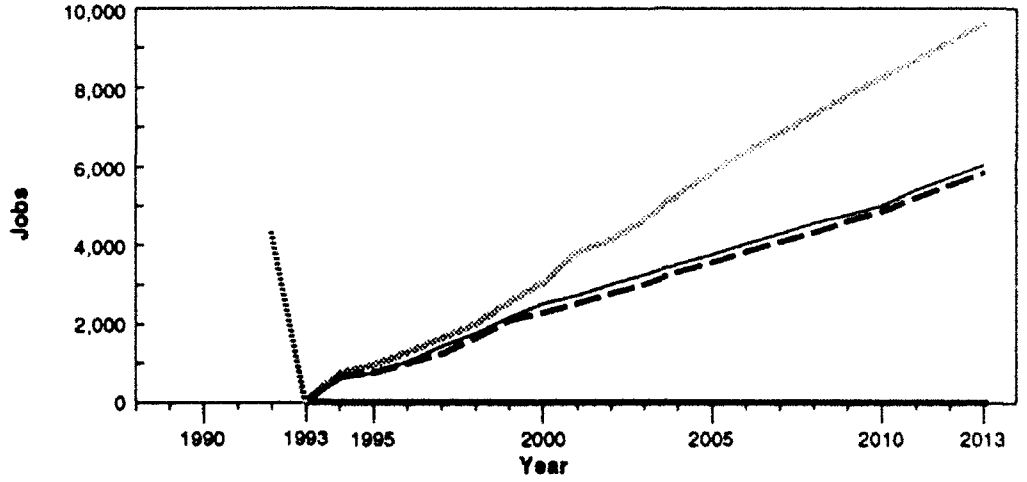
Factors	Proposed Action			General Aviation Alternative			Non-Aviation Alternative			No-Action Alternative*
	1998	2003	2013	1998	2003	2013	1998	2003	2013	
Ground disturbance (acres by phase)	131	69	279	229	121	429	81	75	198	No Change
Aircraft operations (annual)	40,340	47,740	60,540	36,400	40,400	46,100	0	0	0	No Change
Direct employment	870	2,000	4,200	760	1,400	2,700	830	1,500	2,800	50
Secondary employment	1,100	2,600	5,500	890	1,600	3,200	950	1,800	3,300	16
Population Increase	0	1,900	11,000	0	0	3,800	0	0	4,100	No Change
Traffic (total daily trips)	2,000	9,300	25,200	600	4,100	16,600	2,700	9,700	20,100	No Change
Increase in water demand (MGD)	0.04	0.28	1.20	0.02	0.11	0.75	0.03	0.12	0.53	No Change
Increase in wastewater production (MGD)	0.02	0.22	0.94	0.02	0.10	0.65	0.03	0.10	0.42	No Change
Increase in solid waste (tons/day)	19.0	22.8	43.3	11.5	14.2	38.0	21.6	27.4	43.1	No Change
Increase in electricity demand (MWH/day)	6	37	135	4	27	124	19	67	162	No Change
Increase in natural gas demand (therms/day)	230	1,880	7,610	170	1,110	6,260	750	2,640	7,110	No Change

* The No-Action Alternative summarizes influencing factors relative to the closure baseline conditions.

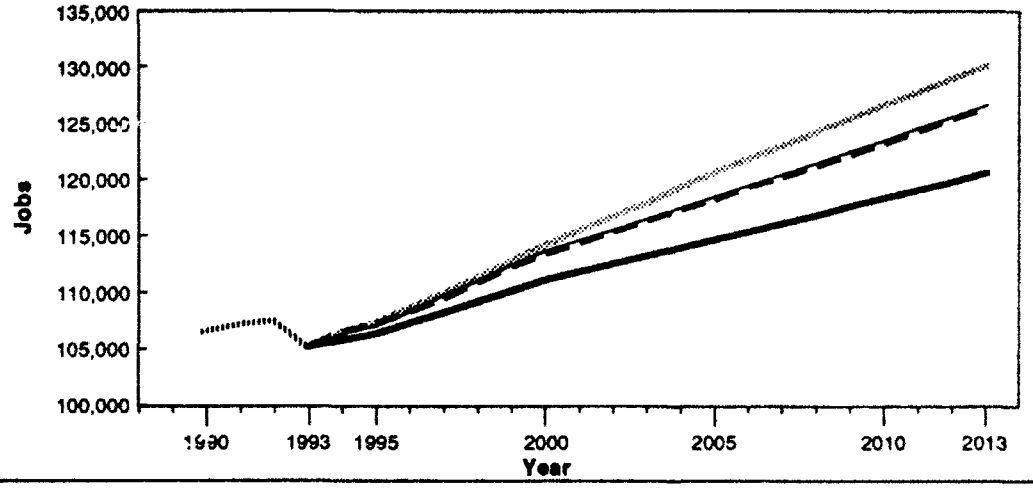
MGD = million gallons/day.
MWH = megawatt hours.

ALTERNATIVE	1993	1998	2003	2013
Proposed Action	0 *	2,000	4,600	9,700
General Aviation	0 *	1,600	3,000	5,900
Non-Aviation	0	1,800	3,300	6,100
No-Action	66	66	66	66

Reuse-Related Employment Effects



Reuse-Related Employment Effects



Total Employment Including Reuse Effects

EXPLANATION

- No-Action/Post-Closure
- Proposed Action
- General Aviation
- Non-Aviation
- Preclosure

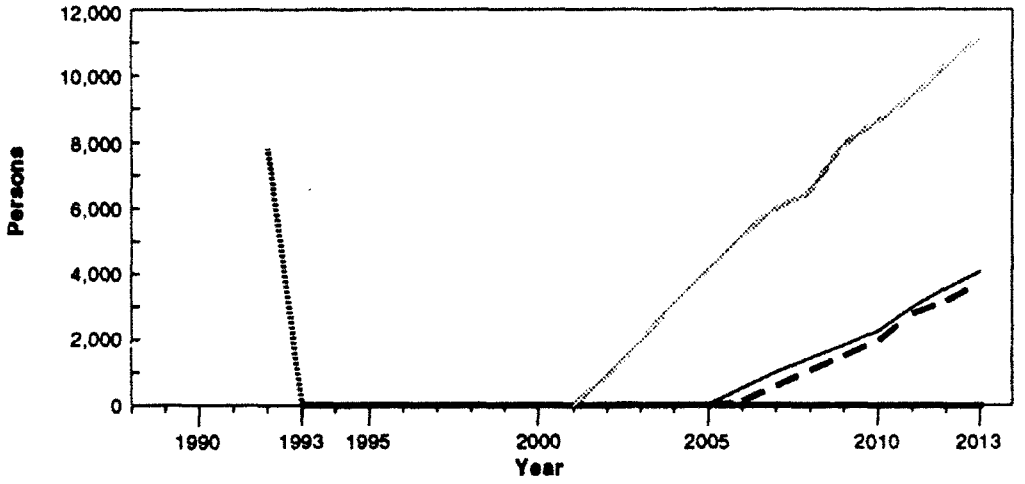
* Less than 10 direct and secondary jobs will be created during 1993 for the aviation alternatives.

Reuse-Related Employment Effects

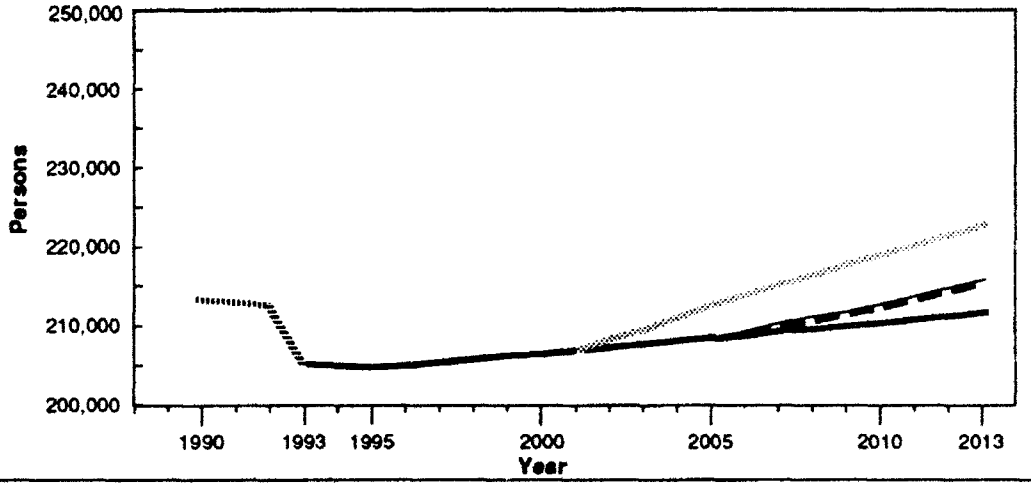
Figure S-1

ALTERNATIVE	1993	1998	2003	2013
Proposed Action	0	0	1,900	11,000
General Aviation	0	0	0	3,800
Non-Aviation	0	0	0	4,100
No-Action	0	0	0	0

Reuse-Related Population Effects



Reuse-Related Population Effects



Total Population Including Reuse Effects

EXPLANATION

- No-Action/Post-Closure
- Propcsed Action
- General Aviation
- Non-Aviation
- Preclosure

Reuse-Related Population Effects

Figure S-2

Table S-2. Level of Service Designations

	Proposed Action			General Aviation Alternative			Non-Aviation Alternative		
	1998	2003	2013	1998	2003	2013	1998	2003	2013
U.S. 61 Between SH 150 and Highland Avenue	B	B	C	B	B	C	B	B	C
U.S. 61 Between Highland Avenue and Chickasawba Street	C	C	D	C	C	D	C	C	D
SH 181 Between SH 150 and Main Gate	B	B	C	B	B	C	B	B	C
SH 151 Between Main Gate and Gosnell city limits south	C	D	E	B	C	D	C	D	E
SH 151 Between Gosnell south and Pemiscot Bayou	B	C	E	B	B	D	B	C	E
SH 151 Between Pemiscot Bayou and Main Street	B	C	E	B	C	D	B	D	E
SH 18 SH 151 to U.S. 61	B	B	C	B	B	B	B	B	C
SH 18 SH 151 to SH 239	B	B	B	B	B	B	B	B	B

U.S. = U.S. Highway.
SH = State Highway.

Table S-3. Summary of Impacts from Reuse Alternatives
Page 1 of 3

Resource Category	Proposed Action	General Aviation Alternative	Non-Aviation Alternative	No-Action Alternative
Local Community				
• Land Use and Aesthetics	• 35% of existing facilities demolished.	• 20% of existing facilities demolished.	• 35% of existing facilities demolished.	• No facility demolition.
	• 1.2 million square feet of new construction.	• 3.1 million square feet of new construction.	• 3.3 million square feet of new construction.	• No facility construction.
	• Potential impacts from industrial and commercial uses on adjacent residents.	• Potential impacts from industrial uses on adjacent residents.	• Potential impacts from commercial and agricultural uses on adjacent residents.	• Potential effect on Gosnell residential demand.
	• Change in general appearance of the base.	• Change in general appearance of the base.	• Change in general appearance of the base.	• No change in base appearance.
	• 787 acres of prime farmland converted to nonagricultural uses	• 827 acres of prime farmland converted to nonagricultural uses.	• 243 acres of prime farmland converted to nonagricultural uses.	• No farmland converted.
• Transportation	• 4 new access points with 3 bridges.	• 5 new access points with 2 bridges.	• 3 new access points with 1 bridge.	• No new access points.
	• 25,200 daily trips generated.	• 16,600 daily trips generated.	• 20,100 daily trips generated.	• 100 daily trips generated.
	• No airspace conflicts.	• No airspace conflicts.	• No airspace conflicts.	• No airspace conflicts.
• Utilities Demand				
Water	• 1.2 MGD, 34% increase in ROI.	• 0.75 MGD, 21% increase in ROI.	• 0.53 MGD, 15% increase in ROI.	• Minimal demand. No increase in ROI.
Wastewater	• 0.94 MGD, 35% increase in ROI.	• 0.65 MGD, 24% increase in ROI.	• 0.42 MGD, 16% increase in ROI.	• Minimal demand. No increase in ROI.
Solid waste	• 43.3 tons/day, 45% increase in ROI.	• 38.0 tons/day, 39% increase in ROI.	• 43.1 tons/day, 44% increase in ROI.	• Minimal demand. No increase in ROI.
Electricity	• 134.6 MWH/day, 2% increase in ROI.	• 124.1 MWH/day, 2% increase in ROI.	• 162.1 MWH/day, 2% increase in ROI.	• Minimal demand. No increase in ROI.
Natural gas	• 7,610 therms/day, 37% increase in ROI.	• 6,260 therms/day, 30% increase in ROI.	• 7,110 therms/day, 34% increase in ROI.	• Minimal demand. No increase in ROI.
Hazardous Materials and Hazardous Waste Management				
• Hazardous Materials Management	• Increase in types and quantities of materials.	• Increase in types and quantities of materials.	• Increase in types and quantities of materials.	• No change in types or quantities of hazardous materials.

Table S-3. Summary of Impacts from Reuse Alternatives
Page 2 of 3

Resource Category	Proposed Action	General Aviation Alternative	Non-Aviation Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued)				
• Hazardous Waste Management	• Moderate increase in types and quantities of wastes.	• Moderate increase in types and quantities of wastes.	• Moderate increase in types and quantities of wastes.	• Minimal quantities of waste generated. No increase in types and quantities generated.
• Installation Restoration Program	• Possible delay in conveyance of some parcels.	• Possible delay in conveyance of some parcels.	• Possible delay in conveyance of some parcels.	• No impact.
	• Possible land use restrictions.	• Possible land use restrictions.	• Possible land use restrictions.	• No impact.
• Storage Tanks	• Removal of all underground storage tanks (USTs) not meeting current regulations prior to disposal.	• Removal of all USTs not meeting current regulations prior to disposal.	• Removal of all USTs not meeting current regulations prior to disposal.	• Removal of all USTs not meeting current regulations after closure. Caretaker maintenance of aboveground tanks.
• Asbestos	• Removal and disposal of asbestos in facilities to be demolished. Remaining asbestos will require management in place.	• Removal and disposal of asbestos in facilities to be demolished. Remaining asbestos will require management in place.	• Removal and disposal of asbestos in facilities to be demolished. Remaining asbestos will require management in place.	• Continued management of facilities with asbestos.
• Pesticides	• Increased use associated with landscaping in industrial and institutional land uses.	• Increased use associated with industrial and residential land uses.	• Increased use associated with residential and agricultural land uses.	• Minimal use as part of caretaker activities.
• Polychlorinated Biphenyls (PCBs)	• No Air Force-owned PCB or PCB-contaminated equipment exists on base.	• No Air Force-owned PCB or PCB-contaminated equipment exists on base.	• No Air Force-owned PCB or PCB-contaminated equipment exists on base.	• No Air Force-owned PCB or PCB-contaminated equipment exists on base.
• Radon	• Below level of concern.	• Below level of concern.	• Below level of concern.	• Below level of concern.
• Medical/Biohazardous Waste	• None generated.	• Minimal amounts generated.	• None generated.	• None generated.
• Ordnance	• EOD Range cleared prior to disposal.	• EOD Range cleared prior to disposal.	• EOD Range cleared prior to disposal.	• EOD Range cleared following base closure.

Table S-3. Summary of Impacts from Reuse Alternatives
Page 3 of 3

Resource Category	Proposed Action	General Aviation Alternative	Non-Aviation Alternative	No-Action Alternative
Natural Environment				
• Soils and Geology	• 479 acres disturbed.	• 779 acres disturbed.	• 339 acres disturbed.	• No land disturbance.
	• New construction required to meet standards for Seismic Zone III.	• New construction required to meet standards for Seismic Zone III.	• New construction required to meet standards for Seismic Zone III.	• No new construction.
• Water Resources	• Supply is adequate for foreseeable demand.	• Supply is adequate for foreseeable demand.	• Supply is adequate for foreseeable demand.	• No impact.
• Air Quality	• Emissions will not exceed NAAQS or PSD Class II standards.	• Emissions will not exceed NAAQS or PSD Class IV standards.	• Emissions will not exceed NAAQS or PSD Class II standards.	• No new pollutant sources.
• Noise	• 450 acres exposed to day-night *average sound level* (DNL) 65 decibel (dB) or greater.	• 33 acres exposed to DNL 65 dB *or greater.*	• 0 acres exposed to DNL 65 dB *or greater.*	• 0 acres exposed to DNL 65 dB *or greater.*
	• 57,261 less acres exposed to DNL 65 dB compared to preclosure.	• 57,678 less acres exposed to DNL 65 dB compared to preclosure.	• 57,711 less acres exposed to DNL 65 dB compared to preclosure.	• 57,711 less acres exposed to DNL 65 dB compared to preclosure.
	• 37 people exposed to DNL between 65-70 due to surface traffic noise.	• 37 people exposed to DNL between 65-70 due to surface traffic noise.	• 8 people exposed to DNL between 65-70 due to surface traffic noise.	• No impact to persons based on traffic noise.
• Biological Resources	• Probable loss of less than 1 acre of wetlands.	• Probable loss of less than 1 acre of wetlands.	• Probable loss of less than 1 acre of wetlands.	• No impact to wetlands.
	• No impact on endangered species.	• No impact on endangered species.	• No impact on endangered species.	• Potential increase in habitat value.
• Cultural Resources	• Potential impact to all historic properties on base due to loss of federal protection.	• Potential impact to all historic properties on base due to loss of federal protection.	• Potential impact to all historic properties on base due to loss of federal protection.	• Federal protection remains.
	• *Potential ground disturbance* could adversely affect up to 20 sites (219 acres).	• *Potential ground disturbance* could adversely affect up to 20 sites (214 acres).	• *Potential ground disturbance* could adversely affect up to 20 sites (240 acres).	• No impact.

NAAQS = National Ambient Air Quality Standards.
PSD = Prevention of Significant Determination.

Table S-4. Summary of Mitigation and Pollution Prevention Measures for the Proposed Action and Reuse Alternatives
Page 1 of 3

Resource Category	Proposed Action	General Aviation Alternative	Non-Aviation Alternative	No-Action Alternative
Local Community				
• Land Use and Aesthetics	• Use of buffer landscaping/screening.	• Same as Proposed Action.	• Same as Proposed Action.	• No mitigation required.
• Transportation	• Improve LOS on SH 151; implement measures to reduce trips and encourage peak period modification.	• Same as Proposed Action.	• Same as Proposed Action.	• No mitigation required.
Airspace	• No mitigation required.	• No mitigation required.	• No mitigation required.	• No mitigation required.
• Utilities				
Water	• No mitigation required.	• No mitigation required.	• No mitigation required.	• No mitigation required.
Wastewater	• Provisions for pretreatment of wastewater; obtain discharge permits.	• Same as Proposed Action.	• Same as Proposed Action.	• No mitigation required.
Solid Waste	• Direct yard waste to composting facility; recycle materials.	• Same as Proposed Action.	• Same as Proposed Action.	• No mitigation required.
Electricity	• No mitigation required.	• No mitigation required.	• No mitigation required.	• No mitigation required.
Natural Gas	• No mitigation required.	• No mitigation required.	• No mitigation required.	• No mitigation required.
Hazardous Materials and Hazardous Waste Management				
• Hazardous Materials Management	• Establish cooperative planning body; employ waste minimization practices.	• Same as Proposed Action.	• Same as Proposed Action.	• OL responsible for management, development of spill response plan.
• Hazardous Waste	• Establish cooperative planning body; employ waste minimization practices.	• Same as Proposed Action.	• Same as Proposed Action.	• OL responsible for management, development of spill response plan.
• Installation Restoration Program	• All sites properly closed out; reuse as open space or greenbelts. Consult with SHPO on any remediation activities.	• Same as Proposed Action.	• Same as Proposed Action.	• All sites properly closed out. Consult with SHPO on any remediation activities.

Table S-4. Summary of Mitigation and Pollution Prevention Measures for the Proposed Action and Reuse Alternatives
Page 2 of 3

Resource Category	Proposed Action	General Aviation Alternative	Non-Aviation Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued)				
• Storage Tanks	• Close unused tanks in conformance with applicable federal, state and local regulations; use acceptable leak detection methods, spill and overfill protection cathodic protection, and secondary containment for remaining tank systems.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action.
• Asbestos	• Coordinate asbestos management with construction/renovation activities. Compliance with NESHAP to preclude asbestos hazards.	• Same as Proposed Action.	• Same as Proposed Action.	• Compliance with NESHAP to preclude asbestos hazards.
• Pesticides	• No mitigation required.	• No mitigation required.	• No mitigation required.	• No mitigation required.
• Polychlorinated Biphenyls	• Conduct routine inspections, confirmatory testing, retrofilling or removal.	• Same as Proposed Action.	• Same as Proposed Action.	• Same as Proposed Action
• Radon	• No mitigation required.	• No mitigation required.	• No mitigation required.	• No mitigation required.
• Medical/Biohazardous Waste	• No mitigation required.	• No mitigation required.	• No mitigation required.	• No mitigation required.
Natural Environment				
• Soils and Geology	• Use proper construction techniques such as protective cover and diversion dikes.	• Same as Proposed Action.	• Same as Proposed Action.	• No mitigation required.
• Water Resources	• Compliance with NPDES requirements; incorporate designs that reduce flood plain impacts; control site runoff.	• Same as Proposed Action	• Same as Proposed Action.	• Compliance with NPDES requirements.

Table S-4. Summary of Mitigation and Pollution Prevention Measures for the Proposed Action and Reuse Alternatives
Page 3 of 3

Resource Category	Proposed Action	General Aviation Alternative	Non-Aviation Alternative	No-Action Alternative
Natural Environment (Continued)				
• Air Quality	• Water disturbed areas as soon as possible, reduce vehicle traffic and speed. Implement land use or transportation planning and management measures to reduce motor vehicle emissions.	• Same as Proposed Action.	• Same as Proposed Action.	• No mitigation required.
• Noise	• No mitigation required.	• No mitigation required.	• No mitigation required.	• No mitigation required.
• Biological Resources	• Eliminate bald eagle perching sites and add antiperching structures. Avoid wetlands through facility design, on-site replacement, purchase and fencing off-site replacement habitat, monitoring of replacement habitat.	• Same as Proposed Action.	• Same as Proposed Action.	• No mitigation required.
• Cultural Resources	• Properties may be conveyed to non-federal owners with preservation covenants; historic properties may be avoided through project redesign or resources preserved through data recovery or documentation if avoidance not feasible; agricultural activities restricted to minimize damage to archaeological deposits. SHPO and advisory counsel would be consulted during development/implementation of procedures and mitigation. MOAs or Programmatic Agreements may be prepared in conjunction with the Air Force, ACHP and SHPO.	• Same as Proposed Action.	• Same as Proposed Action.	• No mitigation required.

ACHP = Advisory Council on Historic Preservation.
MOA = Military Operations Area.
NESHAP = National Emissions Standards for Hazardous Air Pollutants.
NPDES = National Pollution Elimination System.

Utility consumption associated with the Proposed Action would represent a relatively small increase in the total demand based on existing capacity and past consumption levels. Local utility systems may need to be interconnected to on-base systems to provide reuse activities with water and wastewater services. The Gosnell wastewater treatment plant capacity may be exceeded after the year 2003.

Hazardous Materials and Hazardous Waste Management. The types of hazardous materials and wastes used and generated by the Proposed Action are expected to be similar to those present during preclosure use. The quantities are expected to be greater than closure. The responsibility for managing hazardous materials and wastes would shift from a single user to multiple, independent users. This may degrade the capability of responding to hazardous materials and hazardous waste spills. The incorporation of extensive landscaping and amenities in the industrial, commercial, and institutional areas is expected to result in an increase in pesticide use over closure. Agricultural pesticide use would decrease. It is assumed that adequate management procedures would be imposed, as required by applicable laws and regulations, to ensure proper use and handling of these materials.

Reuse activities are not expected to affect the remediation of Installation Restoration Program (IRP) sites, which is proceeding according to Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Disposal and reuse of some Eaker AFB properties may be delayed or limited by the extent and type of contamination at IRP sites and by current and future IRP remediation activities. Based on the results of IRP investigations, the Air Force may, where appropriate, place limits on land reuse through deed restrictions on conveyances and use restrictions on leases. Existing underground storage tanks (USTs) not in conformance with current regulations would be removed by the Air Force prior to disposal. All polychlorinated biphenyls (PCB) and PCB-contaminated equipment under Air Force control have been removed from the base. Demolition or renovation of certain structures with asbestos-containing materials would be the responsibility of new owners and would be conducted in compliance with applicable regulations and National Emissions Standards for Hazardous Air Pollutants (NESHAP).

Due to the residential land use associated with the Proposed Action, consideration was given to the potential for radon hazards. A survey conducted on base revealed radon levels below the U.S. threshold for mitigation. In addition, the Explosive Ordnance Disposal (EOD) and Small Arms Firing Ranges will be cleared prior to disposal.

Natural Environment. The Proposed Action would include use of sand and gravel resources for construction, which are available in the local area.

Reduced availability of these materials from local supplies is not expected. New construction would be required to conform to building codes for Seismic Zone III. Local soils are highly susceptible to wind erosion and are slightly to moderately susceptible to water erosion; therefore, preventive measures would be necessary to minimize erosion.

Water consumption on base would decrease to about 0.39 million gallons per day (MGD) by 2013, which is approximately 50 percent of current base demand. Air pollutant emissions associated with the Proposed Action would increase when compared with the closure baseline.

Aircraft noise associated with the Eaker AFB airfield would be less under the Proposed Action than prior to base closure. Approximately 450 acres would be exposed to day-night noise levels (DNL) of 65 decibels (dB) or greater by the year 2013. This contrasts with about 57,700 acres exposed to this noise level under preclosure conditions. Surface traffic noise would increase over certain roads.

The Proposed Action has the potential for adversely affecting biological and cultural resources on base. Potential impacts to biological resources could include a loss of up to 8 acres of wetlands/riparian habitat. Existing cultural resources on base considered potentially eligible for listing on the National Register of Historic Places (NRHP) could be adversely affected due to ground disturbance or if ownership were transferred without adequate provisions for their protection or mitigation. Seventeen archaeological sites (219 acres) could be impacted due to ground disturbance.

GENERAL AVIATION ALTERNATIVE

The impacts of this alternative would be similar to those of the Proposed Action. The primary differences are summarized in the following paragraphs. Influencing factors and environmental impacts are presented in comparative form in Tables S-1 and S-2.

Local Community. This alternative would generate about 2,700 direct jobs by the year 2013, with an additional 3,200 secondary jobs. Total ROI employment would reach approximately 126,400 by 2013. Population in the ROI when modeled with the General Aviation Alternative would increase by approximately 3,800 by 2013 resulting in a total ROI population of 215,400. This figure also includes non-project-related population growth.

The on-base land use changes would generally be concentrated around the existing airfield and the existing aviation support areas. There would be additional aviation support provided on the west side of the airfield in the northwest quadrant of the base and additional industrial development both north and south of the main base area. The airfield would be shortened and public/recreation and agricultural uses would be developed at the south end

of the runway (concrete pavement would not be removed). The other major land use revisions would be the development of residential units in two areas in the eastern half of the base and the expansion of the golf course. There would be 829 acres of prime farmland converted to nonagricultural uses. The General Aviation Alternative incorporates plans to extend Highland Avenue, and adds five additional access points to the three existing entries to the base. No airspace or air transportation impacts are associated with this alternative. Utility demands are similar to those under the Proposed Action.

Hazardous Materials/Hazardous Waste. Due to an increase in residential land use, household hazardous materials and wastes would increase over the closure baseline; agricultural pesticide use would decrease. The General Aviation Alternative and the Proposed Action would differ slightly with respect to hazardous materials and hazardous waste management.

Natural Environment. Impacts on geology, soils, water resources, air quality, biological resources, and cultural resources would be greater from this alternative than reported under closure baseline. Aircraft noise effects would be less than the preclosure (active base) reference, exposing approximately 20 acres to DNL levels of 65 dB or greater by 2013. Twenty archaeological sites (214 acres) could be impacted due to ground disturbance.

NON-AVIATION ALTERNATIVE

This alternative would replace aviation-related uses with industrial and agricultural development. Therefore, there would be no impacts associated with aircraft operations. Impacts are briefly described below and summarized in Tables S-1 and S-2.

Local Community. This alternative would generate 2,800 direct and 3,300 secondary jobs by the year 2013. Total ROI employment would be approximately 126,700 in the same year. Population in the ROI when modeled with the Non-Aviation Alternative would increase by approximately 4,100 by 2013 resulting in a total ROI population of 215,800. The total population figure includes non-project-related growth.

The on-base land use changes would generally consist of the conversion of the airfield and the aviation support areas to industrial and agricultural uses. The other significant land use change would be the conversion of the residential and medical uses in the southwest quadrant of the base to commercial use. There would be 243 acres of prime farmland converted to nonagricultural uses.

The Non-Aviation Alternative incorporates plans to extend Highland Avenue, and adds three new access points to the three existing entries to the base.

No airspace or air transportation impacts are associated with this alternative. Utility demands are similar to those described under the Proposed Action.

Hazardous Materials/Hazardous Waste. There would be an increase over closure baseline with respect to hazardous materials and hazardous waste management, largely in the quantities of fuel and hazardous materials likely to be used or stored on site. There would be more household use of oils and pesticides, and less fuels and hazardous materials used for industrial purposes than the Proposed Action or General Aviation Alternative. IRP site remediation could cause delays in property disposal and some land use restrictions.

Natural Environment. Impacts from this alternative on soils, geology, water resources, air quality, biological resources, and cultural resources would increase over the closure baseline. There would be no noise effects from aircraft operations, but traffic noise would increase over preclosure on some roads. Twenty-one archaeological sites (240 acres) could be impacted due to ground disturbance.

OTHER LAND USE CONCEPTS

Other land use concepts are analyzed in terms of their effects on employment, population, and the environment when combined with the Proposed Action and the other alternatives. Impacts on the local community and the environment associated with the implementation of other land use concepts are summarized in Table S-5.

If a proposal under the McKinney Act is received, housing for the homeless could include the multi-family units in the northwest corner of the base or the military family housing units south of the base hospital. No impacts are associated with the housing units in the northwest as they would be used for residential purposes in all reuse alternatives. However, some change may be anticipated for the duplex units in the southwest area as these units would be demolished under the Proposed Action and Non-Aviation Alternative. Under the General Aviation Alternative these units would be used for residential purposes. The Interpretive Center/Museum proposal, which involves 330 acres and possible use of existing facilities for a cultural museum and interpretive center, would reduce approximately 120 acres of agricultural usage when implemented with the General Aviation and Non-Aviation alternatives. No changes to the acreages identified in the Proposed Action would occur with implementation of this proposal.

NO-ACTION ALTERNATIVE

Local Community. The only Air Force activities associated with the No-Action Alternative would be caretaker maintenance of the base. This would

Table S-5. Summary of Impacts from Other Land Use Concepts

Resource Category	McKinney Act	Interpretive Center/Museum
Local Community		
• Land Use and Aesthetics	No change in land use.	Up to 370 acres of prime farmland lost.
• Transportation	No change in surface or air traffic.	No change in surface or air traffic.
• Utilities	No change in utility demand.	No change in utility demand.
Hazardous Materials and Hazardous Waste Management		
• Hazardous Materials	Use of small quantities of household materials.	Use of small quantities of household materials.
• Hazardous Waste	Small quantities generated.	Small quantities generated.
• Installation Restoration Program	No impact to remediation activities.	Delays in property conveyance or land use restriction may occur.
• Storage Tanks	No new storage tanks.	No new storage tanks.
• Asbestos	Demolition or renovation of existing buildings may require removal and disposal and/or management in place.	Demolition or renovation of existing buildings may require removal and disposal and/or management in place.
• Pesticides	Small quantities to be utilized for landscaping.	Small quantities to be used for landscaping.
• PCBs	No impact.	No PCBs in this location.
• Radon	Below level of concern.	Not applicable.
• Medical/Biohazardous Wastes	None generated.	None generated.
• Ordnance	Not applicable.	EOD Range cleared prior to disposal.
Natural Environment		
• Soils and Geology	No new disturbance.	Minimal new disturbance for trails and signs.
• Water Resources	No additional demand.	No additional demand.
• Air Quality	No new emissions.	No new emissions.
• Noise	No new sources. No increase in receptors.	No new sources. No increase in receptors.
• Biological Resources	No impact.	No impact.
• Cultural Resources	No impact.	No impact.

no overall increase in employment or population. No effects on utilities or on road, air, or railroad transportation are expected.

Hazardous Materials and Hazardous Waste Management. Small quantities of various types of hazardous materials and pesticides would be used for this alternative. All materials and waste would be managed and controlled by the Air Force's operating location (OL) team in accordance with applicable regulations. Storage tanks would be removed or maintained in place according to required standards.

Natural Environment. This alternative would result in negligible impacts on air quality and the noise environment. The No-Action Alternative would not impact geological resources, soils, water resources, or cultural resources relative to baseline conditions. Biological resources may be enhanced under this alternative. Adequate caretaker maintenance would preclude deterioration of any important historic properties.

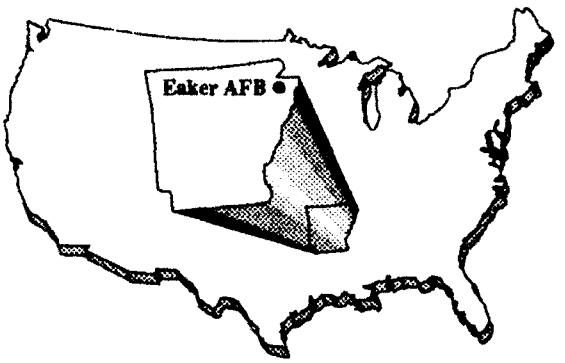
SUMMARY OF PUBLIC COMMENTS

The Draft EIS (DEIS) for disposal and reuse of Eaker AFB was made available for public review and comment in July 1992. A public hearing was held in Blytheville, Arkansas, on August 13, 1992, at which the Air Force presented the findings of the DEIS. Public comments received both verbally at the public meeting and in writing during the response period have been reviewed and are addressed by the Air Force in Chapter 9 of this EIS. In addition, the text of the EIS itself has been revised, as appropriate, to reflect the concerns expressed in the public comments. The responses to the comments in Chapter 9 indicate the relevant sections of the EIS that have been revised.

SUMMARY OF CHANGES FROM THE DEIS TO THE FEIS

Based on more recent studies or comments from the public, the following sections of the EIS have been updated or revised:

- Discussion of New Hope North Sawba Cemetery (Section 3.4.6.2)
- Discussion of possible wastewater mitigation measures (Section 4.2.4.1).
- Discussion of impacts associated with the closure of Blytheville Municipal Airport (Sections 2.2, 2.3.1, 2.5, 3.2.3.1, 3.2.3.2, 3.2.4.1, 3.2.4.2, 3.2.4.4, 3.3.1, 3.3.2, 3.3.4, 3.3.5, 3.3.6, 3.3.7, 3.3.8, 3.3.9, 3.3.10, 4.2.1.1, 4.2.1.2, 4.2.3.1, 4.2.3.2, 4.2.4.1, 4.2.4.2, 4.3.1.1, 4.3.1.2, 4.3.1.4, 4.4.2.1, 4.4.3.1, 4.4.3.2, 4.4.4.1, 4.4.4.2, 4.4.5.1, 4.4.5.2).



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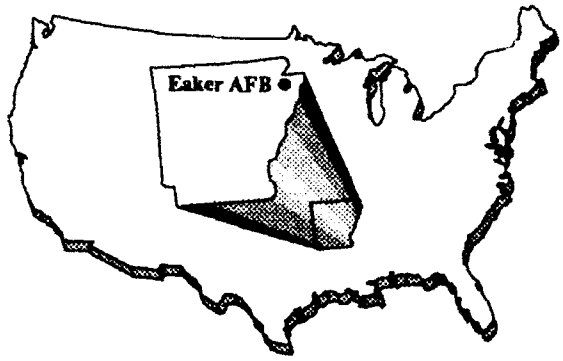

CHAPTER 1
PURPOSE OF AND NEED FOR ACTION

1.0 PURPOSE OF AND NEED FOR ACTION

This environmental impact statement (EIS) examines the potential for impacts to the environment as a result of the disposal and reuse of Eaker Air Force Base (AFB), Arkansas. This document has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality (CEQ) regulations implementing NEPA. Appendix A presents a glossary of terms, acronyms, and abbreviations used in this document.

1.1 PURPOSE AND NEED

Due to the changing international political scene and the resultant shift toward a reduction in defense spending, the Department of Defense (DOD) must realign and reduce its military forces pursuant to the Defense Base Closure and Realignment Act (DBCRA) of 1990 (Public Law [P.L.] 101-510, Title XXIX). DBCRA established new procedures for closing or realigning military installations in the United States.

DBCRA established an independent Defense Base Closure and Realignment Commission (hereafter "Commission") to review the Secretary of Defense's base closure and realignment recommendations. After reviewing these recommendations, the 1991 Commission forwarded its recommended list of base closures and realignments to the President, who accepted the recommendations and submitted them to Congress on July 12, 1991. Since Congress did not disapprove the recommendations within the time period provided under DBCRA, the recommendations have become law.

Because Eaker AFB was on the Commission's list, the decision to close the base is final. Eaker AFB is scheduled to close in December 1992.

To fulfill the requirement of reducing defense expenditures, the Air Force must dispose of excess and surplus real property and facilities at Eaker AFB. DBCRA requirements relating to disposal of excess and surplus property include:

- Environmental restoration of the property as soon as possible with funds made available for such restoration
- Consideration of the local community's reuse plan prior to Air Force disposal of the property
- Compliance with specific federal property disposal laws and regulations.

The Air Force action, therefore, is to dispose of Eaker AFB property and facilities. Usually, this action is taken by the Administrator of General Services. However, DBCRA required the Administrator to delegate to the Secretary of Defense the authorities to utilize excess property, dispose of surplus property, convey airport and airport-related property, and determine the availability of excess or surplus real property for wildlife conservation purposes. The Secretary of Defense has since redelegated these authorities to the respective Service Secretaries.

1.2 DECISIONS TO BE MADE

The purpose of this EIS is to support the series of interrelated decisions concerning the disposition of Eaker AFB. The EIS is to provide the decision-maker and the public the information required to understand the future potential environmental consequences of disposal as a result of potential reuse options at Eaker AFB.

After completion of this EIS, the Air Force will issue a Record of Decision (ROD) on the disposal of Eaker AFB. The ROD will determine the following:

- What property is excess to the needs of the DOD and what property is surplus to the needs of the United States of America
- The methods of disposal available to the Air Force
- The terms and conditions of disposal.

The methods of disposal granted by the Federal Property and Administrative Services Act of 1949 and the Surplus Property Act of 1944 and implemented in the Federal Property Management Regulations (FPMR) are:

- Transfer to another federal agency
- Public benefit conveyance to an eligible entity
- Negotiated sale to a public body for a public purpose
- Competitive sale to private interests by sealed bid or auction.

The EIS considers environmental impacts of the Air Force's disposal of the installation using one or all of the above-mentioned procedures and portrays a variety of potential land uses to cover reasonable future uses of the property and facilities by others. Several alternative scenarios were used to group reasonable land uses and to examine the environmental effects of redevelopment of Eaker AFB. This methodology was employed because, although the disposal will have few, if any, direct effects, future use and control of use by others will create indirect effects. This EIS, therefore,

seeks to analyze reasonable redevelopment scenarios to determine the potential indirect environmental effects of Air Force decisions.

1.3 DISPOSAL PROCESS AND REUSE PLANNING

DBCRA requires compliance with NEPA (with some exceptions) in the implementation of the base closures and realignments. Among the issues that were excluded from NEPA compliance are:

- The selection of installations for closure or realignment
- Analysis of closure impacts.

The Air Force goal is to dispose of Eaker AFB property through transfer and/or conveyance to other government agencies or private parties. The Proposed Action in the EIS reflects the community's goal for base reuse, which is a comprehensive reuse plan, centered around a civilian general aviation facility.

Because the parcelization and disposal methods represent legal processes and do not directly affect the environment, this EIS will focus on the environmental impacts associated with the reuse implemented by future owners. The Air Force has based its Proposed Action on plans developed by the Blytheville-Gosnell Development Authority (BGDA) for the purpose of conducting the environmental analysis. The Air Force also developed additional alternatives in order to provide the decision-maker with multiple options regarding ultimate property disposition. The EIS becomes the basis for a broad environmental analysis, thus ensuring that reasonably foreseeable impacts resulting from potential reuse have been identified. Subject to the terms of transfer or conveyance, the recipients of the property and the local zoning authority will ultimately determine the reuse of the property. Three alternatives have been identified, which include an aviation reuse proposal, a non-aviation reuse, and a No-Action Alternative that would not involve reuse.

The Secretary of the Air Force has discretion in determining how the Air Force will dispose of the property. Nevertheless, the Air Force must adhere to the laws and the General Services Administration (GSA) regulations in place at the time of the passage of the closure act. The GSA may issue additional regulations, if required, to implement their delegated authorities. Another provision of the closure act requires the GSA to consult with the state governor, heads of local governments, or equivalent political organizations for the purpose of considering any plan for the use of such property by the local community concerned. Accordingly, the Air Force is working with state authorities and the BGDA to meet this requirement.

In some cases, compliance with environmental laws may delay the Air Force's final disposal of the property while remedial actions are conducted on contaminated property. Until property can be transferred by deed, the Air Force may execute long-term leases with the ultimate recipients to allow reuse to begin as quickly as possible. The Air Force would structure the leases to provide the lessees with maximum control over the property, consistent with the terms of the final disposal. Restrictions may be necessary to ensure protection of human health and to allow implementation of required remedial actions. In these cases, it is the Air Force's intent to dispose of leased property by converting leases to deeds at the earliest possible date.

Certain activities inherent in the development or expansion of an airport constitute federal actions that fall under the statutory and regulatory authority of the Federal Aviation Administration (FAA). The FAA generally reviews these activities through the processing and approval of an Airport Layout Plan (ALP). Goals of the ALP review system are to: (1) determine its effectiveness in achieving safe and efficient utilization of airspace, (2) assess factors affecting the movement of air traffic, and (3) establish conformance with FAA design criteria. The FAA approval action may also include other specific elements such as preparation of the Airport Certification Manual (Part 139); the Airport Security Plan (Part 107); the location, construction, or modification of an air traffic control (ATC) tower, terminal radar approach control (TRACON) facility, other navigational and visual aids, and facilities; and establishment of instrument approach procedures.

In view of its possible direct involvement with the disposal of Eaker AFB, the FAA is serving as a cooperating agency in the preparation of the EIS. If surplus property is conveyed to a local agency for airport purposes, the FAA will be the federal agency that would enforce deed covenants requiring the property to be used for airport purposes. Additionally, the FAA may later provide airport improvement program grants to the airport sponsor (local agency taking title). The FAA also has special expertise and the legal responsibility to make recommendations to the Air Force for the disposal of surplus property for airport purposes. The Surplus Property Act of 1944 (50 U.S. Code [USC] Appendix 1622) authorized disposal of surplus real and related personal property for airport purposes and requires the FAA to certify the property is necessary, suitable, and desirable for an airport.

The potential environmental impacts of airport development must be assessed prior to commitment of federal funding, in accordance with NEPA and FAA Orders 1050.1D, *Policies and Procedures for Considering Environmental Impacts*, and 5050.4A, *Airport Environmental Handbook*. Environmental impacts must be assessed prior to authorization of plans of local agencies for the development of the entire area in which the airport is located. Transportation projects that substantially impair significant public

parks, recreation areas, wildlife refuges, or any significant historic property will not be implemented unless no prudent or feasible alternative exists and until all measures to mitigate adverse effects have been addressed.

Compliance with FAA Regulations requires the preparation of a proposed airport development plan. This EIS presents the assessment of potential environmental impacts of available plans. If a reuse proponent has developed only conceptual plans for the airport area, the environmental impacts of that concept plan are analyzed. The FAA may then use this analysis to complete their NEPA requirements. This EIS also provides environmental assessment information to aid FAA decisions on funding requests for airport development projects. The new owners would be required to prepare a final ALP and submit it to the FAA, as appropriate, for approval.

1.4 ENVIRONMENTAL IMPACT ANALYSIS PROCESS

NEPA established a national policy to protect the environment and ensure that federal agencies consider the environmental effects of actions in their decision-making. NEPA also established the CEQ to oversee and recommend national policies to improve the quality of the environment. Subsequently, CEQ published regulations that described how NEPA should be implemented. The CEQ regulations encourage federal agencies to develop and implement procedures that address the NEPA process in order to avoid or minimize adverse effects on the environment. Air Force Regulation (AFR) 19-2, Environmental Impact Analysis Process (EIAP), addresses implementation of NEPA as part of the Air Force planning and decision-making process.

NEPA and AFR 19-2 provide guidance on the types of actions for which an EIS must be prepared. Once it has been determined that an EIS must be prepared, the proponent must publish a Notice of Intent (NOI) to prepare an EIS. This formal announcement signifies the beginning of the scoping period, during which the major environmental issues to be addressed in the EIS are identified. A Draft EIS (DEIS) is prepared, which includes the following:

- A statement of the purpose of and need for the action
- A description of the Proposed Action and alternatives, including the No-Action Alternative
- A description of the environment that would be affected by the action and alternatives
- A description of the potential environmental consequences of the action and alternatives.

The DEIS is filed with the U.S. Environmental Protection Agency (U.S. EPA), and is circulated to the interested public and government agencies for a period of at least 45 days for review and comments. During this period, a public hearing will be held so that the proponent can summarize the findings of the analysis and receive input from the affected public. At the end of the review period, all substantive comments received must be addressed. A Final EIS (FEIS) is produced that contains responses to comments as well as changes to the document, if necessary.

The FEIS is then filed with U.S. EPA and distributed in the same manner as the DEIS. Once the FEIS has been available for at least 30 days the Air Force may publish its ROD for the action.

The following subsection describes how the Air Force has complied with NEPA requirements for public involvement in the decision process.

1.4.1 Scoping Process

The scoping process identifies the significant issues relevant to disposal and reuse and provides an opportunity for public involvement in the development of the EIS. The NOI (Appendix B) to prepare an EIS for disposal and reuse of Eaker AFB was published in the Federal Register on October 9, 1991. Notification of public scoping was also made through local media as well as through letters to federal, state, and local agencies and officials and interested groups and individuals.

A public meeting was held on October 28, 1991, at the Ritz Civic Center, Blytheville, Arkansas, to solicit comments and concerns from the general public on the disposal and reuse of Eaker AFB. Approximately 70 people attended the meeting. Representatives of the Air Force presented an overview of the meeting's objectives, agenda, and procedures, and described the process and purpose for the development of a disposal and reuse EIS. In addition to verbal comments, written comments were received during the scoping process. These comments, as well as information from previous Air Force projects, meetings with the BGDA, and NEPA requirements, were used to determine the scope and direction of studies/analyses to accomplish this EIS.

1.4.2 Public Comment Process

The DEIS was made available for public review and comment in July 1992. Copies of the DEIS were made available for review in local libraries and provided to those requesting copies. At a public hearing held on August 13, the Air Force presented the findings of the DEIS and invited public comments. All comments were reviewed and addressed, when applicable, and have been included in their entirety in this document. Responses to comments offering new or changes to data and questions about the

presentation of data are also included. Comments simply stating facts or opinions, although appreciated, did not require specific responses. Chapter 9, Public Comments and Responses, more thoroughly describes the comment and response process.

1.5 CHANGES FROM THE DEIS TO THE FEIS

The text of this EIS have been revised, when appropriate, to reflect concerns expressed in public comments. These changes range from typographical corrections to amendments of reuse plans. The responses to the comments indicate the relevant sections of the EIS that have been revised. The major comments received on the DEIS were:

- Concern was expressed regarding the history and occupants of the New Hope North Sawba Cemetery.
- Base housing should be utilized for low income housing or for replacing condemned buildings in the community.
- A stipulation should be made to ensure all mitigation measures are carried out.
- Historic and prehistoric resources at Eaker AFB should be protected.
- The closure of the Blytheville Municipal Airport should be discussed and a summary of general environmental impacts due to its closure included in the EIS.
- Pollution prevention and waste minimization policies should be included in the EIS.

Based on more recent studies and/or comments received, the following sections of the EIS have been updated or revised:

- Discussion of New Hope North Sawba Cemetery has been updated (Section 3.4.6.2)
- Discussion of possible wastewater mitigation measures have been added (Section 4.2.4.1).

1.6 ORGANIZATION OF THIS EIS

This EIS is organized into a number of chapters and appendices. Chapter 2 provides a description of the Proposed Action, alternatives to the Proposed Action, and other land use concepts for reuse of Eaker AFB property; briefly reviews alternatives eliminated from further consideration and identifies other, unrelated actions anticipated to occur in the region during the same

time frame as the reuse activities to be considered in the analysis of cumulative impacts; and provides a comparative summary of the effects of the Proposed Action and alternatives with respect to effects on the local community and the natural environment. Chapter 3 presents the affected environment under the baseline conditions of base closure, providing a basis for analyzing the impacts of the Proposed Action and alternatives. When needed for analytical comparisons, a preclosure reference is provided for certain resource areas. It describes a point in time at or near the closure announcement, and depicts an active base condition. The results of the environmental analysis are presented in Chapter 4. Chapter 5 lists individuals and organizations consulted during the preparation of the EIS, Chapter 6 provides a list of the document's preparers, Chapter 7 contains references, and Chapter 8 contains an index.

In addition to the main text, the following appendices are included in this document:

- Appendix A - a glossary of terms, acronyms, and abbreviations used in this document
- Appendix B - the NOI to prepare this disposal/reuse EIS
- Appendix C - a list of individuals and organizations who were sent a copy of the DEIS
- Appendix D - an Installation Restoration Program (IRP) bibliography
- Appendix E - a description of the methods used to evaluate the impacts of base reuse on resources of the local community and the environment
- Appendix F - permits held by Eaker AFB
- Appendix G - Air Force policy regarding management of asbestos at bases that are closing
- Appendix H - Farmland Conversion Impact Rating, Form AD-1006
- Appendix I - a detailed description of issues and assumptions related to noise effects
- Appendix J - cultural resources at Eaker AFB
- Appendix K - air emissions inventory for Eaker AFB
- Appendix L - agency letters and certifications

- Appendix M - impacts by land use parcel.

1.7 RELATED ENVIRONMENTAL DOCUMENTS

The environmental documents listed below have been or are being prepared separately and address environmental issues at Eaker AFB. These documents provided supporting information for the environmental analysis.

- Draft Environmental Impact Statement, Proposed Closure of Eaker AFB, Arkansas, 1990

- IRP Bibliography (Appendix D).

1.8 FEDERAL PERMITS, LICENSES, AND ENTITLEMENTS

Federal permits, licenses, and entitlements that may be required of recipients of Eaker AFB for purposes of redevelopment are presented in Table 1.7-1.

Table 1.7-1. Federal Permits, Licenses, and Entitlements Potentially Required for Reusers or Developers of Disposed Base Property
Page 1 of 2

Federal Permit, License, or Entitlement	Typical Activity, Facility, or Category of Persons Required to Obtain the Federal Permit, License, or Entitlement	Authority	Regulatory Agency
Title V permit under the Clean Air Act (CAA), as amended by the 1990 CAA Amendments, Title V of CAA	Any major source (source that emits more than 100 tons/year of criteria pollutant in nonattainment area for that pollutant or is otherwise defined in Title I of CAA as a major source); affected sources as defined in Title IV of CAA; sources subject to Section 111 regarding New Source Performance Standards; sources of air toxics regulated under Section 112 of CAA; sources required to have new source or modification permits under Parts C or D of Title I of CAA; and any other source designated by EPA regulations.	Title V of CAA	U.S. Environmental Protection Agency; Arkansas Department of Pollution Control and Ecology
National Pollutant Discharge Elimination System (NPDES) permit	Discharge of pollutant from any point source into waters of the United States.	Section 402 of Federal Water Pollution Act, 33 USC § 1342	U.S. Environmental Protection Agency; Arkansas Department of Pollution Control and Ecology
Section 404 (Dredge and Fill) Permit	Any project activities resulting in the discharge of dredged or fill material into bodies of water, including wetlands, within the United States.	Section 404 of Federal Water Pollution Act, 33 USC § 1344	U.S. Department of Defense - Army Corps of Engineers, in consultation with U.S. Environmental Protection Agency.
Underground Injection Control (UIC) Permit	Owners or operators of certain types of underground injection wells	Safe Drinking Water Act, 42 USC § 300h(b); 40 Code of Federal Regulations (CFR) Part 144	U.S. Environmental Protection Agency; Arkansas Department of Pollution Control and Ecology
Hazardous waste treatment, storage, or disposal (TSD) facility permit	Owners or operators of a new or existing hazardous waste TSD facility	Resource Conservation and Recovery Act (RCRA) as amended, 42 USC § 3005; 40 CFR Part 270	U.S. Environmental Protection Agency; Arkansas Department of Pollution Control and Ecology

Table 1.7-1. Federal Permits, Licenses, and Entitlements Potentially Required for Reusers or Developers of Disposed Base Property
Page 2 of 2

Federal Permit, License, or Entitlement	Typical Activity, Facility, or Category of Persons Required to Obtain the Federal Permit, License, or Entitlement	Authority	Regulatory Agency
U.S. EPA manifest identification number	Generators or transporters (off-site transport) of hazardous waste.	40 CFR § 262.10 (generators); 40 CFR Part 263, Subpart B (transporters)	U.S. Environmental Protection Agency
Antiquities permit	Excavation and/or removal of archaeological resources from public lands or Indian lands and carrying out activities associated with such excavation and/or removal.	Archaeological Resource Protection Act of 1979, 16 USC § 470cc	U.S. Department of the Interior - National Park Service
Endangered Species Act § 10 permit	Taking endangered or threatened wildlife species; engaging in certain commercial trade of endangered or threatened plants or removing such plants on property subject to Federal jurisdiction.	Section 10 of Endangered Species Act, 16 USC § 1539; 50 CFR Part 17 Subparts C,D,F, and G.	U.S. Department of the Interior - Fish and Wildlife Service
Airport Operating Certificate	Operating a land airport serving any scheduled or unscheduled passenger operation of air carrier aircraft designed for more than 30 passenger seats.	Federal Aviation Act of 1958, 49 USC App. § 1432.	U.S. Department of Transportation - Federal Aviation Administration

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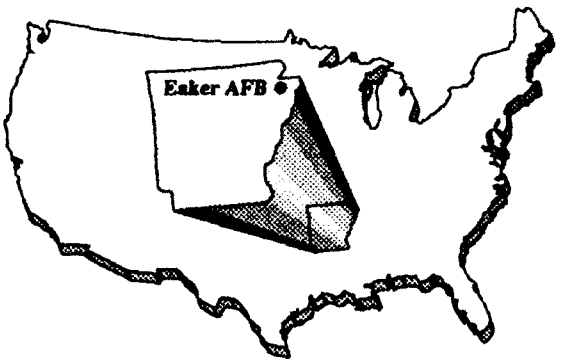


CHAPTER 2
ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1 INTRODUCTION

This chapter describes the Proposed Action, reasonable alternatives to the Proposed Action, and the No-Action Alternative. In addition, potential federal transfers of Eaker AFB properties and facilities from the Air Force to other federal agencies are described, as are independent reuse options that are not part of a complete plan. Other alternatives that were identified but eliminated from further consideration are briefly described. The potential environmental impacts of the Proposed Action and alternatives are summarized in table form at the end of this chapter.

DBCRA legislates the delegation of federal authority and consultative requirements of the Administrator of General Services to the Secretary of Defense with respect to excess and surplus real property and facilities located at a military installation closed or realigned under this act. FPMR address disposal methods associated with base closure. Disposal methods may include transfer to another federal agency, public benefit conveyance, negotiated sale to state or local government, and public sale by auction or sealed bid. Because these disposal methods are valid in the disposal of Eaker AFB either in its entirety or in some form of parcelization, it is possible that different methods of disposal will be assigned to different parcels on Eaker AFB.

Provisions of DBCRA and FPMR require that the Air Force first notify other DOD departments that Eaker AFB is scheduled for disposal. Any proposals from these departments for the reuse of Eaker AFB are given priority consideration.

Analysis of the Proposed Action and reasonable alternatives may also address the use of facilities by homeless assistance providers. Under the provisions of FPMR, which implement the Stewart B. McKinney Homeless Assistance Act (P.L. 100-77), the Air Force must report to the Department of Housing and Urban Development (HUD) all underutilized, unutilized, and/or excess buildings and land. HUD determines the suitability of those properties for use by homeless assistance providers.

The Air Force has reported Eaker AFB to HUD as "to be excess on or about December 1992". HUD reports the potential availability of facilities at Eaker AFB in the Federal Register. After publication, homeless assistance providers have 60 days to express interest in suitable property to the Department of Health and Human Services (HHS) and 90 days to submit a lease application. HHS is required to determine, within 25 days, the suitability of the homeless assistance provider. Homeless assistance

providers determined to be suitable by HHS may be able to lease available property prior to closure of the base. The minimum term of a lease is 1 year. If the Air Force determines a building or a parcel of land to be surplus, the HHS will provide an application to acquire the property by deed to homeless assistance providers who have expressed interest. Prior to either leasing or deeding the property, the Air Force may consider other federal uses and other important national needs. However, in deciding the disposition of surplus property, a priority of consideration will be given to uses which assist the homeless. Subsequently the property will be made available to federal, state, and local agencies and the public.

A comprehensive reuse plan developed by BGDA for the disposal and reuse of Eaker AFB was provided to the Air Force. The proposal focuses on redevelopment of base property for an expanded general aviation airport. Other associated land uses would be predominantly aviation-related industrial and residential.

Two additional plans, the General Aviation and the Non-Aviation Alternative, were developed by the Air Force in order to analyze a range of reasonable reuse options. The General Aviation Alternative emphasizes reuse of existing facilities and infrastructure that are structurally and functionally suitable for this purpose. This alternative was developed to provide an analysis of an airport focusing on general aviation with a full-service fixed base operator (FBO), but without commercial passenger or air cargo service.

The Non-Aviation Alternative was developed to provide a distinct scenario for analysis. Although reuse of existing facilities and infrastructure is still prominent, the unique aspect of this plan is that it proposes reuse of the airfield for general industrial use and the development of a substantial amount of agricultural areas located throughout the base. The No-Action Alternative, addressing retention of the base in caretaker status, was also developed for analysis.

All of the reuse plans are conceptual in nature. In order to accomplish impact analysis, a set of general assumptions was made. These assumptions include employment and population changes arising from implementation of each reuse plan, consistent land use designations for similar reuse options, the proportion of ground disturbance anticipated for each land use type, transportation and utility effects of each proposal as a function of increased population growth due to redevelopment, and anticipated phasing of the various elements of each reuse plan (as measured at the closure baseline (1993) and at the baseline plus 5, 10, and 20 years). Details regarding generation of these assumptions are found in Appendix E, Methods of Analysis. Specific assumptions developed for individual reuse plans are identified in the discussion of each proposal in Sections 2.2 and 2.3.

Land use plans acknowledge existing IRP status. Plans have considered the effect of pending IRP remedial action decisions on the viability of reuse. IRP remediation at Eaker AFB may result in the identification of possible lease/deed restrictions, limiting reuse options or timing of development to some degree (i.e., temporary lease to allow access to specific sites such as monitoring wells while the remainder of the site is developed for reuse). Compatible land uses for the parcels in question were considered during development of alternatives.

2.2 DESCRIPTION OF PROPOSED ACTION

Section 2905(b)(2)(E) of DBCRA requires the Secretary of Defense, as part of the disposal process, to consult with the applicable state governor, heads of local governments, or equivalent political organizations, for the purposes of considering any plan for the use of such property by the local community. Air Force policy is to encourage timely community reuse planning by offering to use the community's plan for reuse or development of land and facilities as the Air Force's proposed action in the EIS.

BGDA was formed in November 1991 by the state of Arkansas and given the authority to redevelop Eaker AFB. BGDA has nine trustees from the cities of Blytheville and Gosnell, Mississippi County, and the state of Arkansas. Five members of the BGDA are appointed by the Governor of Arkansas, and one each is appointed by the respective mayors of the cities of Blytheville and Gosnell, one by the Mississippi County Judge, and one by the Blytheville Chamber of Commerce. The Eaker Committee created on October 14, 1991, by the Blytheville Chamber of Commerce will continue to exist as an advisory body to BGDA.

BGDA contracted with a consulting consortium to assess existing land, facilities, and infrastructure on Eaker AFB and evaluate the potential for aviation and non-aviation uses. Three evaluation planning reports were prepared: a Resource Inventory and Assessment (RKG Associates, Inc., 1991), Development Options (RKG Associates, Inc., 1992a), and Redevelopment Plan and Implementation Strategy (RKG Associates, Inc., 1992b). These reports addressed the following:

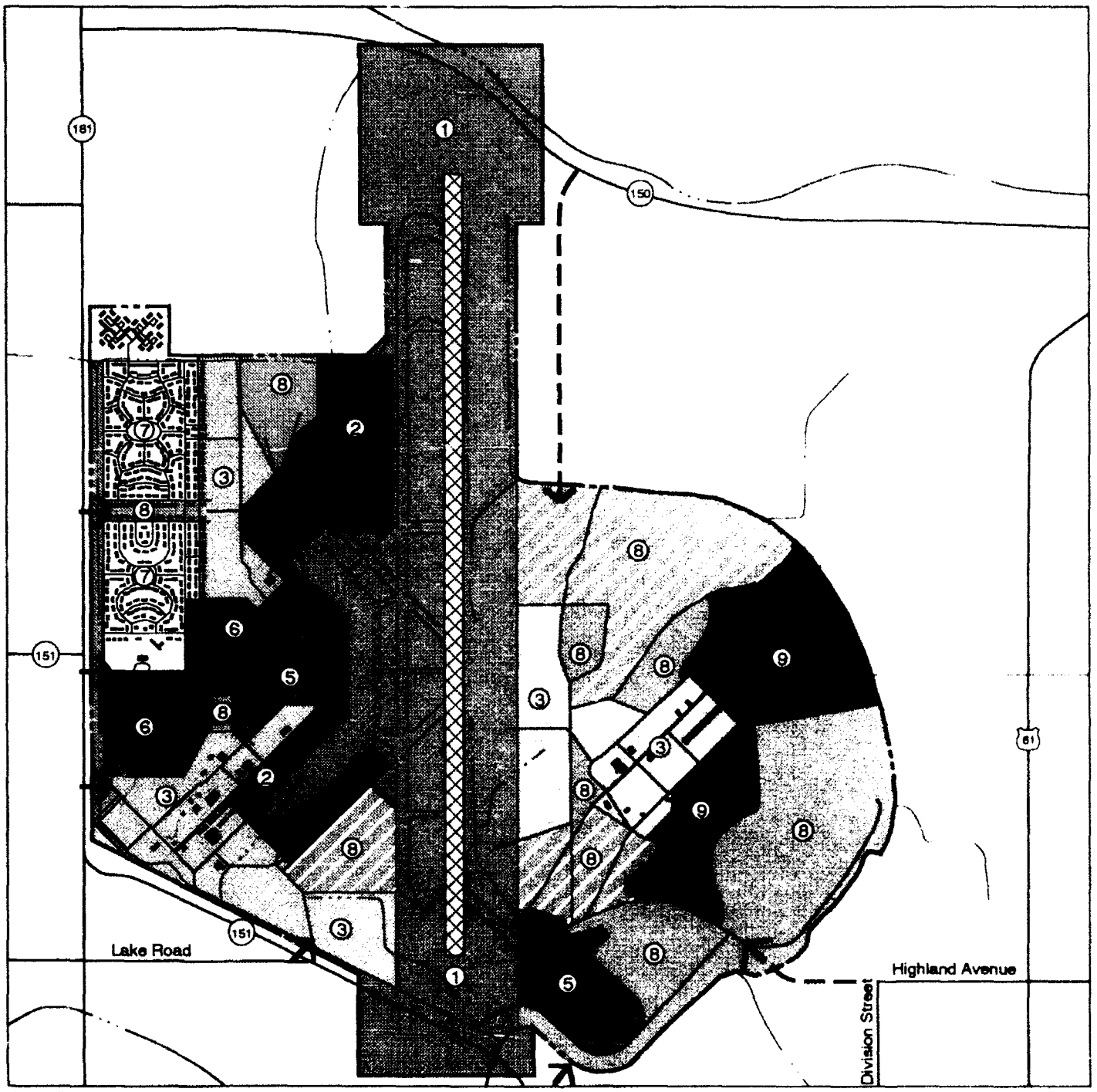
- Building evaluation
- Airport development
- Marketing/financial analysis and strategy
- Projected employment
- Projected facility/infrastructure demolition and new construction.

The Air Force has used the aviation plan from the BGDA reports in developing the Proposed Action for analysis. The Proposed Action is a comprehensive reuse plan for the base centered around a civilian general aviation facility. This reuse plan is based on the assumption that the existing Blytheville Municipal Airport would be closed and all of its aviation activity relocated to Eaker AFB. The following effects would occur with the closure of the Blytheville Municipal Airport and the relocation of its existing operations to the airfield at Eaker AFB.

- The current employment of four full-time personnel at the Blytheville Municipal Airport would be relocated to the Eaker AFB site.
- The airport area will remain zoned for industrial purposes.
- Automobile trips generated by the airport will be reduced to zero. All aviation operations currently conducted from Blytheville Municipal Airport will be relocated to the Eaker AFB site.
- Utility requirements at the airport would no longer be necessary, unless development occurs after the airport closes.
- Hazardous materials/wastes would no longer be stored or generated at the site.
- Emissions associated with airport operations would be transferred to the Eaker AFB site.
- Noise associated with airport operations would be generated instead at the Eaker AFB site.
- Effects to biological resources would be beneficial.
- There would be no impacts to cultural resources.

The land uses presented in the Proposed Action (Figure 2.2-1) provide a framework for development. The aviation-related area would encompass 1,230 acres, or about 37 percent, of the property and would include the airfield and aviation support zones. Non-aviation land uses would cover the remaining 2,056 acres and include industrial, institutional, commercial, residential, public/recreation, archaeological/open space, and agricultural uses. The acreage associated with each land use category is provided in Table 2.2-1. All acreages used in this document are approximate.

A preliminary airport plan (Figure 2.2-2) was developed prior to the preparation prior to the preparation of a formal ALP, and is included in BGDA's Redevelopment Plan and Implementation Strategy report. The



EXPLANATION

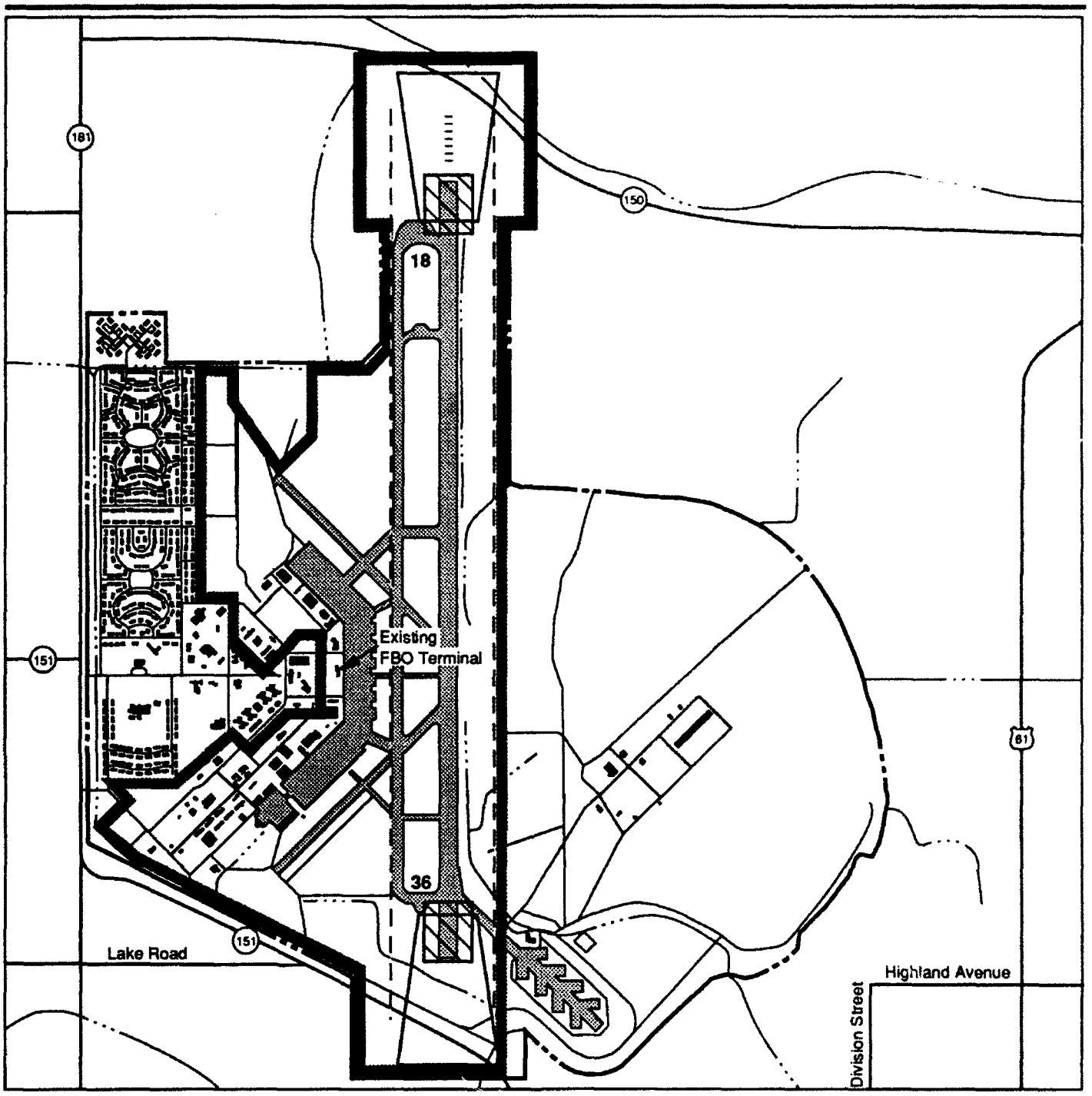
- 1 Airfield
- 2 Aviation Support
- 3 Industrial
- 4 Institutional (Medical)*
- 5 Institutional (Education)
- 6 Commercial
- 7 Residential
- 8 Public/Recreation
- 8 Archaeological/ Open Space
- 9 Agriculture
- 10 Vacant Land *
- Base Boundary
- Proposed Runway
- Proposed Road
- Access Points

0 625 1250 2500 Feet

* Not Applicable

Proposed Action

Figure 2.2-1



EXPLANATION

- Airport Boundary
- Airfield Pavement
- Runway Object Free Area
- Runway Protection Zone
- Navaids
- Building Restriction Line
- FBO Fixed Base Operator
- Base Boundary

0 625 1250 2500 feet

Preliminary Airport Plan - Proposed Action

Figure 2.2-2

Table 2.2-1. Land Use Acreage - Proposed Action

Land Use		Acreage
Airfield		998
Aviation support		232
Industrial		501
Institutional (educational)		127
Commercial		142
Residential		211
Public/recreation		800
Public/recreation	468	
Archaeological/open space	332	
Agricultural		275
Total		3,286

airport area in this plan includes land with direct aviation-related uses and revenue-producing non-aviation uses to provide financial support for the airport. The airport boundary has yet to be finalized, but the location of the boundary will not affect the environmental impact analysis.

Information for the development of the Proposed Action was obtained from BGDA and its consultants. When specific data were not available, assumptions were generated for analysis purposes.

The following types of data were provided by BGDA:

- Proposed reuse options for the airfield (e.g., aviation support functions, aviation uses)
- Projected annual aircraft operations for a 20-year planning period
- Proposed airport improvements
- Layout and general acreages of the proposed land uses
- Anticipated building demolition/new construction activities
- Proposed roadway access points to the base
- Long-range development concept for the industrial, airfield, and aviation support land uses.

The following assumptions were developed to expand upon the analysis:

- Utility requirement projections to the year 2013

- Population generated by the project to the year 2013
- Traffic generated by the project to the year 2013
- Percent of each land use area disturbed by construction and operation activities.

The amount of development, including existing facility demolition and retention and new facility construction, for each land use under the Proposed Action, is provided in Table 2.2-2.

Table 2.2-2. Facility Development - Proposed Action

Land Use	Existing Facility Demolition	Existing Facility Retention	New Facility Construction
	(in thousands of square feet of floor space)		
Airfield	0	0	0
Aviation support	111	276	420
Industrial	120	506	590
Institutional (educational)	63	262	30
Commercial	240	161	160
Residential	489	850	0
Public/recreation	4	63	0
Archaeological/open space	0	0	0
Agricultural	0	0	0
Total	1,027	2,124	1,200

The acreages within each land use assumed to be disturbed by construction of facilities, infrastructure improvements, or other operational activities under the Proposed Action are provided in Table 2.2-3 for three phases of development. Disturbance due to cultivation associated with the agricultural land use category is not included in these figures. The sections below describe activities associated with each land use category.

2.2.1 Airfield

The airfield land use category under the Proposed Action comprises 998 acres, or approximately 31 percent of the base acreage, and includes the runway, taxiways, apron, and runway protection zones (RPZs), as depicted in Figure 2.2-2. The plan for the Proposed Action indicates that the airfield would be used primarily as a general aviation airport. Commuter service and air cargo operations would constitute a small percentage of the airfield operations. The airfield would also be used for flights associated

Table 2.2-3. Acres Disturbed - Proposed Action

Land Use	Acres Disturbed (by phase)			
	1993-1998	1998-2003	2003-2013	Total
Airfield	0	0	0	0
Aviation support	2	4	67	73
Industrial	4	12	71	87
Institutional (educational)	2	5	25	32
Commercial	3	19	59	81
Residential	0	29	57	86
Public/recreation	103	0	0	103
Archaeological/open space	17	0	0	17
Agricultural	0	0	0	0
Total	131	69	279	479

with pilot proficiency training, aircraft maintenance, military operations, and a weather alternative site for air cargo.

The airport plan (see Figure 2.2-2) provides for use of the existing runway, taxiway, and navigational aids. The south apron would be used for large jet aircraft parking. The south end of the southern apron associated with the aircraft nose docks would be used for large aircraft maintenance or refurbishing. The central apron would be used for based and transient aircraft tiedowns. The northern apron would be used for storage and corporate hangar facilities. The large vacant area north of the existing apron would be reserved for future aviation support development.

The following airfield improvements are required for precision/nonprecision runway use and would be constructed in accordance with the FAA advisory circulars, standards, and recommendations:

- Recommission Runway 18/36 with High Intensity Runway Lighting.
- Install new runway and taxiway guidance signs.
- Install Precision Approach Path Indicator system for Runway 18/36.
- Install Runway End Identifier Lighting on Runway 36.

- Operate or retain a full precision Instrument Landing System (ILS) including Runway Visual Range with off-airport marker facilities to Runway 18. The ILS consists of a localizer, glide slope, approach light system, runway visual range indicator, and marker facilities (middle, outer).

- Establish or retain a nonprecision instrument (NPI) approach to Runway 18/36.

- Retain Air Traffic Control Tower.

- Establish RPZ to meet FAA criteria.

- Retain specific facilities to accommodate vehicle parking, aircraft apron and taxiways, access road system, and associated facilities.

- Construct or retain taxiways, aprons, buildings, and hangars for aircraft maintenance and general aviation operations.

- Develop engineering plans to improve and repair deteriorated areas of the airfield pavement.

- Repair the existing aboveground fuel storage facilities. All underground tanks and/or fuel lines will be removed or pickled.

- Reconstruct approximately 2,000 feet at the southern end of the runway when required for airfield use.

- Install a very high frequency omnidirectional range (VOR) navigation aid and an Automated Weather Observation Station (AWOS).

The airfield, aviation support area, and a portion of the institutional and industrial land use zones would likely be conveyed to an airport authority, which would manage the development and operations of the airfield in accordance with FAA and state aviation regulations.

Projected airfield operations are provided in Table 2.2-4 for the years 1993, 1998, 2003, and 2013. An operation is defined as one landing or one takeoff. Up to 80 percent of operations are expected to use Runway 18. Projected annual operations were generated by BGDA within six overall categories: general aviation, commuter, air cargo, aircraft maintenance, airline training, and military training. During the planning period, the percentage of operations performed by single-engine piston aircraft is expected to continually decrease. This trend is consistent with the national trend of decreasing levels of single-engine piston aircraft. For analysis purposes, 100 percent of operations in 1993 are projected to occur during daytime hours (7 a.m. to 10 p.m.). In 1998, 99 percent of operations are projected to occur during daytime hours and 1 percent during nighttime

Table 2.2-4. Projected Flight Operations - Proposed Action
Page 1 of 2

Year	Operations	Function	%	Fleet Mix	Annual Operations*
1993	General aviation	Private aircraft	87	COMSEP piston	24,178
			11	BEC-58P piston	3,022
			1	CNA-441 turboprop	250
			1	Comjet jet	250
	Commuter	Air passenger	100	DHC-6 turboprop	1,040
	Air cargo	Cargo	100	B-727-100 jet	1,000
	Aircraft maintenance	Check out	50	MD-81 jet	250
			50	B-727-200 jet	250
	Airline training	Pilot training	100	MD-81 jet	1,000
	Military training	Proficiency	100	C-130 turboprop	1,000
				Total	32,240
1998	General aviation	Private aircraft	83	COMSEP piston	28,711
			10	BEC-58P piston	3,589
			3	CNA-441 turboprop	1,000
			3	Comjet jet	1,000
			1	Rotor	500
	Commuter	Air passenger	100	DHC-6 turboprop	1,040
	Air cargo	Cargo	100	B-727-100 jet	1,500
	Aircraft maintenance	Check out	50	MD-81 jet	500
			50	B-727-200 jet	500
	Airline training	Pilot training	100	MD-81 jet	1,000
	Military training	Proficiency	100	C-130 turboprop	1,000
				Total	40,340

Table 2.2-4. Projected Flight Operations - Proposed Action
Page 2 of 2

Year	Operations	Function	%	Fleet Mix	Annual Operations*
2003	General aviation	Private aircraft	78	COMSEP piston	31,733
			10	BEC-58P piston	3 967
			4	CNA-441 turboprop	1,750
			4	Comjet jet	1,750
			4	Rotor	1,500
	Commuter	Air passenger	100	DHC-6 turboprop	1,040
	Air cargo	Cargo	100	MD-81 jet	2,000
	Aircraft maintenance	Check out	100	MD-81 jet	1,500
	Airline training	Pilot training	100	MD-81 jet	1,500
	Military training	Proficiency	100	C-130 turboprop	1,000
				Total	47,740
2013	General aviation	Private aircraft	72	COMSEP piston	35,556
			9	BEC-58P piston	4,444
			6	CNA-441 turboprop	2,750
			6	Comjet jet	2,750
			7	Rotor	3,500
	Commuter	Air passenger	100	DHC-6 turboprop	1,040
	Air cargo	Cargo	100	MD-81 jet	3,500
	Aircraft maintenance	Check out	100	MD-81 jet	3,000
	Airline training	Pilot training	100	MD-81 jet	3,000
	Military training	Proficiency	100	C-130 turboprop	1,000
				Total	60,540

* An operation is defined as a landing or takeoff.

hours (10 p.m. to 7 a.m.). In 2003, 98 percent of operations are projected to occur during daytime hours and 2 percent during nighttime hours. In 2013, 97 percent of operations are projected to occur during daytime hours and 3 percent during nighttime hours. These nighttime operations are attributable to the increasing level of cargo operations occurring in the planning period. The percentages of nighttime operations also include a small number of general aviation operations. These projections result in an estimated 2,080 annual passengers in 1993, increasing to 2,340 annual passengers in 1998, 2,540 annual passengers in 2003, and 3,120 annual passengers in 2013. For analysis purposes, a passenger is defined as either an enplaning or deplaning passenger.

Use of the airfield as a weather alternative site for an air carrier could result in an increase in nighttime operations during several days of the year. While it is not possible to accurately predict the number of operations that might occur, it is assumed that diversions to Eaker AFB as a weather alternative site would occur one to three times a year and that 40 to 50 operations might be expected during each instance.

Primary flight tracks (Figure 4.4-1) were developed for the Proposed Action using standard FAA instrument departure/approach procedures which are based on aircraft and runway types. These differ from the existing flight tracks (Figures 3.2-12 and 3.2-13) due to distinct types of military operations and aircraft.

2.2.2 Aviation Support

The proposed aviation support area covers 232 acres, or approximately 7 percent of the base and would include the control tower, fire station, hangars, aircraft maintenance facilities, air cargo facilities, and other aviation industrial uses. Aviation support functions are likely to include aircraft maintenance, engine maintenance, aircraft painting, and aircraft conversion. The development of facilities and operations within the aviation support area included in the airport plan would be managed in accordance with FAA and state aviation regulations. An area of 130 acres west of Runway 18/36 and north of the northern apron would be reserved for future aviation support uses beyond the 20-year analysis period; this area is presently leased for agricultural use.

2.2.3 Industrial

The primary non-aviation land use of the Proposed Action is identified as light industrial, comprising 294 acres in the western portion of the base and 207 acres in the east-central portion of the base. This would encompass approximately 15 percent of the base acreage. Some of the existing buildings in the area would be demolished, the existing infrastructure would be retained, and two new access points from State Highway (SH) 151 to

the industrial area would be constructed. The area would be marketed for warehouse uses, assembly work, packaging, shipping, and some light manufacturing.

The existing munitions storage area east of the runway would be used for specialized warehousing. These facilities would be ideal for storing records, microfilm, medical files, or other items that require secure storage. Road access to this portion of the base would likely require upgrading, particularly if there is a significant increase in truck traffic.

2.2.4 Institutional (Educational)

The proposed institutional land use covers 127 acres, or approximately 4 percent of base acreage and includes 37 acres in the center of the existing main base area for educational use, and 90 acres at the existing alert apron southeast of the runway, for fire training.

Some office use is also proposed for the educational area. This area, which includes dormitories and dining facilities, could be used as a corporate training center, a specialized training area (for repair of specialty engines or a hazardous waste training facility, for example), a college facility, or a combination of the aforementioned.

The alert facility would be used as a training academy for emergency response personnel. This will include classroom instruction, use of dormitory facilities, and live-fire training exercises. These exercises are projected to entail the burning of approximately 52,800 gallons of diesel fuel and the use of 1.3 million gallons of water annually. An estimated 600 practice burns would occur per year, each lasting an average of less than 2 minutes.

2.2.5 Commercial

Located in the main base area are the community facilities including the library, commissary, bowling alley, church, child care center, theater, and bank. This area which could be reused for retail, office, and community facilities covers 142 acres or approximately 4 percent of the base area. The base hospital and residential units located in this area would be demolished.

2.2.6 Residential

The proposed residential land use zone covers 211 acres of existing units, or approximately 6 percent of base acreage. A 91-acre retirement community is proposed immediately north of the commercial zone. This complex would consist of 222 units. In order to accomplish this, 70 of the existing 292 units would be demolished. The remaining 120 acres of proposed residential land use currently consists of 416 duplex and 100 multi-family

units. To reduce the density of residential development, 224 of the duplex units would be demolished, leaving 192 duplex units.

2.2.7 Public/Recreation

The public/recreation land use zone covers 800 acres, approximately 24 percent of the base. This is divided into 468 acres of public/recreation and 332 acres of archaeological/open space. The existing facilities in the public recreation area include a 9-hole golf course, tennis courts, outdoor swimming pool, and gymnasium. The archaeological/open space area in the northeast quadrant would remain undeveloped as a cultural/historical component of the reuse plan. A minimal amount of ground disturbance could take place in this area for the construction of walkways, interpretive signs, and related facilities as part of an archaeological park.

2.2.8 Agriculture

The area denoted for agricultural uses cover 275 acres, approximately 8 percent of the base. Approximately 90 percent of this land is currently under lease to a local farmer for cultivation.

2.2.9 Employment and Population

The Proposed Action would generate approximately 4,200 direct jobs on site by the year 2013. Employment effects are shown in Table 2.2-5.

Table 2.2-5. Reuse-Related Employment and Population Effects - Proposed Action

	Closure	1998	2003	2013
Direct employment	50	873	2,040	4,159
Population increase	N/A	0	1,867	11,034

The projected employment would generate an estimated population increase of approximately 11,000 over the post-closure estimate in the region by the year 2013. This includes about 900 students who would enter into the region and reside in dormitories. Population effects are shown in Table 2.2-5.

2.2.10 Transportation

New highway access to Eaker AFB would be established in the Proposed Action on all sides of the base to make it more accessible to the surrounding cities of Blytheville and Gosnell. The base has two entrances on the west side and one on the south side accessing SH 151. These access points would be retained and four other access points would be provided (see

Figure 2.2-1). The new entrance north of the existing Main Gate would provide access to the proposed residential area; construction of a bridge across a drainage would be required. The access point at the south end of the base near the alert facility would also require construction of a bridge across the Pemiscot Bayou. Access to the southeast portion of the base would be provided by extending Highland Avenue to the west; construction of a bridge would be required over Pemiscot Bayou at the east base boundary. A road would be extended south from SH 150 to the base boundary east of the airfield to provide access to the northeast portion of the base.

Based on land use and employment projections, average daily vehicular traffic to and from base property would be approximately 25,200 trips by 2013. Peak hour traffic is estimated at 2,700 trips in the morning and 2,900 trips in the afternoon.

2.2.11 Utilities

By 2013, the projected activities associated with the Proposed Action would generate the following on-base utility demands:

- Water - 0.4 MGD
- Wastewater - 0.3 MGD
- Solid waste - 31 tons per day
- Electricity - 70 MWH per day
- Natural Gas - 2,900 therms per day.

Improvements to some utility systems would be required to provide adequate service to proposed new facilities. A brief description of required utility improvements associated with the Proposed Action is provided below for each of the systems addressed within this analysis.

Water Supply. Water would be provided by the two currently used on-base wells and treated at the existing base water treatment plant prior to distribution. Due to the age of the water supply system, replacement wells or interconnections could become necessary if the existing system fails.

Wastewater. Base wastewater treatment may be provided by the existing treatment plant. The wastewater treatment plant and collection system are considered to be in good condition with ample room for growth and expansion for domestic purposes. An aerated equalization basin provides minimal pretreatment for industrial wastewater. Future industrial users would most likely need to develop a pretreatment facility. If wastewater

flows are not sufficient to support use of the existing on-base plant, alternative treatment systems would be considered. These alternatives include redesigning the existing plant, installation of a self-contained (package) plant or septic system, or transport of the wastewater to either the Gosnell or Blytheville treatment system.

Solid Waste. Refuse disposal services are now provided by private contractors who dispose of solid waste at the Mississippi County landfill near Osceola, Arkansas. The city of Blytheville has an operating incinerator. No major changes associated with this service are planned under the Proposed Action.

Electricity. Electricity is provided to the base by Arkansas Power & Light. The entire base, except for the navigational aids, is served from one substation through an Arkansas Power & Light transmission line located on the west central side of the base. The navigational aids at the north end of the runway are served by Mississippi County Electric Cooperative (MCEC). The electrical distribution system is adequate. Individual facility meters would need to be installed to meet the demands of the new occupants.

Natural Gas. Associated Natural Gas supplies the base with natural gas from one transmission line at Gate 2 on the west side of the base. Some modifications would be required to serve the needs of new users. This would include the installation of additional meters.

2.3 DESCRIPTION OF ALTERNATIVES

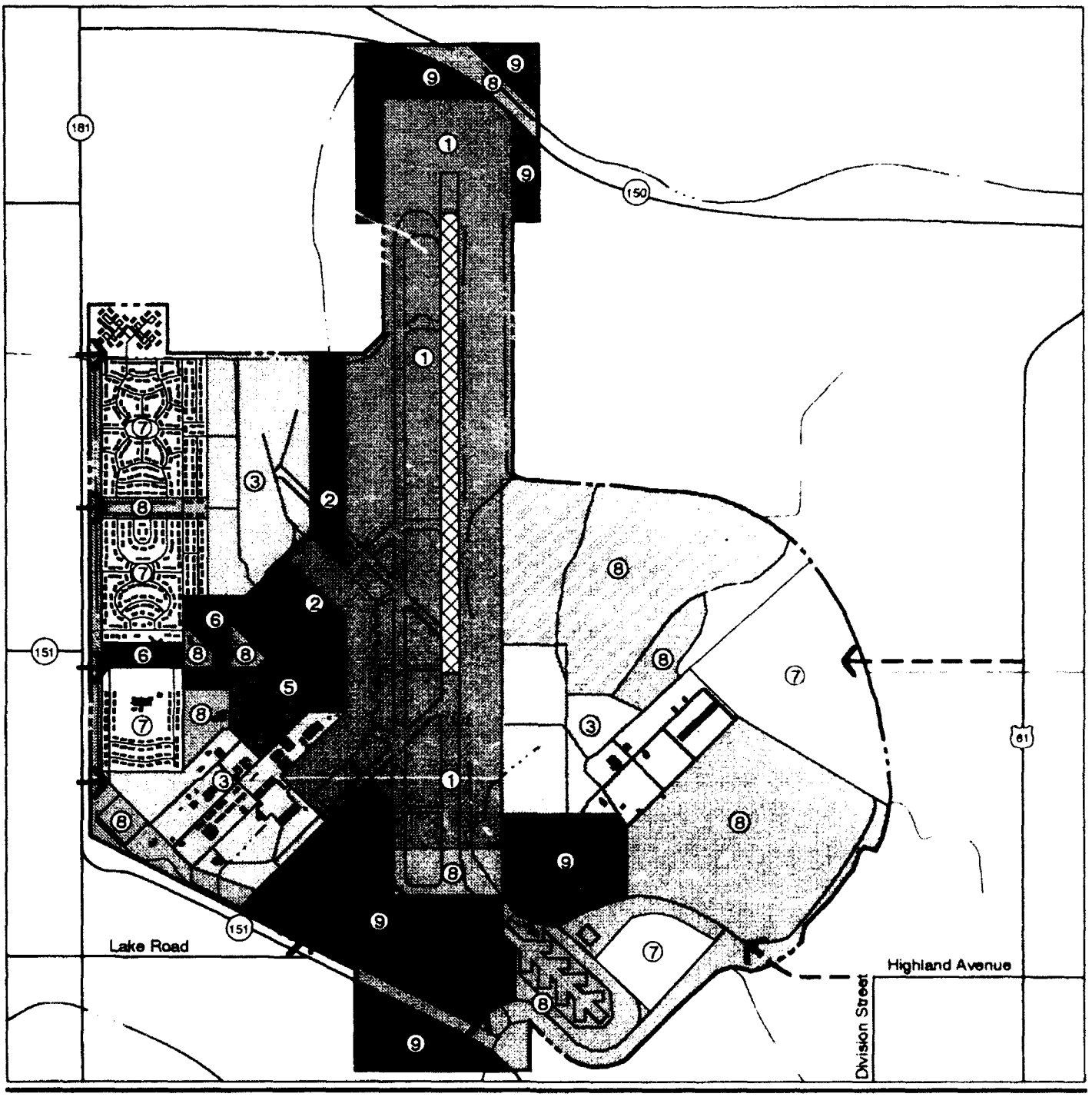
2.3.1 General Aviation Alternative

The General Aviation Alternative (Figure 2.3-1) focuses upon a general aviation airport. Approximately 3,000,000 square feet of new construction is proposed; nearly 2,250,000 square feet of existing facilities would be reused. Effects to the Blytheville Municipal Airport area would be the same as described in the Proposed Action.

The airfield and aviation support areas comprise 829 acres, or 25 percent of the base property. Non-aviation land uses would cover the remaining 2,457 acres and have been designated for industrial, institutional, commercial, residential, public/recreation, archaeological/open space, and agricultural purposes. The total acreage of each land use category is shown in Table 2.3-1.

The following assumptions were used to develop data and expand upon the analysis for the General Aviation Alternative:

- Proposed land uses
- Acreage figures for proposed land uses



EXPLANATION

- 1 Airfield
- 2 Aviation Support
- 3 Industrial
- 4 Institutional (Medical) *
- 5 Institutional (Education)
- 6 Commercial
- 7 Residential
- 8 Public/Recreation
- 8 Archaeological/ Open Space
- 9 Agriculture
- 10 Vacant Land *
- Base Boundary
- Proposed Runway
- Proposed Road
- Access Points

0 625 1250 2500 Feet

* Not Applicable

General Aviation Alternative

Figure 2.3-1

Table 2.3-1. Land Use Acreage - General Aviation Alternative

Land Use		Acreage
Airfield		754
Aviation support		75
Industrial		503
Institutional (educational)		55
Commercial		63
Residential		517
Public/recreation		843
Public/recreation	582	
Archaeological/open space	261	
Agricultural		476
Total		3,286

- Anticipated construction/demolition activities
- Employment and population projections
- A listing of anticipated airport tenants
- Projected flight operations and fleet mixes
- Traffic generation and daily trip projections
- Utility requirement projections
- Areas disturbed by construction/demolition
- Phasing plans for reuse
- Proposed transportation access points.

The amount of development, including existing facility demolition, facility retention, and new facility construction, for each land use under the General Aviation Alternative, is provided in Table 2 3-2.

Table 2.3-3 summarizes acreages assumed to be disturbed by construction of facilities, infrastructure improvements, or other operational activities during each phase of development. Disturbance due to cultivation associated with the agricultural land use category is not included in these figures. The sections below describe activities associated with each land use category.

2.3.1.1 Airfield. The proposed airfield land use zone consists of 754 acres or about 23 percent of the base and includes the northern portion of the

Table 2.3-2. Facility Development - General Aviation Alternative

Land Use	Existing Facility Demolition	Existing Facility Retention	New Facility Construction
	(in thousands of square feet of floor space)		
Airfield	0	0	0
Aviation support	36	114	0
Industrial	140	500	2,150
Institutional (educational)	18	311	0
Commercial	79	172	217
Residential	360	1,062	756
Public/recreation	0	111	0
Archaeological/open space	0	0	0
Agricultural	0	0	0
Total	633	2,270	3,123

Table 2.3-3. Acres Disturbed - General Aviation Alternative

Land Use	Acres Disturbed (by phase)			
	1993-1998	1998-2003	2003-2013	Total
Airfield	3	0	0	3
Aviation support	26	0	0	26
Industrial	47	55	106	208
Institutional	2	5	10	17
Commercial	11	10	15	36
Residential	0	51	298	349
Public/recreation	140	0	0	140
Archaeological/open space	0	0	0	0
Agricultural	0	0	0	0
Total	229	121	429	779

existing runway, taxiways, and RPZs. Other specific features of the airfield (e.g., terminal, control tower, parking, etc.) are similar to those of the Proposed Action, as described in Section 2.2.

A preliminary airport plan has been developed for this alternative as shown in Figure 2.3-2. Airfield improvements as required for the nonprecision approach runway use would differ from those discussed under the Proposed Action, in that a precision approach and the control tower would not be required.

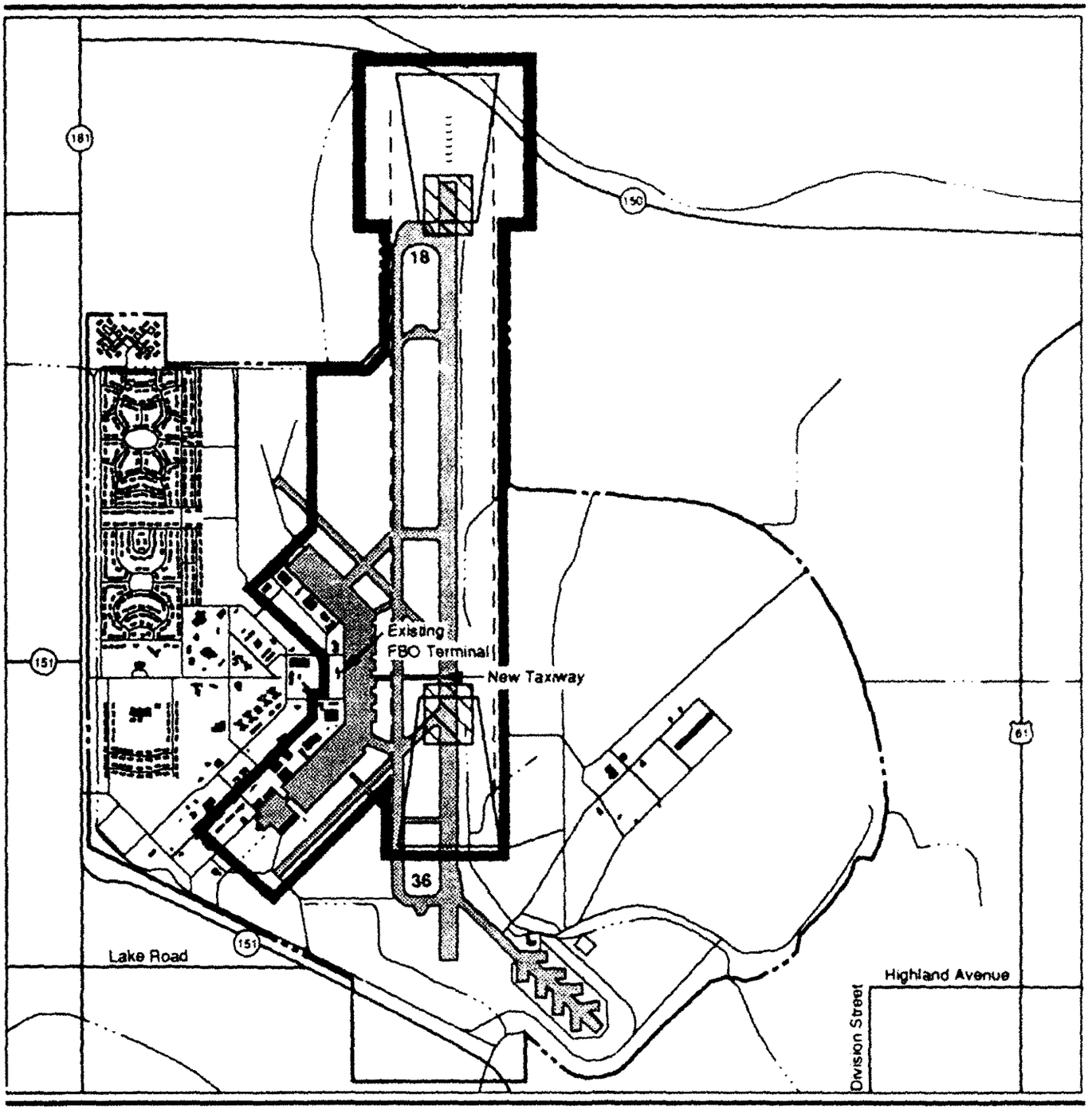
The southern 2,000 feet of Runway 36 would be marked as unusable for landing. A new taxiway would be required to allow planes to access the south end of the proposed shortened runway.

The airfield would be used for corporate and private aviation, and fixed base operations. Projected operations for the General Aviation Alternative are shown for the years of analysis in Table 2.3-4. All operations would occur during the daytime (7 a.m. to 10 p.m.).

Table 2.3-4. Projected Flight Operations - General Aviation Alternative

Year	Operation	Function	%	Fleet Mix		Annual Operations*
1993	General aviation	Private	80	COMSEP piston		25,600
		Aircraft	10	BEC-58P piston		3,200
			5	CNA-441 turboprop		1,600
		Business	5	Comjet jet		1,600
					Total	32,000
1998	General aviation	Private	77	COMSEP piston		28,100
		Aircraft	11	BEC-58P piston		3,900
			6	CNA-441 turboprop		2,100
		Business	6	Comjet jet		2,300
					Total	36,400
2003	General aviation	Private	74	COMSEP piston		30,000
		Aircraft	12	BEC-58P piston		4,700
			7	CNA-441 turboprop		2,700
		Business	7	Comjet jet		3,000
					Total	40,400
2013	General aviation	Private	72	COMSEP piston		33,000
		Aircraft	13	BEC-58P piston		5,800
			7	CNA-441 turboprop		3,400
		Business	8	Comjet jet		3,900
					Total	46,100

*An operation is defined as a landing or takeoff.



EXPLANATION

- Airport Boundary
- Airfield Pavement
- Runway Object Free Area
- Runway Protection Zone
- Navaids
- Building Restriction Line
- FBO — Fixed Base Operator
- Base Boundary

0 625 1250 2500 feet

Preliminary Airport Plan - General Aviation Alternative

Figure 2.3-2

Although the portion of the runway to be used (8,000 feet) is shorter than the existing airfield, no demolition of runway or associated pavements is proposed under this alternative. Although the projected fleet mix consists of only general aviation operations, the 8,000-foot runway would be adequate for use by larger aircraft.

2.3.1.2 Aviation Support. The aviation support areas include facilities for general aviation, aircraft maintenance, and aircraft parking cover 75 acres, or 2 percent of the base.

Some new construction would be undertaken for aviation support and would be completed by 1998. The large existing hangars at Eaker AFB would be inappropriate for use by small general aviation aircraft, and new hangars would be constructed for their use. An area of approximately 49 acres west of Runway 18/36 and north of the northern apron would be reserved for future aviation support uses beyond the 20-year analysis period. Activities identified for the aviation support area include general aviation with an FBO to begin immediately after closure.

2.3.1.3 Industrial. The industrial land use zones cover 503 acres located in three areas of the base: one in the southwest corner of the base adjacent to the southern end of the flightline, another due northwest of the northern end of the flightline, and a third area east of the airfield in the central portion of the base. This would encompass approximately 15 percent of the base area. Approximately 33 percent of the industrial area includes existing industrial-type facilities targeted for light industry and warehouse uses. The remainder of the land area is presently vacant and would be available for new, light industrial development. Development of the industrial area would be phased beyond 20 years after base closure.

2.3.1.4 Institutional (Educational). A 55-acre parcel, approximately 2 percent of the base, has been identified for educational use under the General Aviation Alternative. The types of educational uses would likely be similar to the current use by the Mississippi County Community College District (i.e., degree programs offered by the state of Arkansas colleges and universities). Existing administration buildings in this area would be converted as necessary for educational reuse.

2.3.1.5 Commercial. A commercial area of 63 acres, or 2 percent of the base, would occupy a large part of the main base area. Specific uses identified for the development/reuse of facilities within this parcel would include conversion of existing administration buildings for office use and reservation of land between two residential areas for future retail use.

2.3.1.6 Residential. Residential land uses would be located in four areas of the base and comprise a total of 517 acres, approximately 16 percent of the base area. The existing multi-family units in the northwest corner of the

base would continue to be used for residential purposes. To reduce the density in this housing area, 240 duplex units would be demolished. The hospital would be retained for use as a life care facility. Existing vacant lands consisting of 252 acres to the north and to the southwest of the golf course would be reserved for approximately 500 units of new single-family residential development to be phased over the final 15 years of the development period ending in 2013. Building specifications for the proposed residential area southwest of the golf course would need to include engineering designs to ensure adequate storm drainage. Construction in this area would have to control erosion to wetland areas and avoid wetlands where feasible.

2.3.1.7 Public/Recreation. The public/recreation land use area (divided into public/recreational and archaeological/open space areas) comprises a total of 843 acres, or approximately 26 percent of the base. Recreational areas and facilities such as parks, the golf course, athletic fields, the gymnasium, and the swimming pool would be made available to the general public. The golf course would be expanded from 9 to 18 holes. The major archaeological site in the northeast quadrant of the base would be reserved for archaeological/open space. The pavement near the south end of the existing runway is incorporated in this land use area.

2.3.1.8 Agricultural. Agricultural land use areas located at both ends of the runway contain 476 acres, or approximately 14 percent of the base acreage. Approximately 50 percent of this land is currently under lease to a local farmer for cultivation. Although the pavement at the south end of the existing runway is incorporated in this land use parcel, it would not be suitable for cultivation.

2.3.1.9 Employment and Population. The General Aviation Alternative would generate approximately 2,700 new direct jobs on site by the year 2013. Employment effects are shown in Table 2.3-5.

Table 2.3-5. Reuse-Related Employment and Population Effects - General Aviation Alternative

	Closure	1998	2003	2013
Direct employment	50	757	1,375	2,654
Population increase	N/A	0	0	3,770

Projected employment would generate population changes in the area. An increase of approximately 3,800 persons over post-closure conditions is estimated for the region by the year 2013. Included in this estimate are 900 students that would enter the region and reside in dormitories. Population effects are shown in Table 2.3-5.

2.3.1.10 Transportation. New access to Eaker AFB would be established in the General Aviation Alternative on all sides of the base to make it more accessible to the surrounding cities of Blytheville and Gosnell. Presently, the base has two entrances on the west side and one on the south side accessing SH 151. These access points would be retained and five other access points would be provided as shown in Figure 2.3-1.

Access to the east side of the base would be provided by extending a road to the west from U.S. 61 to the proposed new residential area. This would require a bridge crossing of Pemiscot Bayou at the base boundary. Access to the southeast portion of the base would be provided by extending Highland Avenue to the west and would also require a bridge crossing of Pemiscot Bayou. Of the two new entries to the residential area on the west side of the base, the access point north of the existing Main Gate would require construction of a bridge to cross a drainage; the entry at the north end of the residential area would require street paving only. The access point at the south end of the base near the alert facility connecting SH 151 to Perimeter Road would require grading and pavement construction.

Based on land use and employment projections, average daily vehicular traffic to and from base property would be approximately 16,600 trips by 2013. Peak hour traffic is estimated at 2,200 trips in the morning and 2,300 trips in the afternoon.

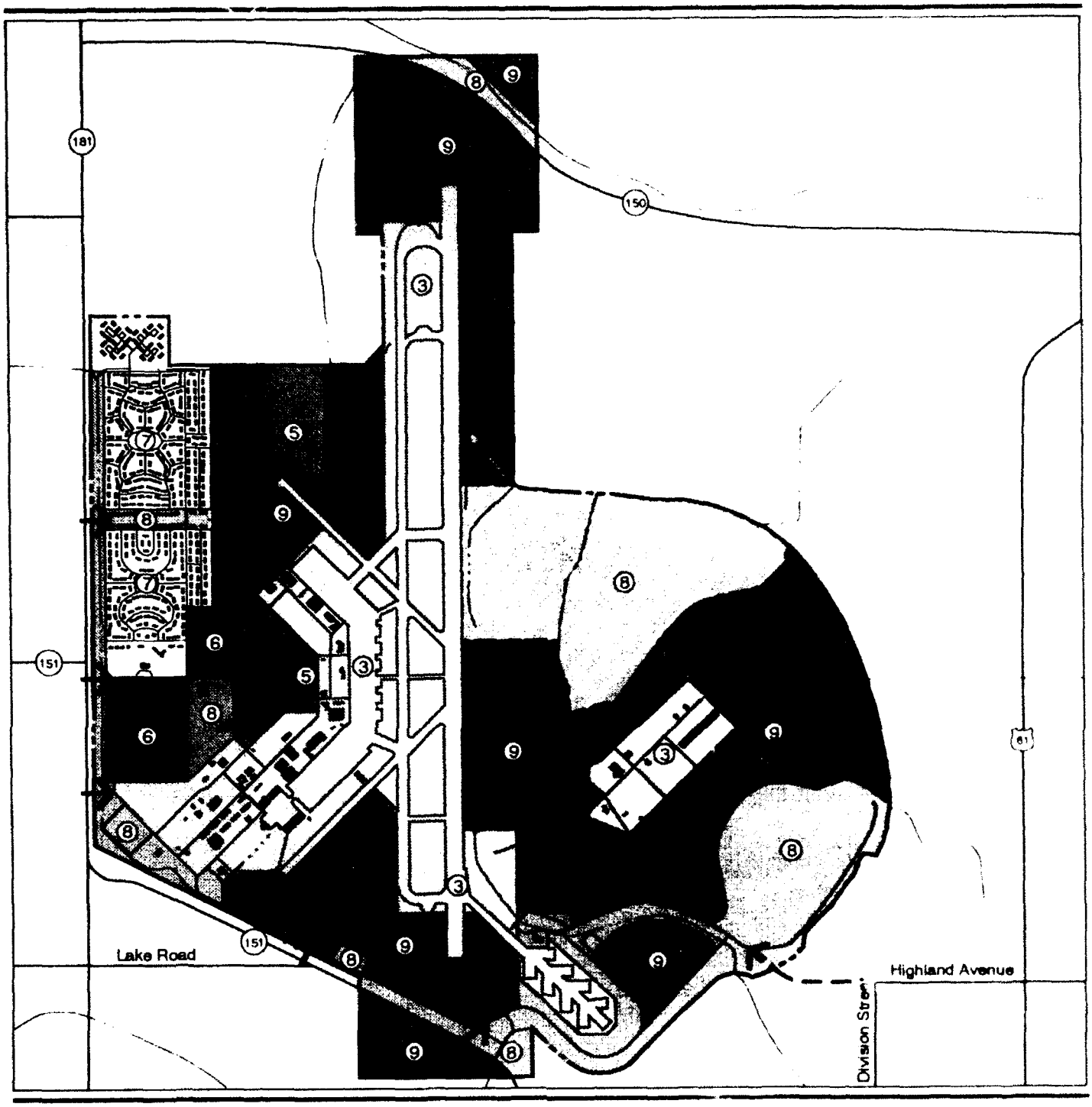
2.3.1.11 Utilities. By 2013, the projected activities associated with the General Aviation Alternative would generate the following on-base utility demands:

- Water - 0.5 MGD
- Wastewater - 0.4 MGD
- Solid Waste - 33 tons per day
- Electricity - 100 MWH per day
- Natural Gas - 4,500 therms per day.

Some utility systems would have to be improved to provide adequate service to proposed new facilities. Because of the additional residential units, system improvements are anticipated to be necessary.

2.3.2 Non-Aviation Alternative

The focal point of the Non-Aviation Alternative (Figure 2.3-3) is the industrial reuse of the airfield. The existing airfield would be inactive, and the airfield runways and the flightline facilities would be used primarily for



EXPLANATION

- 1 Airfield *
- 2 Aviation Support *
- 3 Industrial
- 4 Institutional (Medical) *
- 5 Institutional (Education)
- 6 Commercial
- 7 Residential
- 8 Public/Recreation
- 8 Archaeological/ Open Space
- 9 Agriculture
- 10 Vacant Land *
- Base Boundary
- Proposed Road
- Access Points

0 625 1250 2500 Feet

* Not Applicable

Non-Aviation Alternative

Figure 2.3-3

industrial activities. Where feasible, the open land surrounding the airfield runway would be used for agricultural purposes. Other components of this alternative include institutional, commercial, residential, public/recreation and archaeological/open space uses. The total acreage of each land use category is shown in Table 2.3-6.

Table 2.3-6. Land Use Acreage - Non-Aviation Alternative

Land Use		Acreage
Industrial		799
Institutional (educational)		98
Commercial		87
Residential		222
Public/recreation		710
Public/recreation	410	
Archaeological/open space	300	
Agricultural		1,370
Total		3,286

The following assumptions were used to develop the Non-Aviation Alternative:

- Proposed land uses
- Acreage figures for proposed land uses
- Anticipated construction/demolition activities
- Employment and population projections
- Areas disturbed by construction/demolition
- Phasing plans for reuse
- Construction cost projections
- Traffic generation and daily trip projections
- Utility requirement projections
- Proposed transportation access points.

The amount of development, including existing facility demolition, facility retention, and new facility construction for each land use under the Non-Aviation Alternative is provided in Table 2.3-7.

Table 2.3-7. Facility Development - Non-Aviation Alternative

Land Use	Existing Facility Demolition	Existing Facility Retention	New Facility Construction
	(in thousands of square feet of floor space)		
Industrial	228	728	3,127
Institutional (educational)	63	321	30
Commercial	240	161	160
Residential	489	848	0
Public/recreation	4	69	0
Archaeological/open space	0	0	0
Agricultural	0	0	0
Total	1,024	2,127	3,317

Table 2.3-8 summarizes acreages assumed to be disturbed by construction of facilities, infrastructure improvements, or other operational activities during each phase of development. Disturbance due to cultivation associated with the agricultural land use category is not included in these figures. The sections below describe activities associated with each land use category.

Table 2.3-8. Acres Disturbed - Non-Aviation Alternative

Land Use	Acres Disturbed (by phase)			
	1993-1998	1998-2003	2003-2013	Total
Industrial	31	32	58	121
Institutional (educational)	9	16	33	58
Commercial	13	13	26	52
Residential	0	14	81	95
Public/recreation	28	0	0	28
Archaeological/open space	0	0	0	0
Agricultural	0	0	0	0
Total	81	75	198	339

2.3.2.1 Industrial. The proposed industrial land use zone covers 799 acres, or about 24 percent of the base, the majority of which is presently runway, taxiways, and the operational apron. Because demolition of these surfaces could be cost-prohibitive, reuse as storage areas, parking, or new

development has been proposed. Approximately 25 percent of the land use zone includes existing industrial-type facilities targeted for light industrial and warehouse uses. The remaining 75 percent is presently vacant and would be available for new general industrial development.

2.3.2.2 Institutional (Educational). The institutional land uses at Eaker AFB cover 98 acres, 3 percent of the base area. Two parcels, 53 acres located in the center of the existing main base area and 45 acres located adjacent to the north base boundary, are identified for institutional uses. The existing facilities in the main base area include the administrative/office buildings and dormitories. These facilities could potentially support a corporate education center, a specialized training area, a college facility, or a combination of the aforementioned. These activities would likely be phased to meet user demands by the year 2013.

The educational training reuse parcel in the northwest quadrant includes the existing Fire Protection Training Area (FPTA) facility and the firing range. These facilities could be reused for law enforcement training.

2.3.2.3 Commercial. The proposed commercial land use in the existing main base area covers 87 acres approximately 3 percent of the base. This area would be developed for retail and office uses and community facilities development. The existing community facilities including the bowling alley, church, child care center, and theater would be retained. The base hospital *and residential units located in this area would be demolished.*

2.3.2.4 Residential. The existing residential land use zone under the Non-Aviation Alternative is located on the west side of Eaker AFB which covers 222 acres, or approximately 7 percent of the base acreage. The existing multi-family units on a 26-acre site in the northwest quadrant of the base would continue to be used for residential purposes. The duplexes located south of the multi-family area would also be retained for residential uses. Within this area, a minimum of 400 of the approximately 800 residential units would be reused. The remainder would be demolished to reduce density in the housing area.

2.3.2.5 Public/Recreation. The public/recreation land use zone would cover 710 acres divided into 410 acres of public/recreation and 300 acres of archaeological/open space. This would encompass 22 percent of the base area. The public/recreation area includes existing recreation facilities such as a 9-hole golf course, tennis courts, outdoor swimming pool, gymnasium, and baseball fields. The major archaeological site in the northeast quadrant of the base would remain undeveloped as archaeological/open space.

2.3.2.6 Agricultural. The area denoted for agricultural use contains 1,370 acres, or approximately 41 percent of the base. Nearly 1,200 acres of this land is currently leased to a local farmer for cultivation.

2.3.2.7 Employment and Population. The Non-Aviation Alternative would generate approximately 2,800 new direct jobs on site by the year 2013. Employment effects are shown in Table 2.3-9.

Table 2.3-9. Reuse-Related Employment and Population Effects - Non-Aviation Alternative

	Closure	1998	2003	2013
Direct employment	50	834	1,489	2,757
Population increase	N/A	0	0	4,113

Projected employment would generate an estimated population increase of approximately 4,100 over the post-closure estimate in the region by the year 2013. Included in the population are 900 students that would enter the region and reside in dormitories. Population effects are shown in Table 2.3-9.

2.3.2.8 Transportation. New access to Eaker AFB would be established in the Non-Aviation Alternative on all sides of the base to make it more accessible to the surrounding cities of Blytheville and Gosnell. The three existing base access points would be retained and three new access points would be provided as shown in Figure 2.3-3. The proposed new entrance north of the existing Main Gate, providing access to the residential area, would require construction of a bridge to cross a drainage. The access point at the south end of the base near the alert facility connecting SH 151 to Perimeter Road would require grading and pavement construction. The access point adjacent to the base golf course would require the extension of Highland Avenue to the base boundary and a bridge across Pemiscot Bayou at the east base boundary.

Based on land use and employment projections, average daily vehicular traffic to and from base property would be approximately 20,100 trips by 2013. Peak hour traffic is estimated at 2,000 trips in the morning and 2,500 trips in the afternoon.

2.3.2.9 Utilities. By 2013, the projected activities associated with the Non-Aviation Alternative would generate the following on-base utility demands:

- Water - 0.3 MGD
- Wastewater - 0.2 MGD
- Solid Waste - 39 tons per day

- Electricity - 140 MWH per day
- Natural Gas - 5,500 therms per day.

Some utility systems would have to be improved to provide adequate service to proposed new facilities.

2.3.3 Other Land Use Concepts

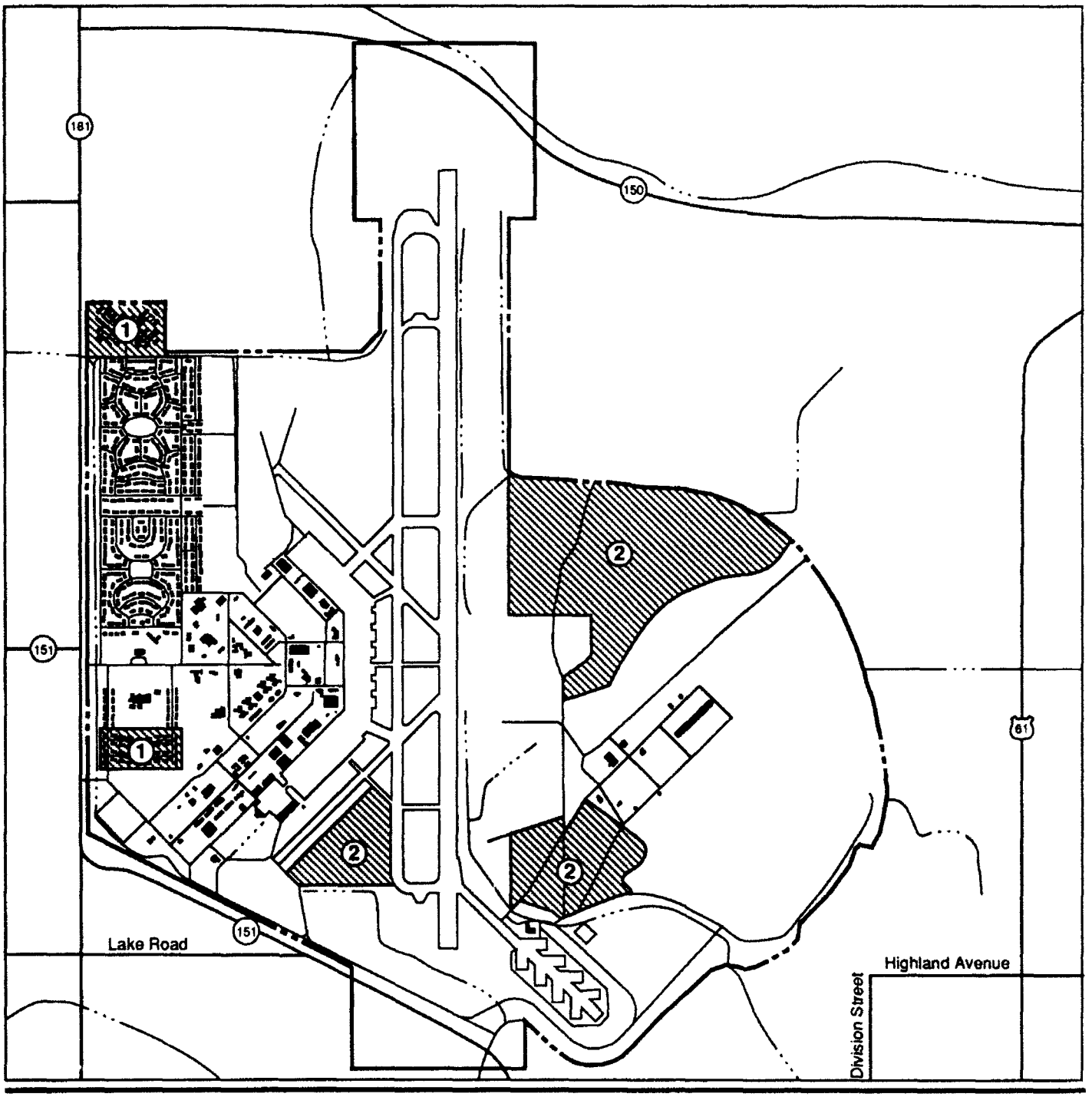
In compliance with the Federal Property and Administrative Services Act of 1949, the Air Force solicited proposals from other federal agencies regarding their interest in acquiring land or facilities identified for disposal at Eaker AFB. While no responses have been received to date, two potential scenarios have been developed for purposes of analysis.

This section describes land use concepts that are not part of any integrated reuse plan, but that could be initiated on an individual basis. These concepts could include proposed federal transfers and conveyances to non-federal agencies and private parties. They are independent of one another and could be implemented individually or in combination with one of the reuse alternatives. Figure 2.3-4 shows the location of each of the proposed land use concepts.

2.3.3.1 McKinney Act. As part of the McKinney Act of 1987 (P.L. 100-77), HUD, in conjunction with the HHS and the GSA identifies surplus government buildings and properties which are suitable as housing for the homeless. One McKinney Act request was received for base housing but was later withdrawn. Since no requests are currently active, potential housing for low-income families and individuals and for the homeless population in the region has been identified within the existing housing area in the northwest and southwest regions of Eaker AFB.

The 100 residential units in the northwest were constructed in 1976, and represent the most recent construction within the housing area. The 36 duplex units in the southwest were constructed in 1961 and are representative of most family housing at Eaker AFB. The units and their associated landscaping have been well maintained. Needed renovations would be minor and would consist primarily of interior/exterior painting, and carpet and fixture replacement. The residences could be occupied soon after base closure.

2.3.3.2 Interpretive Center/Museum. Three parcels which contain the majority of the archaeological sites have been considered as an independent land use concept. The area, comprising approximately 330 acres, would be transferred or conveyed to a government or private agency, which would act as a steward for the property. No development of the site itself is proposed, although a museum or interpretive center could be created for the public using existing facilities converted for this purpose.



EXPLANATION

1. McKinney Act Proposal
2. Interpretive Center/Museum

Base Boundary

Other Land Use Concepts

0 625 1250 2500 feet

Figure 2.3-4

2.3.4 No-Action Alternative

The No-Action Alternative would result in the U. S. Government retaining ownership of the property after closure. The property would not be put to further use. The base would be preserved, i.e., placed in a condition intended to limit deterioration and ensure public safety. An Air Force Base Disposal Agency operating location (OL) would be provided to ensure base resource protection, grounds maintenance, existing utilities operations as necessary, and building care are accomplished. No other military activities/missions are anticipated to be performed on the property.

The future land uses and levels of maintenance would be as follows:

- Maintain structures in mothballed condition to prevent deterioration. This would involve disconnecting or draining some utility lines and securing facilities.
- Isolate or deactivate utility distribution lines on base.
- Provide limited maintenance of roads to ensure access.
- Provide limited grounds maintenance of open areas. This would primarily consist of infrequent cutting to eliminate fire, health, and safety hazards.
- Maintain the golf course in a manner to facilitate economical resumption of use.
- Maintain existing outleases, where applicable.

The base would continue to fulfill its water requirements from the same system, although the amount would be significantly reduced. Nonessential water lines would be drained and shut off. The base facility would continue to provide wastewater treatment under caretaker status, but the amount would ne negligible or zero. Solid waste collection from the base would likely be reduced to a negligible level under this alternative. The power and space-heating systems serving Eaker AFB would likely be utilized at substantially reduced levels while the base is in caretaker status. Electrical power would be required for security lighting and other essential systems, and natural gas would probably be required during winter months to maintain minimal space heating in mothballed facilities.

2.3.5 Air Force Base Disposal Agency OL

An OL will be established at Eaker AFB. The responsibilities of this team include coordinating closure activities, establishing a caretaker force to maintain Air Force properties after closure, and serving as the Air Force liaison supporting community reuse. For the purposes of environmental

analysis, it was assumed that this team would comprise approximately 50 people at the time of closure, consisting of 10 Air Force employees with contractor support.

The OL, as used in this document, may refer to the Air Force disposal personnel or to one of the caretaker contractors. In some cases each team may have distinct responsibilities. For example, under the No-Action Alternative, each contractor is responsible for the management and disposition of their own hazardous materials and waste. The Air Force OL would be responsible for inspection and oversight to ensure that hazardous substance practices are in compliance with pertinent regulations.

2.3.6 Interim Uses

Interim uses include predisposal short-term uses of the base facilities and property. Predisposal interim uses are conducted under lease agreements with the Air Force. The terms and conditions of the lease will be arranged to ensure that the predisposal interim uses do not prejudice future disposal and reuse plans of the base. The continuation of interim uses beyond disposal would be arranged through agreements with the new property owner(s).

A zero baseline representing conditions at the point of closure is used for the environmental analysis. The interim uses that could occur prior to property disposal are not considered within this baseline.

Certain post-disposal interim use scenarios have been incorporated into the reuse alternatives. Where appropriate, impacts of these operations are reflected in the environmental analysis of pertinent resource areas.

2.4 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

All reuse proposals or land use concepts pursuant to the reuse of Eaker AFB have been included for analysis.

2.5 OTHER FUTURE ACTIONS IN THE REGION

Two reasonably foreseeable actions were identified which could be considered as contributing to a potential cumulative impact on the disposal and reuse of Eaker AFB:

- The expansion of a local steel mill
- The closure of a chrome plating factory.

Upon examination of these potential projects in the region, it was determined that the most appropriate analysis would result from their inclusion within the closure baseline and reuse alternative assumptions.

The closure of the chrome plating plant and the expansion of the steel mill were taken into consideration when developing the closure baseline and subsequent future projections for employment, population, and other applicable resource areas.

Since the effects of these actions are incorporated into the disposal and reuse impacts, they have not been considered projects within this document.

2.6 COMPARISON OF ENVIRONMENTAL IMPACTS

A summary comparison of the influencing factors and environmental impacts on each biophysical resource affected by the Proposed Action and alternatives over the 20-year study period is presented in Tables 2.6-1 and 2.6-2. Influencing factors are non-biophysical elements, such as population, employment, land use, aesthetics, public utility systems, and transportation networks that directly impact the environment. These activities have been analyzed to determine their effects on the environment. Impacts to the environment are described briefly in the summary and discussed in detail in Chapter 4. Table 2.6-3 presents influencing factors and environmental impacts of independent land use concepts.

Table 2.6-1. Summary of Reuse-Related Influencing Factors

Factors	Proposed Action			General Aviation Alternative			Non-Aviation Alternative			No-Action Alternative*
	1998	2003	2013	1998	2003	2013	1998	2003	2013	
Ground disturbance (acres by phase)	131	69	279	229	121	429	81	75	198	No Change
Aircraft operations (annual)	40,340	47,740	60,540	36,400	40,400	46,100	0	0	0	No Change
Direct employment	870	2,000	4,200	760	1,400	2,700	830	1,500	2,800	50
Secondary employment	1,100	2,600	5,500	890	1,600	3,200	950	1,800	3,300	16
Population increase	0	1,900	11,000	0	0	3,800	0	0	4,100	No Change
Traffic (total daily trips)	2,000	9,300	25,200	600	4,100	16,600	2,700	9,700	20,100	No Change
Increase in water demand (MGD)	0.04	0.28	1.20	0.02	0.11	0.75	0.03	0.12	0.53	No Change
Increase in wastewater production (MGD)	0.02	0.22	0.94	0.02	0.10	0.65	0.03	0.10	0.42	No Change
Increase in solid waste (tons/day)	19.0	22.8	43.3	11.5	14.2	38.0	21.6	27.4	43.1	No Change
Increase in electricity demand (MWH/day)	6	37	135	4	27	124	19	67	162	No Change
Increase in natural gas demand (therms/day)	230	1,880	7,610	170	1,110	6,260	750	2,640	7,110	No Change

* The No-Action Alternative summarizes influencing factors relative to the closure baseline conditions.

MGD = million gallons/day.
MWH = megawatt hours.

Table 2.6-2. Summary of Impacts from Reuse Alternatives
Page 1 of 3

Resource Category	Proposed Action	General Aviation Alternative	Non-Aviation Alternative	No-Action Alternative
Local Community				
• Land Use and Aesthetics	• 35% of existing facilities demolished.	• 20% of existing facilities demolished.	• 35% of existing facilities demolished.	• No facility demolition.
	• 1.2 million square feet of new construction.	• 3.1 million square feet of new construction.	• 3.3 million square feet of new construction.	• No facility construction.
	• Potential impacts from industrial and commercial uses on adjacent residents.	• Potential impacts from industrial uses on adjacent residents.	• Potential impacts from commercial and agricultural uses on adjacent residents.	• Potential effect on Goenell residential demand.
	• Change in general appearance of the base.	• Change in general appearance of the base.	• Change in general appearance of the base.	• No change in base appearance.
	• 787 acres of prime farmland converted to nonagricultural uses	• 827 acres of prime farmland converted to nonagricultural uses.	• 243 acres of prime farmland converted to nonagricultural uses.	• No farmland converted.
• Transportation	• 4 new access points with 3 bridges.	• 5 new access points with 2 bridges.	• 3 new access points with 1 bridge.	• No new access points.
	• 25,200 daily trips generated.	• 16,600 daily trips generated.	• 20,100 daily trips generated.	• 100 daily trips generated.
	• No airspace conflicts.	• No airspace conflicts.	• No airspace conflicts.	• No airspace conflicts.
• Utilities Demand				
Water	• 1.2 MGD, 34% increase in ROI.	• 0.75 MGD, 21% increase in ROI.	• 0.53 MGD, 15% increase in ROI.	• Minimal demand. No increase in ROI.
Wastewater	• 0.94 MGD, 35% increase in ROI.	• 0.65 MGD, 24% increase in ROI.	• 0.42 MGD, 16% increase in ROI.	• Minimal demand. No increase in ROI.
Solid waste	• 43.3 tons/day, 45% increase in ROI.	• 38.0 tons/day, 39% increase in ROI.	• 43.1 tons/day, 44% increase in ROI.	• Minimal demand. No increase in ROI.
Electricity	• 134.6 MWH/day, 2% increase in ROI.	• 124.1 MWH/day, 2% increase in ROI.	• 162.1 MWH/day, 2% increase in ROI.	• Minimal demand. No increase in ROI.
Natural gas	• 7,610 therms/day, 37% increase in ROI.	• 6,260 therms/day, 30% increase in ROI.	• 7,110 therms/day, 34% increase in ROI.	• Minimal demand. No increase in ROI.
Hazardous Materials and Hazardous Waste Management				
• Hazardous Materials Management	• Increase in types and quantities of materials.	• Increase in types and quantities of materials.	• Increase in types and quantities of materials.	• No change in types or quantities of hazardous materials.

Table 2.6-2. Summary of Impacts from Reuse Alternatives
Page 2 of 3

Resource Category	Proposed Action	General Aviation Alternative	Non-Aviation Alternative	No-Action Alternative
Hazardous Materials and Hazardous Waste Management (Continued)				
• Hazardous Waste Management	• Moderate increase in types and quantities of wastes.	• Moderate increase in types and quantities of wastes.	• Moderate increase in types and quantities of wastes.	• Minimal quantities of waste generated. No increase in types and quantities generated.
• Installation Restoration Program	• Possible delay in conveyance of some parcels.	• Possible delay in conveyance of some parcels.	• Possible delay in conveyance of some parcels.	• No impact.
	• Possible land use restrictions.	• Possible land use restrictions.	• Possible land use restrictions.	• No impact.
• Storage Tanks	• Removal of all underground storage tanks (USTs) not meeting current regulations prior to disposal.	• Removal of all USTs not meeting current regulations prior to disposal.	• Removal of all USTs not meeting current regulations prior to disposal.	• Removal of all USTs not meeting current regulations after closure. Caretaker maintenance of aboveground tanks.
• Asbestos	• Removal and disposal of asbestos in facilities to be demolished. Remaining asbestos will require management in place.	• Removal and disposal of asbestos in facilities to be demolished. Remaining asbestos will require management in place.	• Removal and disposal of asbestos in facilities to be demolished. Remaining asbestos will require management in place.	• Continued management of facilities with asbestos.
• Pesticides	• Increased use associated with landscaping in industrial and institutional land uses.	• Increased use associated with industrial and residential land uses.	• Increased use associated with residential and agricultural land uses.	• Minimal use as part of caretaker activities.
• Polychlorinated Biphenyls (PCBs)	• No Air Force-owned PCB or PCB-contaminated equipment exists on base.	• No Air Force-owned PCB or PCB-contaminated equipment exists on base.	• No Air Force-owned PCB or PCB-contaminated equipment exists on base.	• No Air Force-owned PCB or PCB-contaminated equipment exists on base.
• Radon	• Below level of concern.	• Below level of concern.	• Below level of concern.	• Below level of concern.
• Medical/Biohazardous Waste	• None generated.	• Minimal amounts generated.	• None generated.	• None generated.
• Ordnance	• EOD Range cleared prior to disposal.	• EOD Range cleared prior to disposal.	• EOD Range cleared prior to disposal.	• EOD Range cleared following base closure.

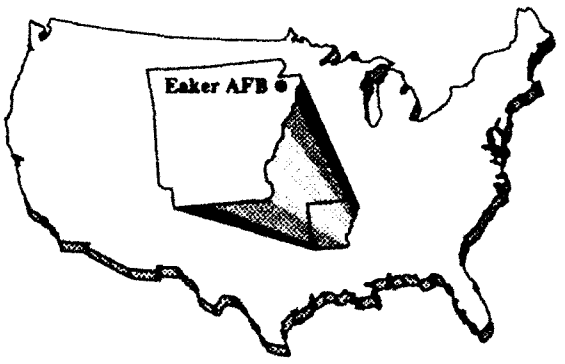
Table 2.6-2. Summary of Impacts from Reuse Alternatives
Page 3 of 3

Resource Category	Proposed Action	General Aviation Alternative	Non-Aviation Alternative	No-Action Alternative
Natural Environment				
• Soils and Geology	• 479 acres disturbed.	• 779 acres disturbed.	• 339 acres disturbed.	• No land disturbance.
	• New construction required to meet standards for Seismic Zone III.	• New construction required to meet standards for Seismic Zone III.	• New construction required to meet standards for Seismic Zone III.	• No new construction.
• Water Resources	• Supply is adequate for foreseeable demand.	• Supply is adequate for foreseeable demand.	• Supply is adequate for foreseeable demand.	• No impact.
• Air Quality	• Emissions will not exceed NAAQS or PSD Class II standards.	• Emissions will not exceed NAAQS or PSD Class IV standards.	• Emissions will not exceed NAAQS or PSD Class II standards.	• No new pollutant sources.
• Noise	• 450 acres exposed to day-night average sound level (DNL) 65 decibel (dB) or greater.	• 33 acres exposed to DNL 65 dB or greater.	• 0 acres exposed to DNL 65 dB or greater.	• 0 acres exposed to DNL 65 dB or greater.
	• 57,261 less acres exposed to DNL 65 dB compared to preclosure.	• 57,678 less acres exposed to DNL 65 dB compared to preclosure.	• 57,711 less acres exposed to DNL 65 dB compared to preclosure.	• 57,711 less acres exposed to DNL 65 dB compared to preclosure.
	• 37 people exposed to DNL between 65-70 due to surface traffic noise.	• 37 people exposed to DNL between 65-70 due to surface traffic noise.	• 8 people exposed to DNL between 65-70 due to surface traffic noise.	• No impact to persons based on traffic noise.
• Biological Resources	• Probable loss of less than 1 acre of wetlands.	• Probable loss of less than 1 acre of wetlands.	• Probable loss of less than 1 acre of wetlands.	• No impact to wetlands.
	• No impact on endangered species.	• No impact on endangered species.	• No impact on endangered species.	• Potential increase in habitat value.
• Cultural Resources	• Potential impact to all historic properties on base due to loss of federal protection.	• Potential impact to all historic properties on base due to loss of federal protection.	• Potential impact to all historic properties on base due to loss of federal protection.	• Federal protection remains.
	• Potential ground disturbance could adversely affect up to 20 sites (219 acres).	• Potential ground disturbance could adversely affect up to 20 sites (214 acres).	• Potential ground disturbance could adversely affect up to 20 sites (240 acres).	• No impact.

NAAQS = National Ambient Air Quality Standards.
PSD = Prevention of Significant Determination.

Table 2.6-3. Summary of Impacts from Other Land Use Concepts

Resource Category	McKinney Act	Interpretive Center/Museum
Local Community		
• Land Use and Aesthetics	No change in land use.	Up to 370 acres of prime farmland lost.
• Transportation	No change in surface or air traffic.	No change in surface or air traffic.
• Utilities	No change in utility demand.	No change in utility demand.
Hazardous Materials and Hazardous Waste Management		
• Hazardous Materials	Use of small quantities of household materials.	Use of small quantities of household materials.
• Hazardous Waste	Small quantities generated.	Small quantities generated.
• Installation Restoration Program	No impact to remediation activities.	Delays in property conveyance or land use restriction may occur.
• Storage Tanks	No new storage tanks.	No new storage tanks.
• Asbestos	Demolition or renovation of existing buildings may require removal and disposal and/or management in place.	Demolition or renovation of existing buildings may require removal and disposal and/or management in place.
• Pesticides	Small quantities to be utilized for landscaping.	Small quantities to be used for landscaping.
• PCBs	No impact.	No PCBs in this location.
• Radon	Below level of concern.	Not applicable.
• Medical/Biohazardous Wastes	None generated.	None generated.
• Ordnance	Not applicable.	EOD Range cleared prior to disposal.
Natural Environment		
• Soils and Geology	No new disturbance.	Minimal new disturbance for trails and signs.
• Water Resources	No additional demand.	No additional demand.
• Air Quality	No new emissions.	No new emissions.
• Noise	No new sources. No increase in receptors.	No new sources. No increase in receptors.
• Biological Resources	No impact.	No impact.
• Cultural Resources	No impact.	No impact.



CHAPTER 3
AFFECTED ENVIRONMENT

3.0 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

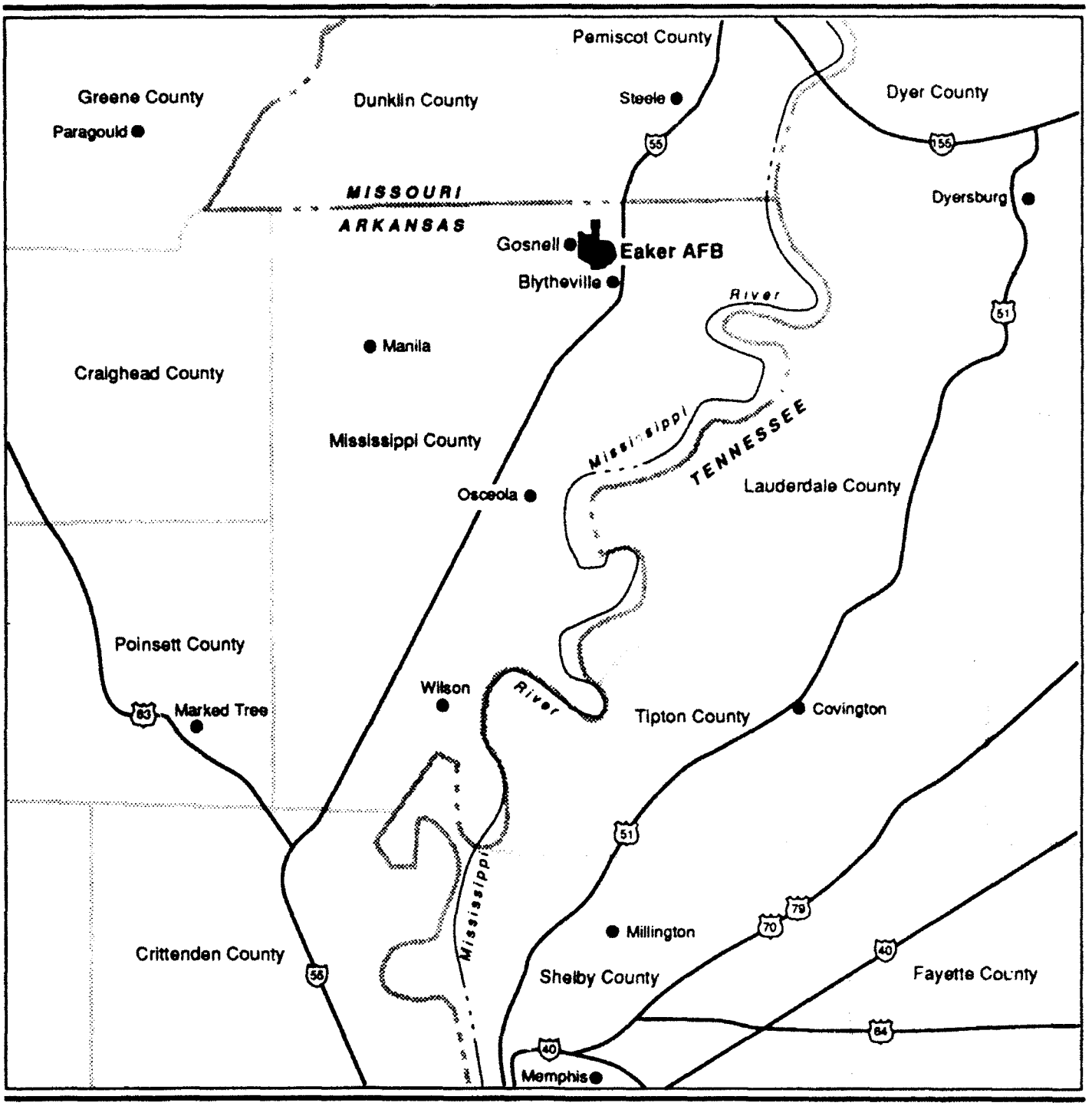
This chapter describes the environmental conditions of Eaker AFB and its region of influence (ROI) as it would be at the time of base closure. It provides information to serve as a baseline from which to identify and evaluate environmental changes resulting from disposal and reuse of Eaker AFB. Although this EIS focuses on the biophysical environment, some non-biophysical elements are addressed. The non-biophysical elements (influencing factors) of population and employment, land use and aesthetics, public utility systems, and transportation networks in the region and local communities are addressed. This chapter also describes the storage, use, and management of hazardous materials found on base, including storage tanks, asbestos, pesticides, polychlorinated biphenyls (PCBs), radon, medical/biohazardous waste, and explosive ordnance. The current status of the IRP is also described. Finally, this chapter describes the pertinent natural resources of geology and soils, water resources, air quality, noise, biological resources, and cultural resources.

The ROI to be studied will be defined for each resource area affected by the Proposed Action and alternatives. The ROI determines the geographical area to be addressed as the *Affected Environment*. Although the base boundary may constitute the ROI limit for many resources, potential impacts associated with certain issues (e.g., air quality, utility systems, and water resources) transcend these limits.

The baseline conditions assumed for the purpose of analysis are the conditions projected at base closure. Closure is scheduled for December 15, 1992; therefore, 1993 was selected as the most descriptive year for the closure baseline. Impacts associated with disposal and/or reuse activities may then be addressed by comparing projected conditions under various reuses to closure conditions. A reference to preclosure conditions is provided, where appropriate (e.g., air quality) in this document, in order to provide a comparative analysis over time. Data used to describe the preclosure reference point is that which depicts conditions as close as possible to the closure announcement date. This will assist the decision-maker and agencies in understanding potential long-term impacts in comparison to conditions when the installation was active.

3.2 LOCAL COMMUNITY

Eaker AFB is located in the northeast corner of Arkansas, in Mississippi County, 3 miles south of the Missouri border, and approximately 11 miles west of the Mississippi River and the Tennessee border (Figure 3.2-1). The



EXPLANATION

- 40 Interstate Highway
- 63 U. S. Highway
- State Boundary
- County Boundary
- River

0 2.5 5 10 Miles

Regional Map

Figure 3.2-1

base is in the eastern lowland portion of the Central Mississippi River Valley. Most of this area was incorporated into the city of Blytheville in 1961. A 26-acre parcel in the northwest corner of the base lies within the city limits of Gosnell. The total area of Eaker AFB comprises 3,286 acres (Figure 3.2-2). The topography of the base is relatively flat, which is typical of a Mississippi River floodplain. Elevations average approximately 250 feet mean sea level (MSL) and vary only 20 feet, from approximately 245 feet MSL at the southeast end of the base in the vicinity of Pemiscot Bayou to 265 feet MSL at the northwestern end of the base near the firing range.

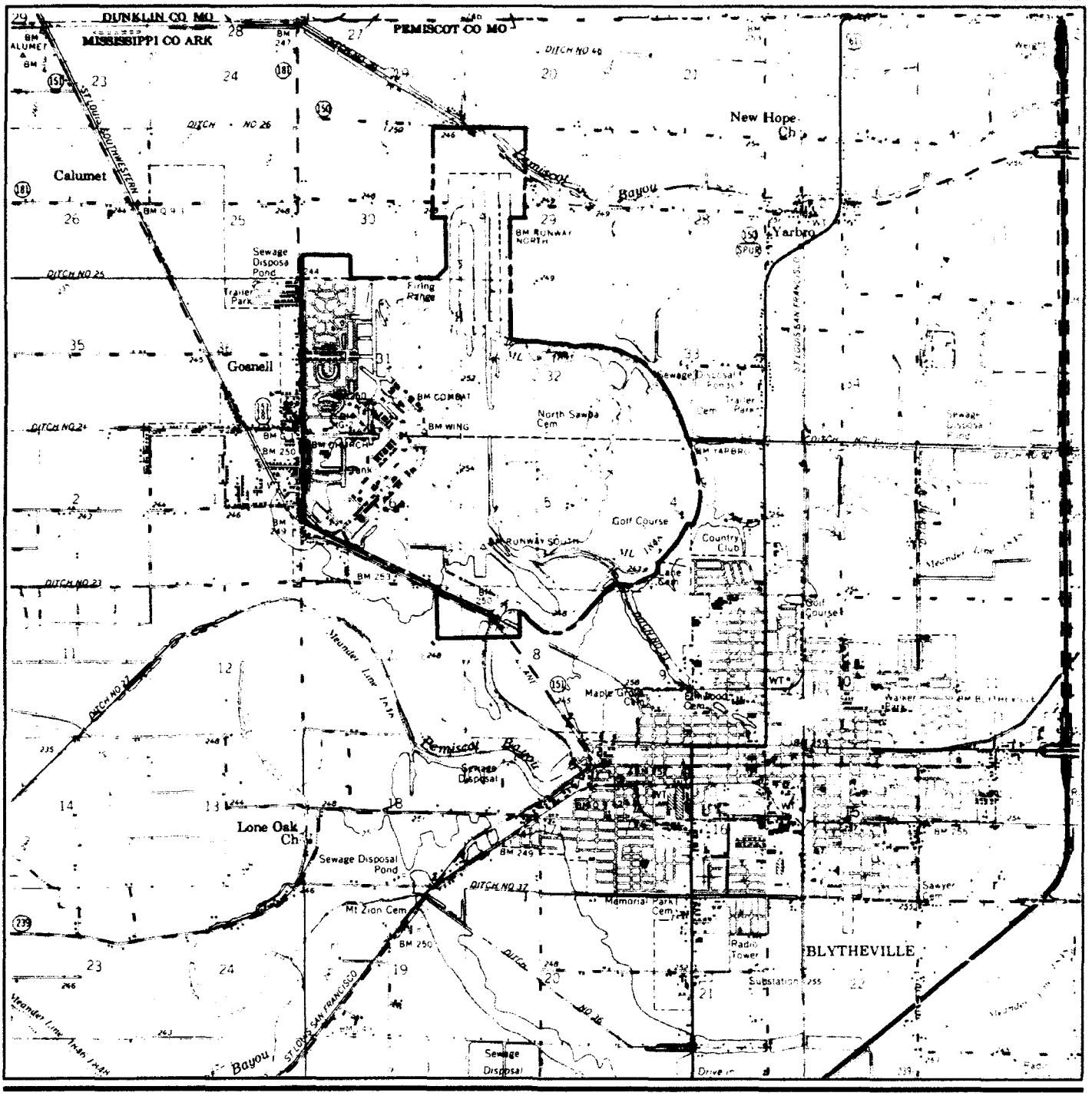
The climate in the Blytheville region is subtropical, with mild winters and hot, humid summers. July is the hottest month of the year with an average maximum daily temperature of 90°F. The coldest month is January with an average minimum daily temperature of 28°F. The average annual precipitation is 48.3 inches, which is fairly evenly distributed throughout the year. The average annual relative humidity is 69 percent. In this region flooding does occur during periods of prolonged heavy rainfall, and during the summer months climatic conditions make tornado formation possible.

Eaker AFB is in proximity to the Burlington Northern railroad line and the U.S. Interstate Highway System. Interstate 55, a north-south highway, connects Blytheville with Interstate 40 and Memphis, Tennessee, to the south and St. Louis, Missouri, to the north. The closest commercial airport is in Memphis, about 60 miles south of Blytheville; however, Blytheville has a small municipal airport without commercial service (Figure 3.2-7).

Installation Background

Eaker AFB was activated as the Blytheville Army Airfield in 1942. Among the property acquired for the new air base was a 3-acre parcel containing a cemetery associated with a small county church, established in 1875. The airfield served as an advanced flying school, and its role as a training center continued until the end of World War II. After the war, the base was used as a processing center for personnel being discharged until the installation was deactivated in 1945. Upon deactivation, control of the land was transferred to the city of Blytheville. From 1947 to 1955, the site was used for manufacturing, private housing, and an airport. The base was reactivated as Blytheville AFB in 1955 under the control of the Tactical Air Command, and became home to the 461st Bombardment Wing, which was deactivated in 1958. The base was then transferred to the 4229th Air Base Squadron, Strategic Air Command (SAC).

The 97th Combat Support Group assumed command of Blytheville AFB in 1959 and the base became the home of the 97th Bombardment Wing. In 1972, crews from Blytheville were deployed to Southeast Asia and flew the final bombing missions over Vietnam and Cambodia. In 1990 the 97th



EXPLANATION

---- Base Boundary

Eaker AFB and Vicinity

0 1/4 1/2 1 Mile

Map Source: U.S. Geological Survey, 1976.

Figure 3.2-2

Bombardment Wing was deployed to the Middle East for bombing missions over Iraq as part of Operation Desert Storm.

Blytheville AFB was considered several times for closure between 1975 and 1985. In 1988, the base was renamed Eaker AFB in honor of the late General Ira C. Eaker. It came under the control of the Air Combat Command in June 1992, with the disestablishment of SAC.

3.2.1 Community Setting

The area surrounding Eaker AFB is mostly agricultural; the community of Blytheville is 2 miles to the south and east of the base, and the community of Gosnell is on the west boundary of the base. A five-county area (Craighead, Greene, and Mississippi counties, Arkansas; and Dunklin and Pemiscot counties, Missouri) is considered the ROI for purposes of describing and analyzing employment and population effects. The broader five-county ROI is meant to capture fully the region's economic interdependence, while at the same time attempting to measure the widest area possible for reuse effects. However, this should not be misinterpreted as meaning that reuse effects are expected to occur proportionally between all five counties. Rather, the substantial number of population and employment effects from closure and reuse of the base are projected to occur in Mississippi County, primarily in the communities of Blytheville and Gosnell. These adjacent communities are, therefore, highlighted in the analysis (see Figure 3.2-1).

Total employment in the five-county region was 106,600 in 1990 and was projected to be 105,400 at closure. Overall employment in the region increased 1.3 percent annually between 1970 and 1990. The national and state average growth rates were approximately 2.2 percent during the same period. The sectors showing the greatest amount of growth during the mid-1980s were manufacturing and government. Agricultural employment decreased during the same period.

Population in the five-county region was about 213,300 in 1990 and is projected to be approximately 205,500 at closure. Populations in the communities of Blytheville and Gosnell were 22,910 and 3,780, respectively, in 1990, and are projected to be 18,720 and 2,100 at closure.

In the case of closure, 90 percent of the base-related out-migration within the ROI is expected to originate from Mississippi County. Both Blytheville and Gosnell are projected to combine for 90 percent of Mississippi County's population out-migration.

The number of housing units in the region increased during the 1980s. Approximately 86,800 units were available in 1990. The average annual growth rate for housing in the region was 0.6 percent. The homeowner

vacancy rate in 1990 was 2.4 percent and the renter vacancy rate was 9.0 percent in the community of Blytheville. In the community of Gosnell the corresponding vacancy rates were 1.6 percent and 7.5 percent, respectively (U.S. Bureau of the Census, 1991).

Eaker AFB employed approximately 3,600 personnel (2,890 military and 710 civilian) in 1990 as reported in the Economic Resource Impact Statement (U.S. Air Force, 1990b). This represents 3.4 percent of the jobs in the five-county ROI. In Fiscal Year (FY) 1991, approximately $76 million in military and civilian payrolls flowed directly from Eaker AFB into the local region, with an additional $16 million in construction and service contracts. By closure, employment will decrease to 50 jobs associated with the OL at Eaker AFB.

3.2.2 Land Use and Aesthetics

This section describes the land uses and aesthetics for the base property and the surrounding areas of Eaker AFB at base closure. Projected land uses at closure are assumed to be similar to existing land uses in the vicinity of the base unless specific development plans project a change. The ROI includes the base property and potentially affected adjacent properties that are within the jurisdiction of the cities of Blytheville and Gosnell and portions of Mississippi County.

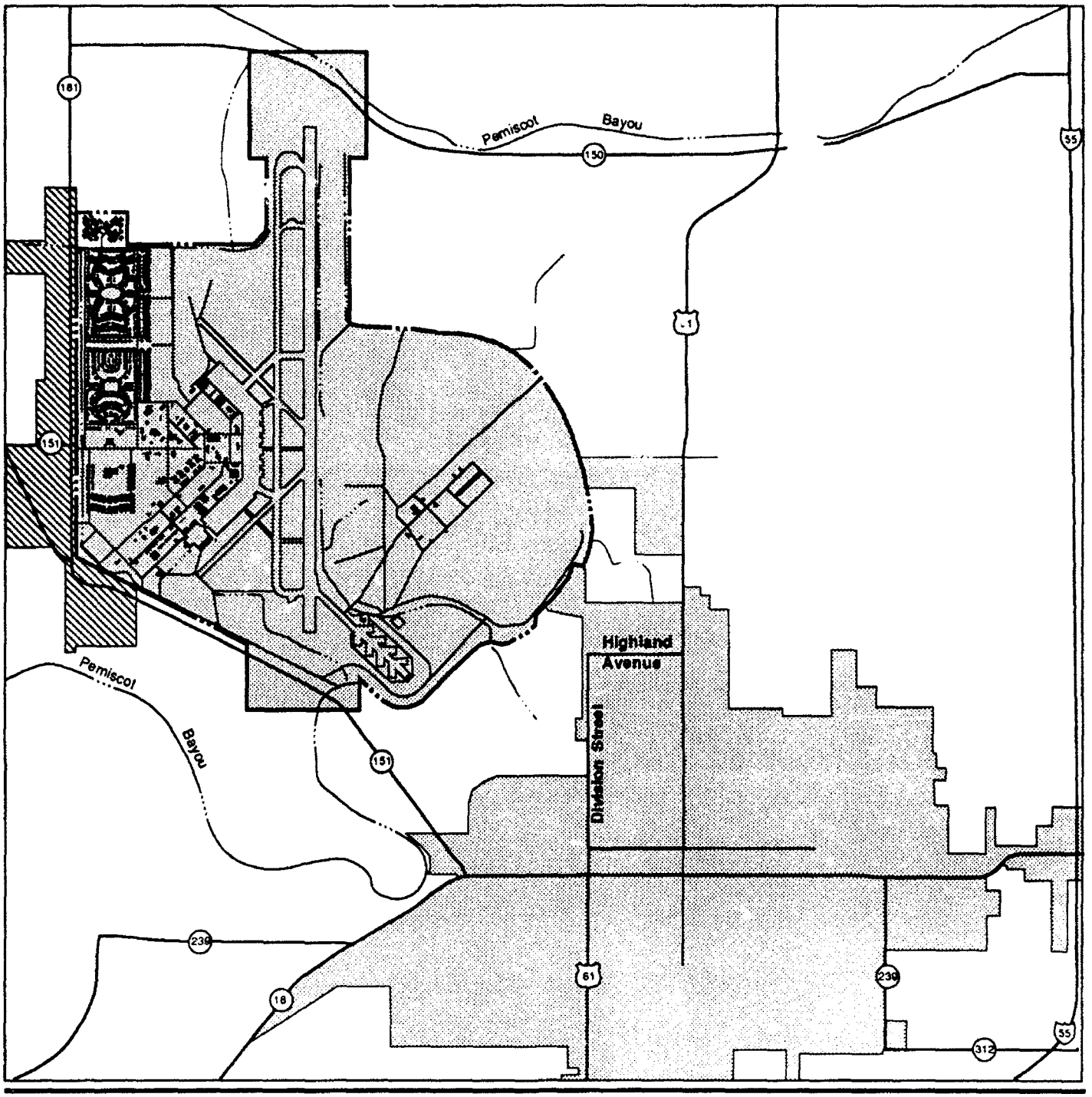
Eaker AFB is owned by the U.S. Government and lies within the corporate limits of the city of Blytheville except for 26 acres in the northwest corner of the base, which are within the jurisdictional boundaries of the city of Gosnell (Figure 3.2-3).

3.2.2.1 Land Use

Land Use Plans and Regulations. The general plan for a jurisdiction represents the official position on long-range development and resource management. The position is expressed in goals, policies, plans, and actions regarding the physical, social, and economic environments, both now and in the long term.

Eaker AFB adjoins the cities of Blytheville and Gosnell. The city of Blytheville regulates planning, zoning, and subdivision control within its boundary and has extraterritorial jurisdiction for planning and subdivision review outside its boundary. The city of Gosnell does not have any zoning or subdivision regulations. Unincorporated areas surrounding the base are under the jurisdiction of Mississippi County, which also does not have zoning or subdivision regulations.

Zoning. Zoning provides for the division of the jurisdiction, in conformity with the general plan, into districts within which the height, open space,



EXPLANATION

- City of Blytheville
- City of Gosnell
- Mississippi County
- Base Boundary

0 1000 2000 4000 feet

City Boundaries

Figure 3.2-3

building coverage, density, and types of future land use are set forth. Zoning is designated to achieve various community development goals, including base reuse plans.

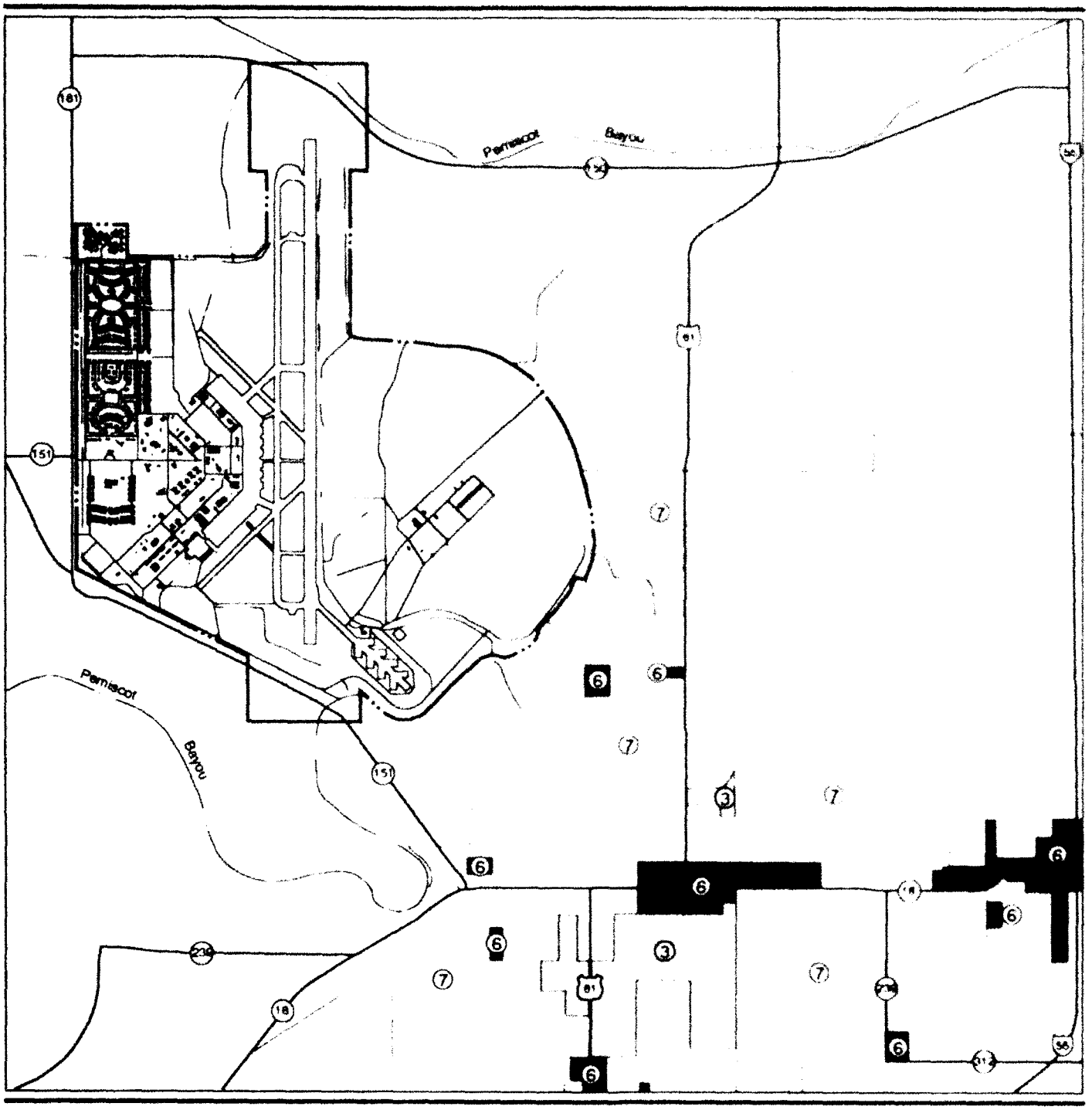
Most of Eaker AFB is within the city limits of Blytheville. The city adjoins the base in two small areas north of Highland Avenue (Figure 3.2-3). The portion of Eaker AFB incorporated in Blytheville's city limits is not included on the current zoning map (Figure 3.2-4). Blytheville would be responsible for zoning most of the base property if transferred to private ownership. With the exception of two small commercial zones in the north portion of the city, all land zoned by the city near Eaker AFB is zoned residential. In the city, the zoning is predominantly residential with some commercial and industrial zones located in south-central Blytheville primarily along SH 18 and U.S. 61. The city of Gosnell and Mississippi County control the remaining land surrounding Eaker AFB; neither of these jurisdictions has any zoning ordinances.

On-Base Land Use. Land use identifies the present land utilization by various general categories. Existing (preclosure) land uses on base property are described in this section. The base property, which comprises 3,286 acres, includes the following general land uses:

Land Use	Acreage
Airfield	722
Aviation support	57
Industrial	285
Institutional (medical)	21
Commercial	82
Residential	264
Public/recreational	204
Agriculture	1,383
Vacant land	268
Total	**3,286**

The existing land uses for Eaker AFB and vicinity are shown in Figure 3.2-5. The following text briefly describes on-base land use categories.

The **airfield** land use at Eaker AFB contains facilities to support an active military flying installation with an operational airfield. The airfield consists of one Runway (18/36) which is 11,600 feet long and 300 feet wide. The southern end of the runway is in poor condition. The airfield also includes aircraft parking ramps, taxiways, and the alert pad. Navigational aids on Runway 18/36 include tactical air navigation (TACAN), VOR, and approach surveillance radar (ASR). Although the airfield equipment is generally well maintained and in good condition, most of the equipment does not meet



EXPLANATION

- 1 Airfield ★
- 2 Aviation Support ★
- 3 Industrial
- 4 Institutional ★
- 5 Institutional (Education) ★
- 6 Commercial
- 7 Residential
- 8 Public/Recreation ★
- 8 Archaeological/ Open Space ★
- 9 Agriculture ★
- 10 Vacant Land ★
- Base Boundary

0 1000 2000 4000 feet

★ Not Applicable

Local Zoning

Figure 3.2-4

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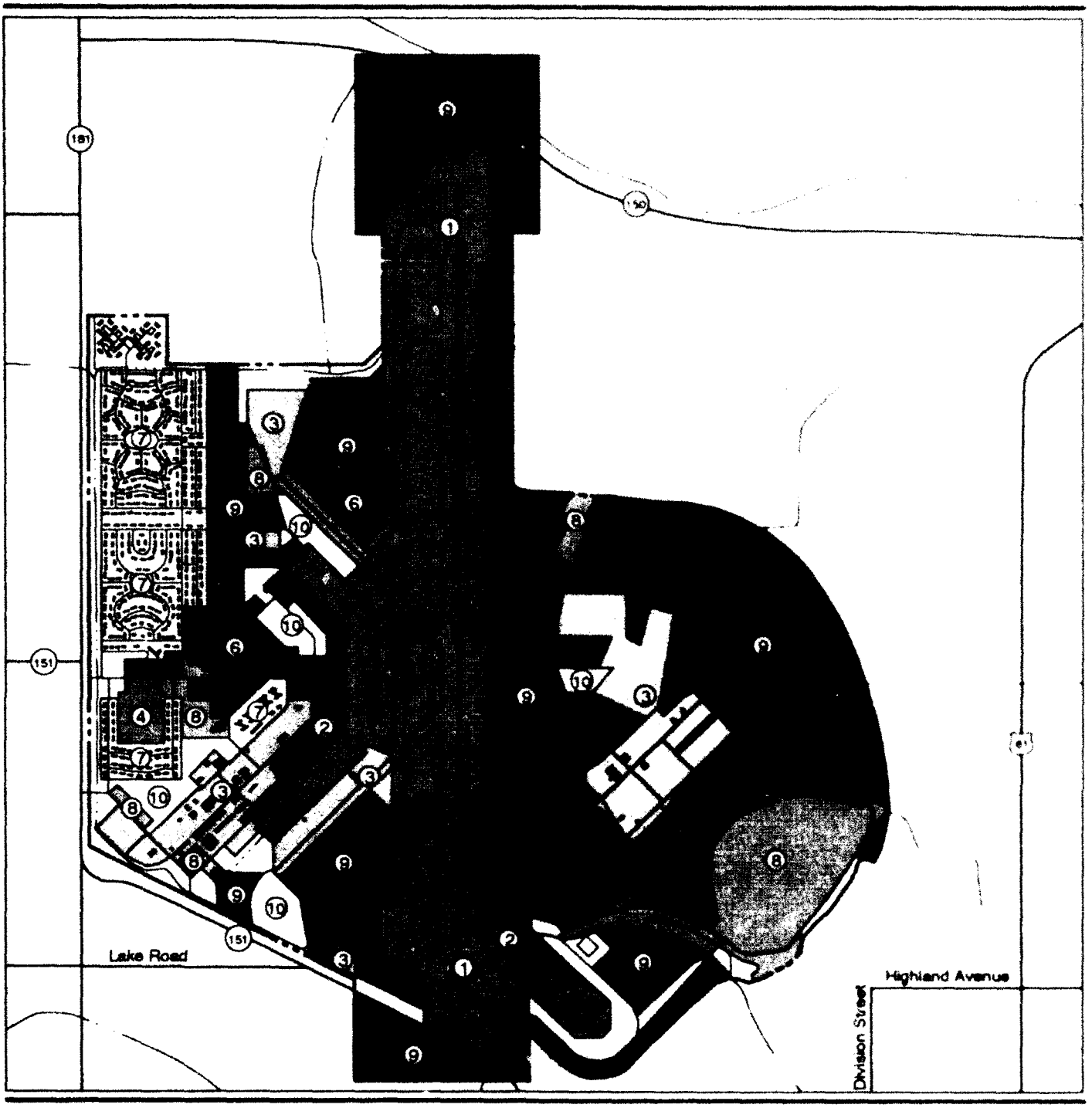


EXPLANATION

- 1 Airfield
- 2 Aviation Support
- 3 Industrial
- 4 Institutional (Medical)
- 5 Institutional (Education) ★
- 6 Commercial
- 7 Residential
- 8 Public/Recreation
- 8 Archaeological/ Open Space ★
- 9 Agriculture
- 10 Vacant Land
- Base Boundary

0 625 1250 2500 Feet

★ Not Applicable

Existing On-Base Land Use

Figure 3.2-5

FAA standards. A renovated aircraft control tower and new fire department facility are centrally located adjacent to the flightline.

The aviation support areas contain facilities for aircraft ground equipment and jet engine maintenance. The facilities include equipment repair shops, small hangar, warehouses, and administrative offices. Aviation support areas are generally located adjacent to the aircraft parking areas.

The industrial area is found throughout the base. Facilities used for aviation maintenance and warehousing are generally in good condition with a mixture of new and old buildings. The munitions storage area is centrally located in the eastern half of the base and contains two warehouse buildings that were constructed in 1985. These buildings are of metal skin construction with reinforced concrete walls. The area also has 20 additional concrete structures used for munitions storage.

The medical area, in the southwest quadrant of the base, includes the base hospital and an associated portable structure. The facility provides a full range of medical and dental services.

Approximately 60 percent of the office space in the commercial area is located within a two-block area. The office facilities on base are generally in good condition. An additional commercial area supports both the retail and service needs of base personnel. Facilities include the base exchange, commissary, bowling alley, bank, beverage store, automobile service station, post office, child care center, movie theater, and temporary lodging facilities.

The residential areas at Eaker AFB include single-family, duplex, and multi-family housing units and dormitories. The Eaker AFB family housing area is approximately 30 years old and consists of 928 units located on the western side of the base. The housing consists of 100 multi-family units, 820 duplex units and 8 single-family homes. The multi-family units are fourplexes, constructed in 1976 in the northwest corner of the base. The duplexes and single-family residences, constructed in 1958 and 1961, have been well maintained and are generally in good condition; however, several of the duplexes have settled as a result of unstable soil conditions. Approximately 30 percent of the duplex units were renovated in 1990 and 1991. Open space areas with playgrounds are located in 3 acres of the housing complex. The housing area is landscaped with grass yards and large shade trees.

Other residential areas at Eaker AFB include alert crew facilities, visitors' quarters, and enlisted personnel dormitories. The alert crew facilities are contained in three buildings, one in the northeast area of the main base development and two near the alert pad. Visitors' quarters include three 3,400-square-foot residences north of Memorial Drive in the residential area.

The dormitories, two constructed in 1984 and two in 1987, are located in the west-central portion of the base, near the gymnasium. They are well maintained with greenbelt areas and ample parking.

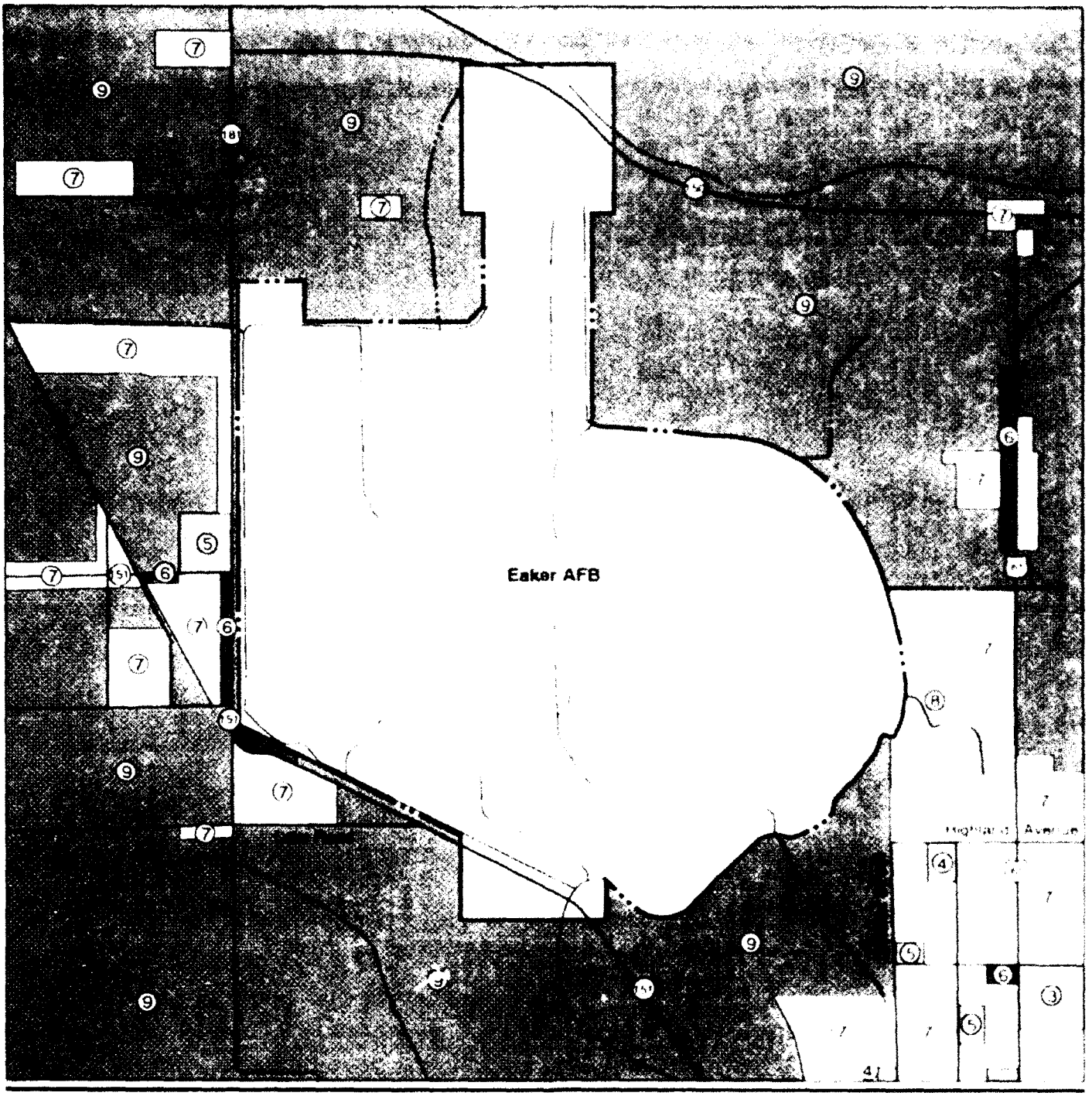
Public/recreational facilities include a 9-hole golf course adjacent to the southeastern base boundary. The course includes a clubhouse/pro shop and driving range. Indoor recreational facilities include a gymnasium and a youth center. The gymnasium was recently expanded and contains five racquetball courts and two basketball courts. Baseball fields, tennis courts, and an exercise course are located southwest of the base gymnasium. An outdoor swimming pool is located near the dormitories. An additional swimming pool is located at the Officers' Club. Additional public/ recreational facilities include a recreational center and an automobile/hobby shop.

The U.S. Department of Agriculture, Soil Conservation Service (SCS) has determined that all arable land on Eaker AFB is prime farmland. Between 1945 and 1954, the open land on base was leased for agricultural purposes. With the reactivation of the airfield in 1954, the lease was terminated. Beginning in 1970, the open land was again leased for agricultural purposes. The primary crops grown on base are alfalfa, cotton, soybeans, and wheat. Approximately 1,383 acres of base property are currently farmed. Restrictions have been placed on the types of agricultural activities allowed in areas of known archaeological sites (see Sections 3.4.6.1 and 4.4.6.1).

Adjacent Land Use. The predominant existing land use surrounding Eaker AFB is agricultural, with some residential parcels (Figure 3.2-6). Agricultural crops include cotton, soybeans, and winter wheat. Residential land uses surround the base.

To the north and northeast the residences are generally located along SH 150 and U.S. 61 in an unincorporated area of Mississippi County. To the east and southeast of the base within the city limits are residential land uses and the Blytheville Country Club adjacent to the base boundary. To the south and southwest of the base the land use is predominantly agricultural except for the contiguous development west of the base, within the city of Gosnell. This development is residential interspersed with agricultural areas. The land use along SH 151 and SH 181 immediately west of the base is a mixture of residential and commercial uses. The Gosnell public school facilities are near the base Main Gate. Northwest of the base the land uses are primarily agricultural; residential uses are generally concentrated along SH 181 and the county roads and are mostly within the city of Gosnell.

Local land use is not anticipated to change rapidly in the future. Residential uses will continue to exist primarily within the city limits of Blytheville and



EXPLANATION

- ① Airfield ★
- ② Aviation Support ★
- ③ Industrial
- ④ Institutional (Medical)
- ⑤ Institutional (Education)
- ⑥ Commercial
- ⑦ Residential
- ⑧ Public/Recreation
- ⑧ Archaeological Open Space ★
- ⑨ Agriculture
- ⑩ Vacant Land ★
- On Base Property
- Base Boundary

0 750 1500 3000 feet

★ Not Applicable

Existing Off-Base Land Use

Figure 3.2-6

Gosnell. Agricultural uses should continue to dominate the unincorporated areas surrounding the cities of Blytheville and Gosnell.

The Air Force outgrants a number of leases, easements, and licenses to other agencies for use of base property. These include roadways, utilities, services (e.g., bank, credit union), and work space in base facilities. The terms of these outgrants range from 5 to 99 years (Table 3.2-1).

Table 3.2-1. Inventory of Easement Agreements, Licenses, Permits, and Leases in Effect at Base Closure

Document Number	Expiration Date	Description/Location	Responsible Party
DACA 63-2720365	06/30/1996	Bldg. 517 and parking lot	First National Bank
DACA 63-1-83506	09/10/2007	Telephone exchange facility	Southwestern Bell
DACA 03-2-83510	09/10/2007	Water and sewer lines	Southwestern Bell
DACA 03-2-82516	09/10/2007	UG telephone cable	Southwestern Bell
DACA 03-2-77501	11/15/2075	SH 151 right-of-way	Arkansas Highway Commission
DACA 03-1700066	06/30/1994	Telephone lines and utility poles	Southwestern Bell
DACA 03-1-90504	12/31/1994	Agricultural use	Private individual
DACA 03-1-85504	08/31/1994	Microwave tower	AT&T Communications
DACA 03050ENG3860	04/05/1996	POL pipeline	Blytheville River Rail

UG = Underground.
POL = Petroleum, oils, and lubricants.

Air Force Policies Affecting Adjacent Land Uses. The Air Force has developed the Air Installation Compatible Use Zone (AICUZ) program to minimize development that is incompatible with aviation operations in areas on and adjacent to military airfields. The AICUZ land use recommendations are based on (1) land uses compatible with exposure to aircraft noise and (2) safety considerations. Recommended compatible land uses are derived from data on noise contours (noise zones) and safety zones (Accident Potential Zones [APZs]). Noise Zones and APZs are delineated specifically for each base, using operational information derived from the base mission. Municipalities with jurisdiction over adjacent lands may zone this land in 5accordance with AICUZ recommendations, but they are not required to do so. The most recent AICUZ report for Eaker AFB was issued in 1976. Blytheville's zoning ordinance does not address the AICUZ. Most of the AICUZ noise contours and all of APZ I and APZ II are located outside the Blytheville city limits.

AICUZ noise contours are based on standard noise ratings that are calculated from types of aircraft, number of aircraft daily operations, time of day flown, aircraft flight patterns, power, settings, air speeds, altitudes, and climatic conditions (U.S. Air Force, 1976). A day-night weighted average sound level (DNL) is used to describe the noise environment. Noise contours for preclosure conditions at Eaker AFB are presented and discussed in Section 3.4.4. A total of 40,200 acres were exposed to aircraft noise levels of DNL 65 decibels (dB) and above prior to closure. Within these areas are residential, commercial, and institutional land uses.

The AICUZ delineates areas at both ends of the runway where the probability of aircraft accidents is highest, based on the locations of past aircraft accidents. The risk of accidents is so high in the area at either end of the runway (known as the Clear Zone [CZ]) that the Air Force has a program to acquire easements to preclude most land uses. Certain land use restrictions are recommended in lower risk areas, identified as APZ I and APZ II.

At Eaker AFB, there are agricultural land uses within the CZ. Industrial, agricultural, recreation, and vacant land uses are compatible with APZ I, but residential and other high population density land uses are discouraged. Only agricultural land uses are present at Eaker AFB within APZ I. Low intensity residential and nonresidential uses (maximum of 20 percent building coverage per acre) are compatible with APZ II, in addition to those uses listed for APZ I. At Eaker AFB, there are approximately ten agricultural related single-family residential units within APZ II.

The AICUZ program applies only to military airfields. Similar criteria are established by the FAA for civilian airports. After the closure of Eaker AFB, FAA criteria will apply if airport activities are continued.

Closure Baseline. Under baseline conditions, Eaker AFB would be closed and airfield operations would be terminated, removing all land use conflicts and constraints associated with the AICUZ.

3.2.2.2 Aesthetics. Visual resources include natural and man-made features that give a particular environment its aesthetic qualities. Criteria used in the analysis of these resources include visual sensitivity, which is the degree of public interest in a visual resource and concern over adverse changes in its quality. Visual sensitivity is categorized in terms of high, medium, or low levels.

High visual sensitivity exists in areas where views are rare, unique, or in other ways special, such as in remote or pristine environments. High-sensitivity views include landscapes that have landforms, vegetative patterns, water bodies, or rock formations of unusual or outstanding quality.

Areas of medium visual sensitivity are more developed than those of high sensitivity. Human influence is more apparent in these areas and the presence of motorized vehicles and other evidence of modern civilization are commonplace. These landscapes generally have features containing varieties in form, line, color, and texture, but tend to be more common than high visual sensitivity areas.

Low visual sensitivity areas tend to have minimal landscape features, with little change in form, line, color, and texture.

Only the south and west sides of Eaker AFB are readily visible from off base as viewed from SH 151 and 181. Although the north end of the runway is visible from SH 150, the built-up portions of the base are not easily visible. The east side of the base is not readily visible from U.S. 61, which is approximately 1/2 mile from the base boundary at its closest point.

The land forms at Eaker AFB are flat, typical of the northern part of the Gulf Coastal Plains section of the Coastal Plains Physiographic Province. The vicinity around the base is also flat with little topographic relief and low visual sensitivity.

The areas of medium visual sensitivity include the residential developments, located along the west side of the base in the city of Gosnell and to the east in the city of Blytheville, and the Pemiscot Bayou, on the eastern and southeastern boundaries of Eaker AFB, which contains several species of mature trees.

Most of the buildings on Eaker AFB are one- and two-story, constructed from a variety of materials including corrugated metal, brick, shingles, metal and wood siding, and stucco. Taller structures include one 3-story building, one control tower, and one parachute tower. Architectural style on base can be categorized by specific areas and functions. The dominant architectural feature throughout the housing area is brick and hardboard siding. In the industrial area, metal siding and roofing provide an architectural statement that emphasizes the facilities' uses as well as providing low maintenance through weather-durable materials. The administrative and recreational facilities utilize stucco exteriors that provide visual consistency. The architecture at Eaker AFB is of low to medium visual sensitivity.

Eaker AFB landscaping consists mainly of trees along the streets; secondary emphasis has been placed on vegetation screens and randomly placed shade trees in open areas. Landscaping for the housing areas is most pronounced because of current and ongoing street tree plantings, screen/buffer plantings, and mulch beds that combine trees and shrubs. The predominant street tree species on base include willow, oak, red oak, pin oak, and honey

locust. The landscape plantings along the west side of the base are of low to medium visual sensitivity.

No areas at or surrounding Eaker AFB exhibit high visual sensitivity.

3.2.3 Transportation

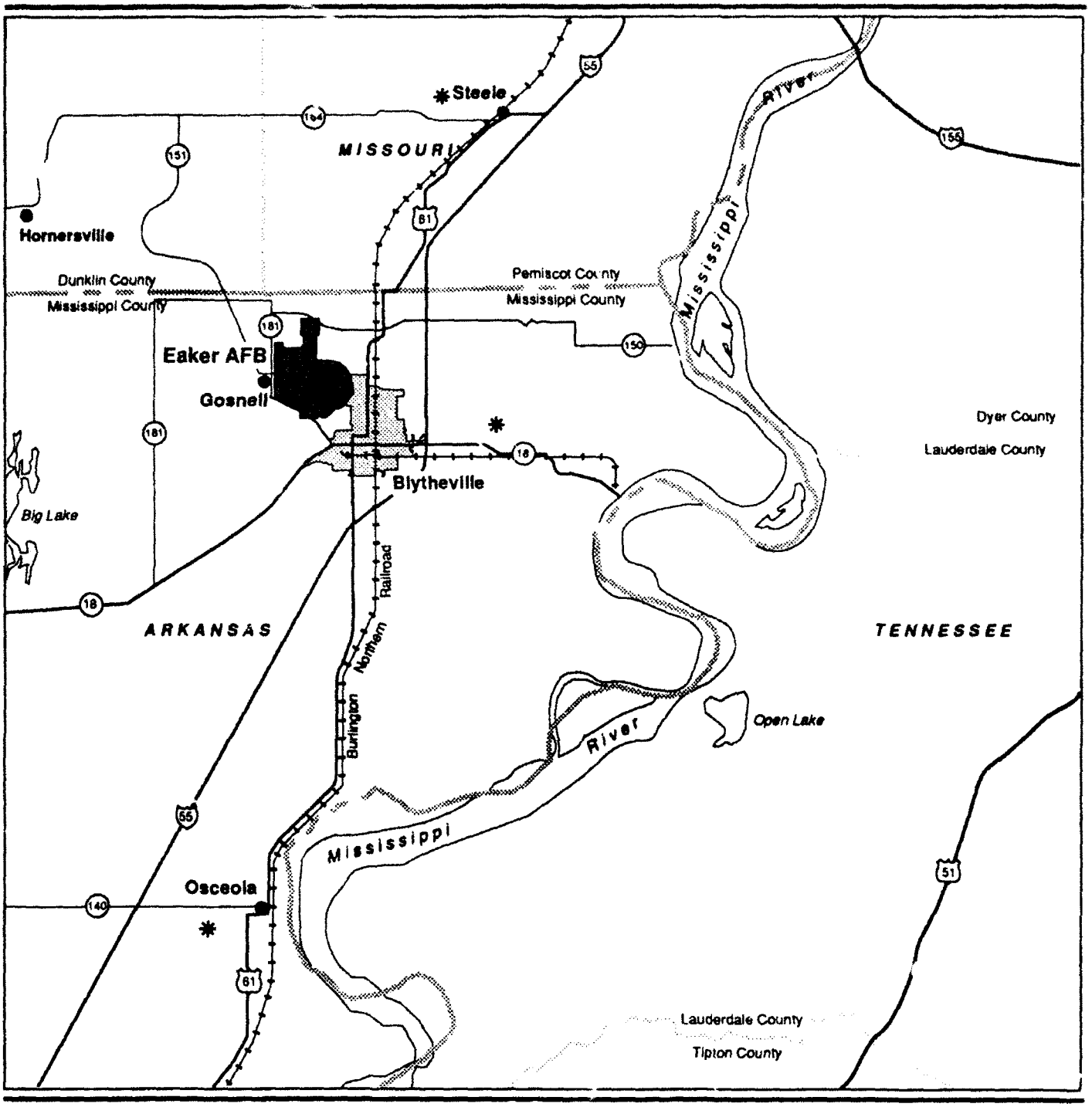
Transportation addresses roadways, airspace and air transportation, and other modes of transportation. The ROI for the transportation analysis includes the existing principal road, air, rail, and waterway networks in the local communities of Blytheville and Gosnell with emphasis on the immediate area surrounding Eaker AFB. Within this geographic area, the analysis focuses on the segments of the transportation networks that serve as direct or key indirect linkages to the base and those that are commonly used by Eaker AFB personnel.

3.2.3.1 Roadways. The evaluation of the existing roadway conditions focuses on capacity, which reflects the ability of the network to serve the traffic demand and volume. The capacity of a roadway depends mainly on the street width, number of lanes, intersection control, and other physical factors. Traffic volumes typically are reported, depending on the project and data base available, as the daily number of vehicular movements in both directions on a segment of roadway averaged over a full calendar year (average annual daily traffic [AADT]) or the number of vehicular movements on a road segment during the average peak hour. The average peak-hour volume on urban arterials typically is about 10 percent of the AADT and for rural highways may be as high as 25 percent (Transportation Research Board, 1985). These values are useful indicators in determining the extent to which the roadway segment is used and in assessing the potential for congestion and other problems.

The performance of a roadway segment is generally expressed in terms of 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, B, and C are considered good operating conditions where minor or tolerable delays are experienced by motorists. LOS D and E represent below average conditions. LOS F represents a situation of unstable stop-and-go traffic. Table 3.2-2 presents the LOS designations and their associated volume-to-capacity ratios. These levels are based primarily on the *Highway Capacity Manual* (Transportation Research Board, 1985).

Existing roads and highways within the ROI are described at three levels: (1) regional, representing the major links within Mississippi County; (2) local, representing key community roads; and (3) on-base roads.

Regional. The region surrounding Eaker AFB is served by a network of freeways (interstate) and multi- and two-lane highways (Figure 3.2-7).



Regional Transportation System

Figure 3.2-7

Table 3.2-2. Road Transportation Levels of Service

LOS	Description	Criteria (Volume/Capacity)		
		Freeway	Multi-lane Arterial	2-Lane Highway
A	Free flow with users unaffected by presence of other users of roadway	0.0 35	0.0 36	0.0 15
B	Stable flow, but presence of the users in traffic stream becomes noticeable	0 36-0 54	0 36-0 54	0 16 0 27
C	Stable flow, but operation of single users becomes affected by interactions with others in traffic stream	0 55-0 77	0 55-0 71	0 28-0 43
D	High density, but stable flow; speed and freedom of movement are severely restricted; poor level of comfort and convenience	0 78-0 93	0 72-0 80	0 44-0 64
E	Unstable flow; operating conditions at capacity with reduced speeds, maneuvering difficulty, and extremely poor levels of comfort and convenience	0 94-1 00	0 81-1 00	0 65 1 00
F	Forced or breakdown flow with traffic demand exceeding capacity; unstable stop-and-go traffic	1 00	1 00	1 00

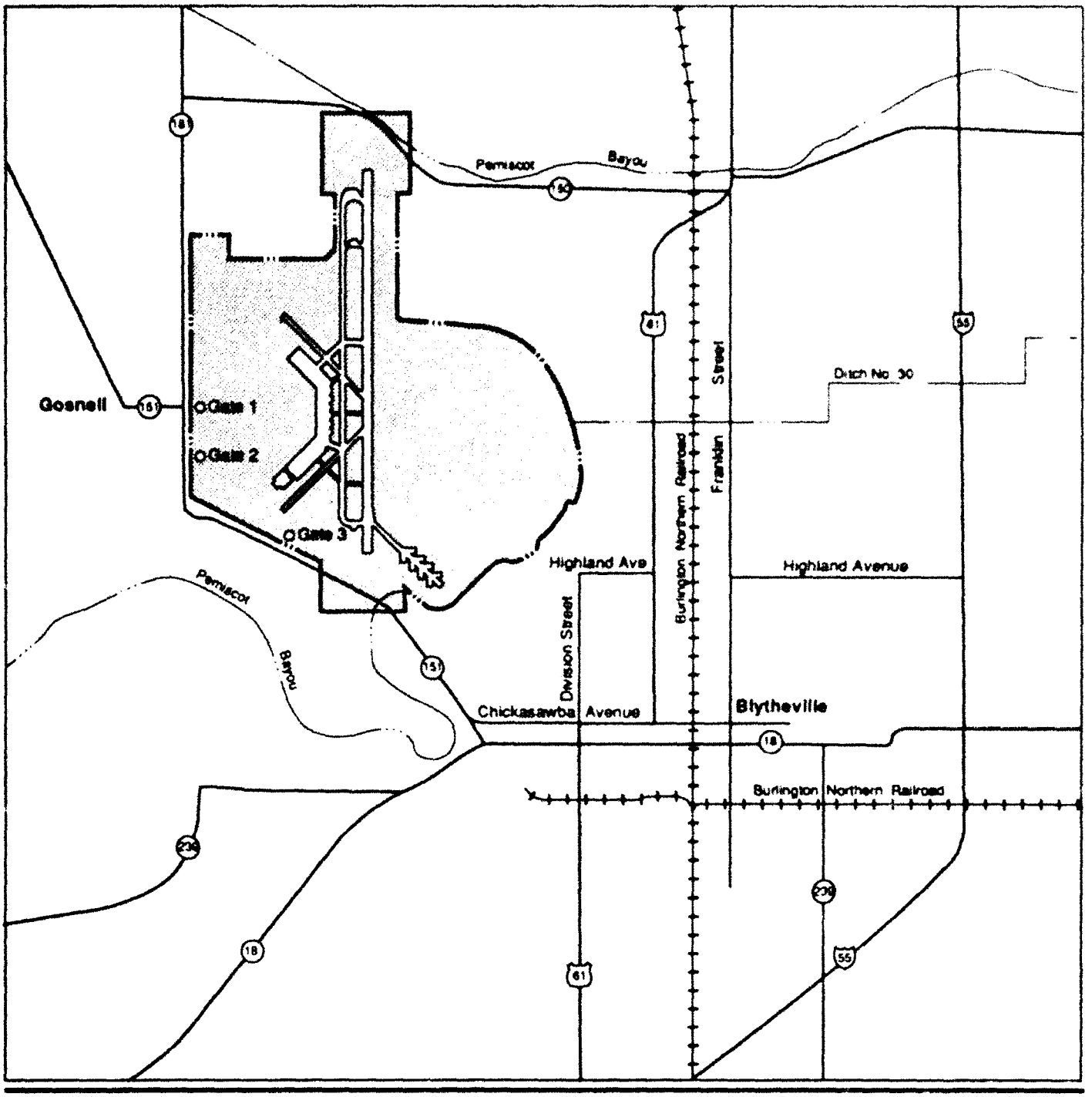
Source: Transportation Research Board, 1985.

Interstate 55, on the east side of Blytheville, provides regional access to Memphis, Tennessee, 60 miles to the south, and to St. Louis, Missouri, 230 miles to the north. Primary access to Interstate 55 from Blytheville is via SH 150, SH 18, and U.S. 61. The AADT on Interstate 55 ranges from 10,740 vehicles north of U.S. 61 to 11,200 vehicles north of SH 18.

Local. Figure 3.2-8 identifies the general local road network in the immediate vicinity of Eaker AFB and projected to be in place at the time of base closure. Access to Eaker AFB is gained through the Main Gate (Gate 1) or at two other gates to the south. All gates open onto SH 151, which connects Blytheville and Gosnell.

SH 151 is a four-lane, undivided roadway with speed limits varying from 50 miles per hour (mph) between Blytheville and Gosnell to 35 mph within the city limits of Gosnell. Immediately north of Gate 1, SH 151 joins SH 181 and turns west-northwest toward Missouri with an AADT of 3,300 vehicles. Directly north the four-lane roadway ends and SH 181 continues north to Missouri as a two-lane roadway with an AADT of 3,500 vehicles.

From Gate 1, SH 151 heads south and intersects with SH 18 (Main Street). The AADT on SH 151 ranges from 14,000 vehicles in Gosnell to 11,800 vehicles near SH 18.



EXPLANATION

- Highways
- Railroads
- Base Boundary
- Drainage
- (55) Interstate Highways
- (61) U.S. Highways
- (18) State Highways

0 1/4 1/2 1 Mile

Local Transportation System

Figure 3.2-8

SH 18 is the principal east-west corridor in Blytheville that connects Interstate 55 with SH 151 and also with Blytheville Municipal Airport. From Interstate 55 west through the city, SH 18 consists of two or four lanes with a speed limit ranging from 25 to 50 mph. East of Interstate 55, SH 18 is four lanes wide and services newly developed industrial facilities. Other key roads in the ROI include the following:

- U.S. 61 (also known as Division Street), a north-south road, extends from an interchange with Interstate 55 south of Blytheville, north through the city, and along the eastern border of the base into Missouri. The AADT ranges from 3,570 vehicles north of Ditch 30 to 8,490 vehicles near Chickasawba Street.

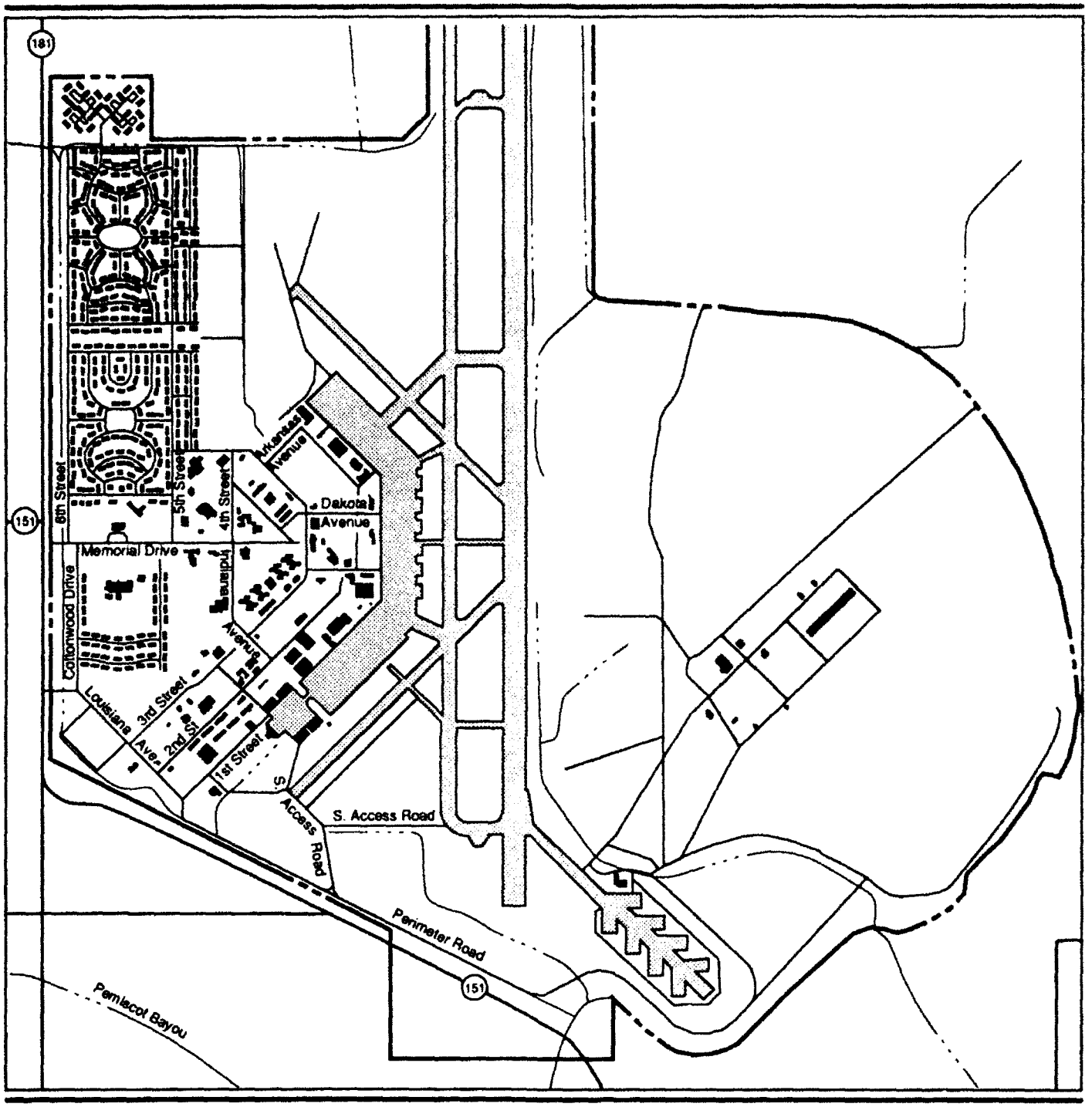
- Highland Avenue, an east-west gravel road in Blytheville, connects Franklin Avenue to the Interstate 55 service road. Another paved segment extends westward from Division Street. A 1-mile gap between the segments includes a grade crossing of the Burlington Northern railroad.

- SH 150, a two-lane east-west connector north of the base, provides access to Interstate 55.

Three gates provide access to the base (Figure 3.2-8). Gate 1 (Main Gate), through which 65 to 75 percent of the base traffic passes, is located at the signalized intersection of SH 151 and Memorial Drive. Gate 2, approximately 1/2 mile south of Gate 1, is open to inbound traffic only during morning rush and lunch hours. Gate 3, located 1-1/2 miles south of Gate 2, is open for both inbound and outbound traffic from 6 a.m. to 6 p.m.

On-Base. Figure 3.2-9 shows the street network on base. Memorial Drive is the major arterial roadway on Eaker AFB. It is a two-lane divided roadway, approximately 40 feet wide, with on-street parking. The speed limit is 25 mph and there are no traffic control devices until the stop sign at Third Street. Second and Third streets and Perimeter Road are major collectors. Fourth, Fifth, and Eighth streets; Cottonwood Drive; and Louisiana Avenue are minor collectors. Each of these collectors is a two-lane, two-way roadway. There are no signalized intersections within the base.

Preclosure Reference. Preclosure (1991) peak-hour traffic volumes, capacities, and LOS on key community roadways are shown in Figure 3.2-10. The eight roadway segments shown on that figure and the local roadways listed above are identified for this study as key community roads because they would provide the most direct access to the Eaker AFB area upon reuse.



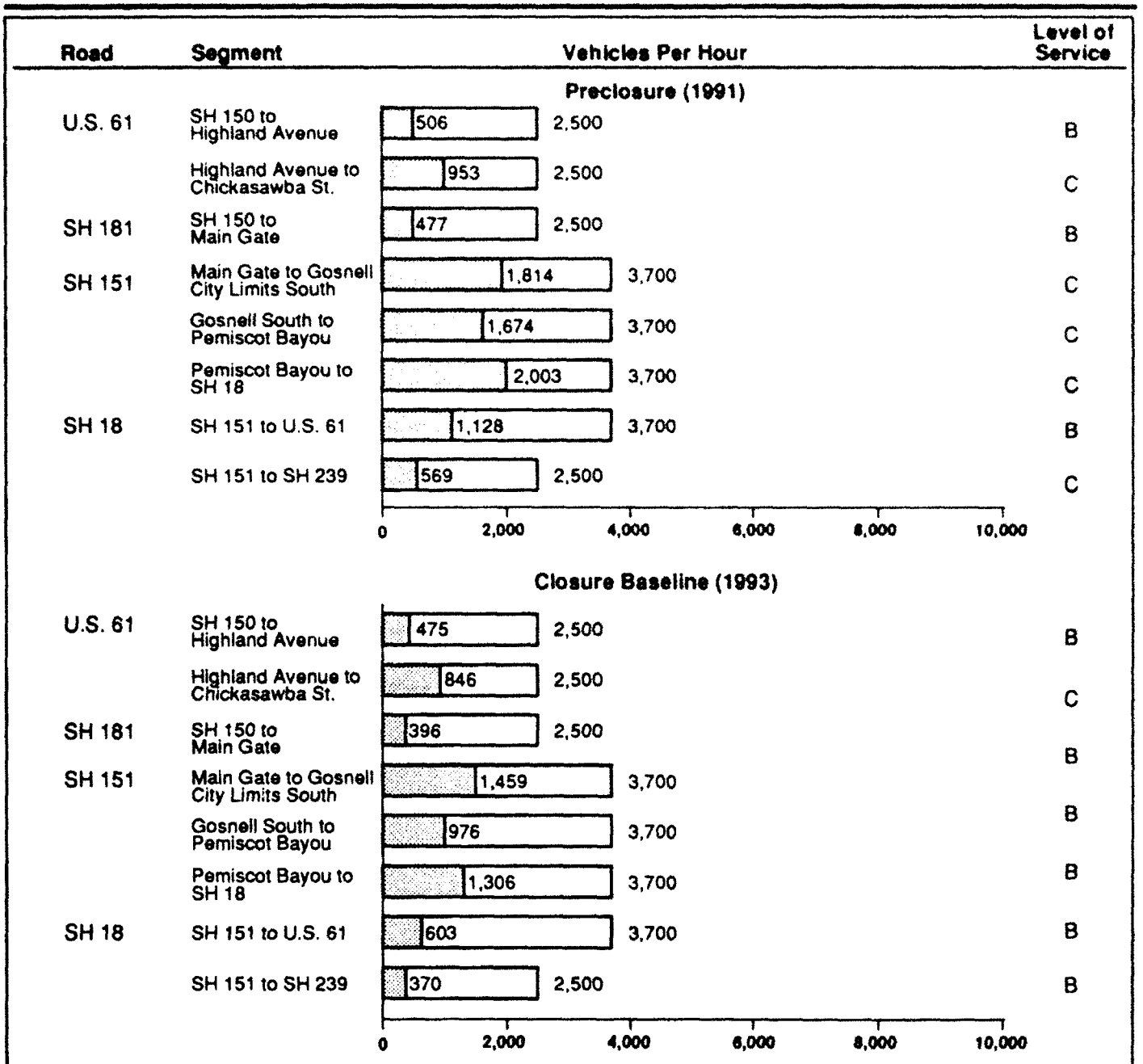
EXPLANATION

- Airfield Pavement
- Base Boundary
- Drainage

Key On-Base Roads

0 475 950 1900 Feet

Figure 3.2-9



Note: 1993 peak-hour volumes are based upon 1991 levels and adjusted consistently with the projected population, less base generated traffic

Sources: Arkansas State Highway Department, 1991; Transportation Research Board, 1985.

EXPLANATION

Peak-Hour Traffic Volume (passenger cars per hour)

Peak-Hour Traffic Capacity (passenger cars per hour)

Peak-Hour Traffic Volumes on Key Community Roads

Figure 3.2-10

Closure Baseline. Upon closure of Eaker AFB, traffic in the vicinity of the base will decrease. Traffic generated by the base will be limited to a small (50-person) OL with the Main Gate being the only access point.

Figure 3.2-10 shows the projected closure (1993) peak-hour trips on the key community roads, including the trips generated by the OL. On-base traffic would be reduced to the movement of the OL which, when compared to preclosure conditions, will be minimal.

3.2.3.2 Airspace/Air Traffic. Airspace is a finite resource that can be defined vertically and horizontally, as well as temporally, when describing its use for aviation purposes. As such, it must be managed and utilized in a manner that best serves the competing needs of commercial, general, and military aviation interests. The FAA is responsible for the overall management of airspace and has established different airspace designations to protect aircraft while operating to or from an airport, transiting between airports, or operating within "special use" areas identified for defense-related purposes. Rules of flight and ATC procedures have been established which govern how aircraft must operate within each type of designated airspace. All aircraft operate under either instrument flight rules (IFR) or visual flight rules (VFR).

The type and dimension of individual airspace areas established within a given region and their spatial and procedural relationships to one another are contingent upon the different aviation activities conducted in that region. When any significant change is planned for a region, such as airport expansion, a new military flight mission, etc., the FAA will reassess the airspace configuration to determine if such changes would adversely affect (1) ATC systems and/or facilities, (2) movement of other air traffic in the area, or (3) airspace already designated and used for other purposes (i.e., Military Operations Areas [MOAs] or restricted areas).

The ROI selected for this airspace analysis is an area within a 40-nautical mile radius of Eaker AFB from the surface up to 14,500 MSL. The ROI encompasses the different airspace areas that were associated with preclosure operations at Eaker AFB as well as a portion of the Fagus MOA. Airspace within and immediately surrounding this ROI is under the jurisdiction of the Memphis Air Route Traffic Control Center (ARTCC), which is operated by the FAA. In the vicinity of Eaker AFB, Eaker Radar Approach Control (RAPCON) has been delegated the responsibility of providing approach and departure control to all IFR aircraft. Aircraft operations within this ROI do not normally conflict with air traffic flows at other airfields due to the manner in which ATC airspace and procedures have been segregated for the surrounding airports. Airspace above 14,500 feet MSL is controlled by Memphis ARTCC and is not affected by operations within the ROI that are attributable to Eaker AFB.

Preclosure Reference. An understanding of the ROI for the airspace/air traffic environment and its use under the preclosure reference is necessary to help determine its capability and capacity to assimilate future aviation activities into the National Airspace System. The same constraints and considerations such as terrain, runway alignments, and other air traffic flows would apply under alternate aviation uses of Eaker AFB.

Airspace designated for ATC purposes around Eaker AFB consists of transitional areas, control zones, control areas, and airport traffic areas. Figure 3.2-11 depicts each of the designated ATC airspace areas in the Eaker ROI.

The Eaker AFB RAPCON controls airspace that is delegated to the base by Memphis ARTCC. Eaker AFB provides ATC services to arriving and departing aircraft, as well as aircraft practicing approaches, for Eaker AFB and the surrounding airports.

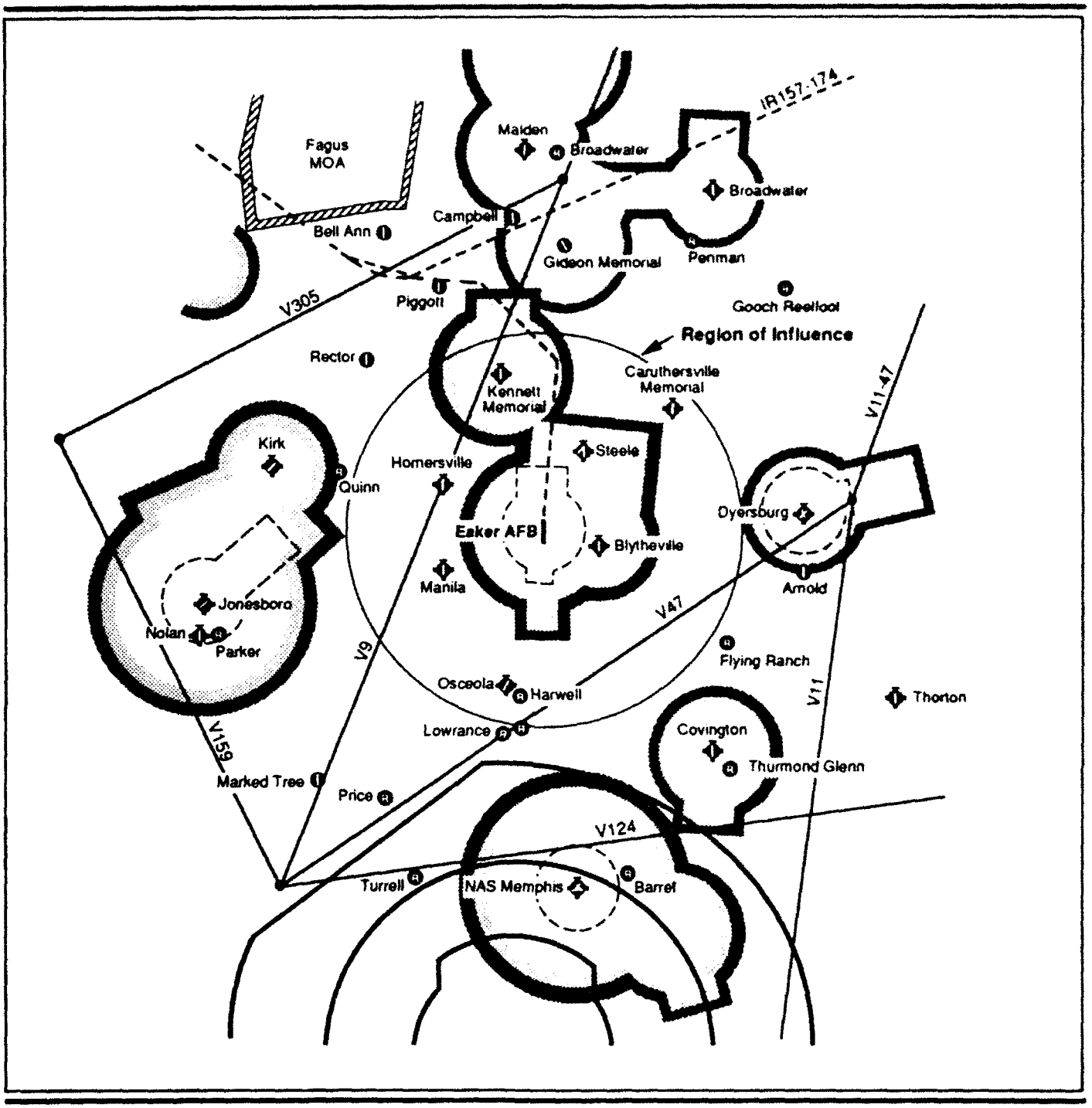
The traffic patterns, instrument approaches, and departure procedures used at Eaker AFB under preclosure conditions represent the airspace requirements for IFR aircraft operating at the base and transitioning between the base and the en route airspace system. Approximately 14,500 aircraft operations were conducted at Eaker AFB in 1990. These operations were conducted by both transient aircraft and aircraft based at Eaker AFB (Table 3.2-3).

Table 3.2-3. Eaker AFB Aircraft Operations, 1990

		Aircraft Operations*		
Assignment	Type	Day	Night	Total
Aircraft based at Eaker AFB	B-52G	1,800	600	2,400
	KC-135A	1,601	319	1,920
	T-37B	2,640	220	2,860
Primary transients	C-130	3,500	0	3,500
	CV-64	600	0	600
	T-38	550	0	550
Other transients	Misc.	2,650	0	2,650
Totals		13,341	1,139	14,480

* An aircraft operation is one takeoff or one landing.

The orderly flow of the base IFR aircraft is predicated on the use of these instrument procedures and traffic patterns or other directions from ATC to maintain proper sequencing and separation. Primary IFR arrival and departure flight paths are shown on Figures 3.2-12 and 3.2-13, respectively.



EXPLANATION

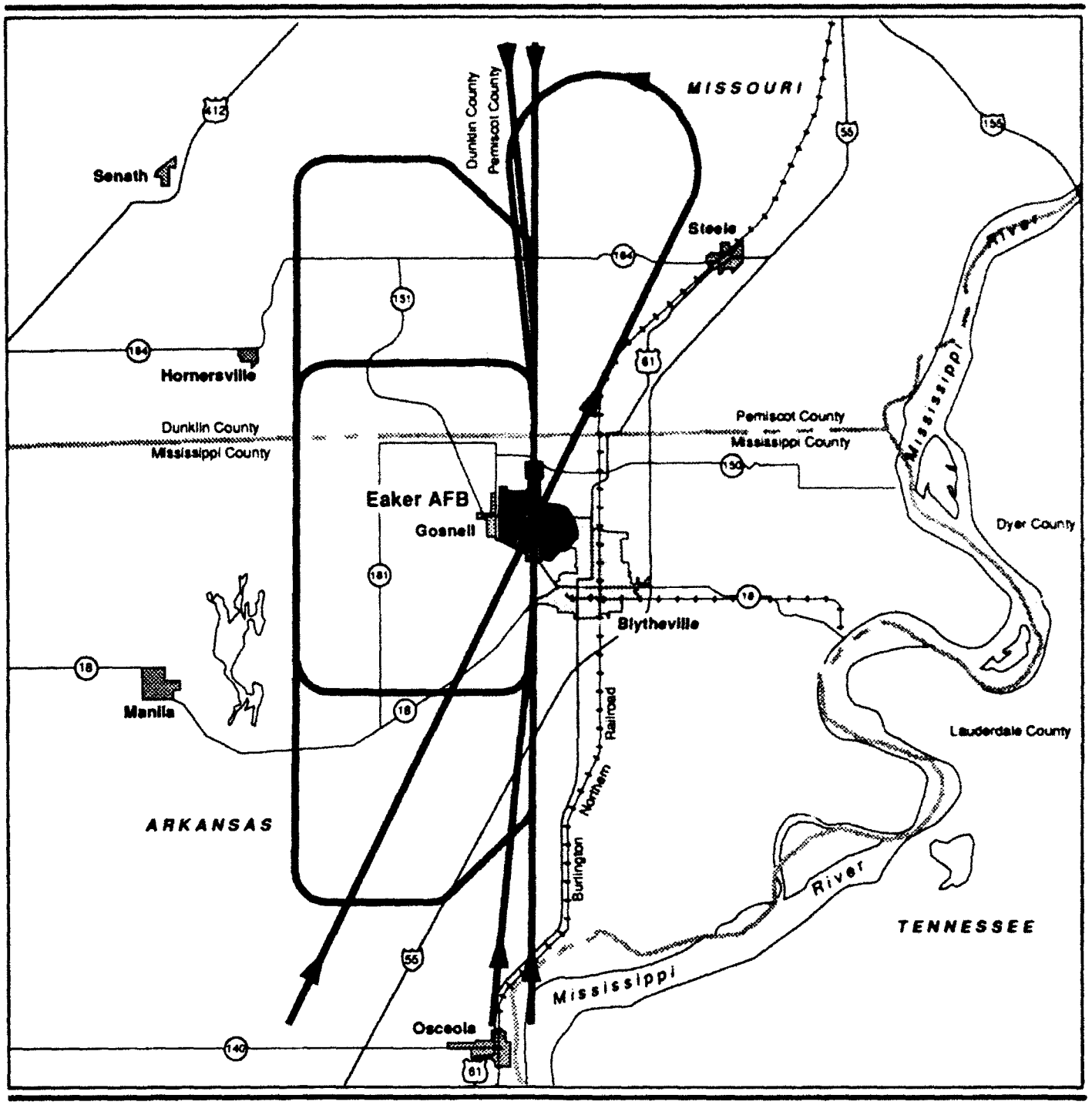
- Public Use Airport
- Restricted/Private Use Airport
- VOR
- Control Zone
- Transition Area (Controlled Airspace)
- Federal Victor Airways
- Terminal Control Area (Memphis International)
- Military Training Route

0 7.5 15 30 Nautical Miles

ROI is 40-nautical mile (46-statute mile) radius from Eaker AFB.

Airspace Region of Influence

Figure 3.2-11



EXPLANATION

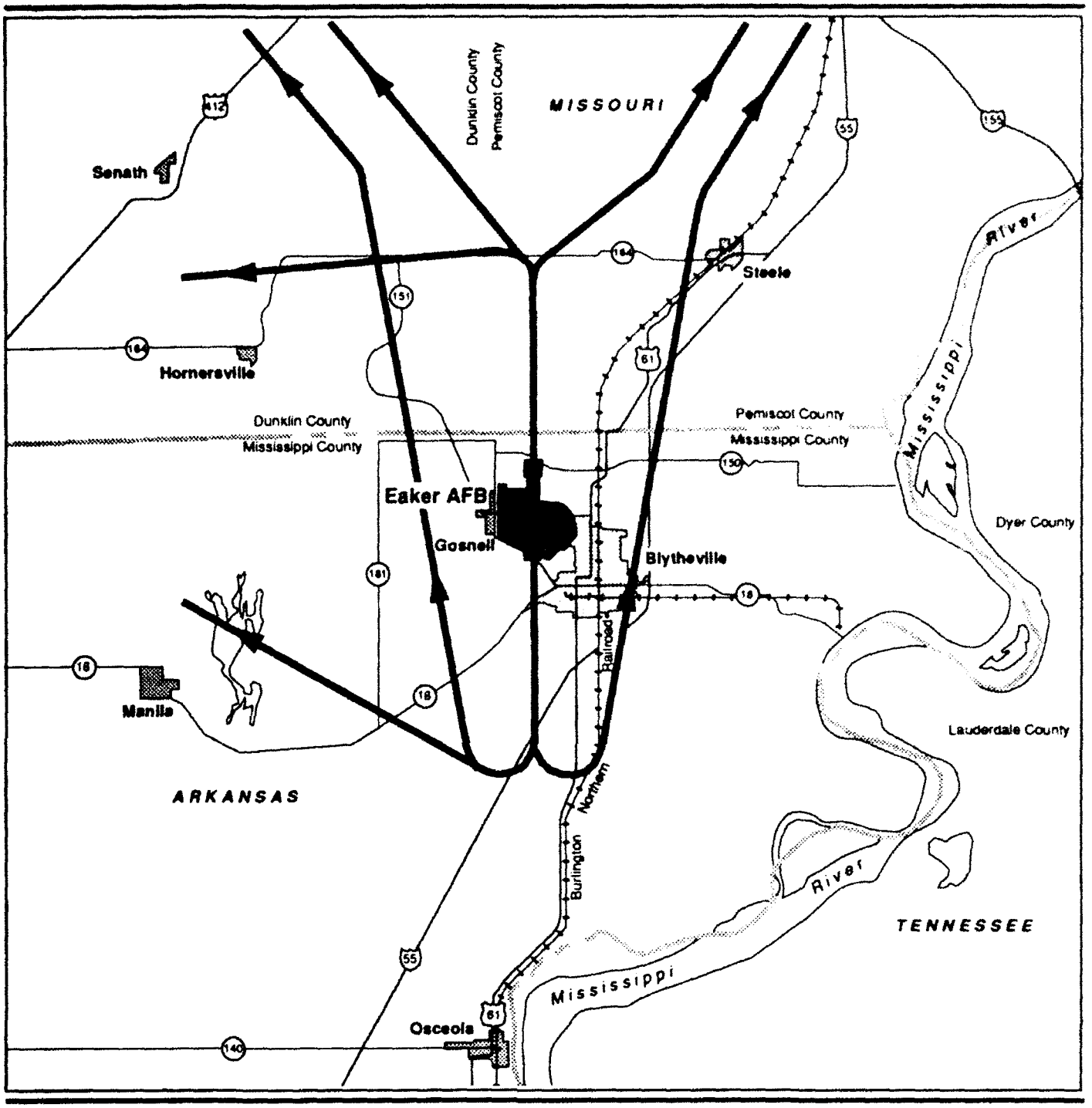
Arriving Flight Paths for Eaker AFB

Primary IFR Arriving Aircraft Flight Paths

0 1.25 2.5 5 Miles

Map Source: U.S. Air Force 1976.

Figure 3.2-12



EXPLANATION

Departing Flight Paths for Eaker AFB

Primary IFR Departing Aircraft Flight Paths

0 1.25 2.5 5 Miles

Map Source: U.S. Air Force 1976.

Figure 3.2-13

Defense-related airspace within the ROI includes a portion of the Fagus MOA, as shown in Figure 3.2-11. The Fagus MOA extends from 10,000 up to, but not including, 17,500 MSL and is in effect from 8 a.m. to 5 p.m., Monday through Friday. This MOA is located approximately 70 nautical miles (80.5 statute miles) northwest of Eaker AFB and is used for training operations. The two military training routes (MTRs) that are IFR routes (IRs), IR 157 and IR 174, transit the Eaker ROI.

There are numerous public and private airports in the Eaker ROI. Aircraft operations at these airports occur primarily during VFR weather conditions. Only Blytheville has an FAA-approved NPI approach. Aircraft operating at these airports are generally unaffected by flight operations at Eaker AFB. Aircraft stay outside the airport traffic area, or contact the Eaker tower when transitioning through that airspace. Activity levels at nearby airports for 1991 are illustrated in Table 3.2-4. The Blytheville Municipal Airport is located 4 miles east of the city of Blytheville and 6 miles east of Eaker AFB. The facility has one hard surface runway 3,300 feet in length. Runway and taxi areas are lighted, and aircraft servicing for small to medium aircraft is available. The Blytheville-Gosnell area does not have commercial air service; therefore, no passenger terminal exists. The airport currently handles approximately 28,000 operations annually and has 32 based aircraft.

Table 3.2-4. Projected Annual Aircraft Operations for Civil Public-Use Airports in the Vicinity of Eaker AFB

	Annual Operations
Airport	1991
Jonesboro*	97,750
Kennett Memorial	69,000
Manila	4,240
Hornersville	1,900
Steele	2,000
Osceola	4,650
Caruthersville	4,100
Blytheville	28,000

* Not in ROI; included as a point of reference.

Closure Baseline. Upon termination of flight operations at Eaker AFB, all designated ATC airspace areas and published instrument procedures would be canceled and the area would revert back to control by Memphis ARTCC. The RAPCON, control tower, and navigational aids could be removed from service, pending any reuse requirements for these facilities. It is not likely that the airspace would be used by Memphis ARTCC for new IFR transit routes. VFR aircraft operating from the surrounding public and private airports could transit freely through the airspace surrounding the closed airfield without any tower communication requirements or concerns with

military aircraft operations. Other military aircraft would continue to operate on MTRs transiting the ROI. Although Eaker AFB aircraft were some of the principal users of these routes, DOD requirements would fill any scheduling vacancies resulting from the base closure. Air traffic on the federal airways transiting the ROI would no longer be affected by military aircraft operating from Eaker AFB.

The airspace and ATC system currently provided and managed by Memphis ARTCC would remain unchanged. The current MTRs, air refueling tracks, and special use airspace will continue to be managed by Air Force major commands.

3.2.3.3 Air Transportation. Air transportation includes passenger travel by commercial airline and charter flights, business and recreational travel by private (general) aviation, and priority package and freight delivery by commercial and air carriers.

There are no commercial service airports within Eaker AFB's ROI. Memphis International Airport, approximately 60 miles from Eaker AFB, serves as a hub for both Northwest Airlines and Federal Express. Memphis International Airport recorded over 3.9 million passengers boarded, and nearly 330 million tons of cargo were loaded in calendar year 1991. Public-use airports within the ROI include Blytheville (10 miles from Eaker AFB), Manila (21 miles), and Osceola (30 miles) municipal airports in Arkansas, and Kennett Memorial (32 miles) and Steele Municipal (18 miles) airports in Missouri. Some private-use facilities are located within the ROI; however, these facilities are primarily airstrips used for agricultural purposes, account for less than 100 annual aircraft operations, and are typically not depicted on published sectional charts.

The loss of passenger traffic due to closure will not be measurable.

3.2.3.4 Other Transportation Modes. Rail service is not currently available at Eaker AFB, but an operational rail network operates in the region. The Burlington Northern railroad provides freight service to Mississippi County but no passenger service. The main line traverses Mississippi County generally following U.S. 61 through the city of Blytheville. A branch line extends eastward through Armorel to the Mississippi River. The Burlington Northern also operates a trailer-on-flatcar ramp in Osceola, 14 miles south of Blytheville. The Burlington Northern recently abandoned a 2.5-mile section of track that extended westward from the main line.

Eaker AFB is 13 miles west of the Mississippi River. Major river ports are St. Louis to the north and Memphis to the south. Within Mississippi County, there are nine docks, including the dock operated by the Osceola Riverport Authority. These facilities receive grain products, fertilizer, petroleum products, crushed stone, and other miscellaneous bulk materials.

3.2.4 Utilities

The utility systems addressed in this analysis include the facilities and infrastructure used for:

- Potable water pumping, treatment, storage, and distribution
- Wastewater collection and treatment
- Solid waste collection and disposal
- Energy generation and distribution, including the provision of electricity and natural gas.

The ROI for utilities is made up of the service areas of each utility provider servicing the base and local community. The major attributes of utility systems in the ROI are processing and distribution capacities, storage capacities, average daily consumption, peak demand, and related factors required in making a determination of adequacy of such systems to provide services in the future.

Projected utility demands for the various utility purveyors were developed either from purveyors' projections or derived from the application of per-capita consumption rates and estimated future service populations. These projections were adjusted to reflect the decrease in demand associated with the base closure and are presented in Table 3.2-5. While all other utility use would decrease in the 1992-1993 time period, electrical use would increase as a result of the opening of a new steel mill within the MCEC service area.

Table 3.2-5. Estimated Utility Demand in the ROI

	1990	1991	1992	1993 (Closure)
Water consumption (MGD)	5.53	5.16	4.64	3.22
Wastewater treatment (MGD)	3.85	3.47	3.47	2.80
Solid Waste (tons/day)	122	121	114	100
Electrical consumption (MWH/day)	3,066	3,079	3,096	4,934
Natural gas (thousand therms/day)	19.84	19.83	19.75	14.36

3.2.4.1 Water Supply. The ROI for water supply and distribution consists of three primary water suppliers: Eaker AFB, the city of Blytheville, and the city

of Gosnell. These suppliers can provide a total of 8.0 MGD of water to the region. In 1990 an average of 5.53 MGD of water was consumed.

On-Base. Eaker AFB currently obtains its water from two wells located on the southeast side of Louisiana Avenue between Second and Third streets. The wells were drilled to approximately 1,310 feet in 1942 and receive water from the Wilcox formation. The well pump casings are set at 800 feet with a combined capacity of 1,400 gallons per minute at 10 pounds per square inch (psi). A third well, located at the golf course clubhouse, is used to supply the golf course with nonpotable water. It is approximately 200 feet deep and draws water from the near-surface Quaternary deposits.

The base water treatment plant was constructed in the early 1940s and has had several renovations and additions, the most recent in 1979. Treatment consists of aeration, coagulation, flocculation, filtering, and disinfection, with a treatment capacity of 1.25 MGD.

The base has 700,000 gallons of storage. An underground clear well contains approximately 200,000 gallons and two elevated tanks contain 300,000 gallons and 200,000 gallons. The base is linked to Gosnell's water system via a 4-inch line under SH 181. The line connects a 6-inch line on the west side of SH 181 with an 8-inch line on base. This connection was installed for emergency purposes and has not been used.

Off-Base. The city of Blytheville obtains its water from four deep wells located approximately 2.3 miles southeast of the base. The pumping capacity of the wells is 8 MGD. The iron removal treatment system, constructed in 1970, has a 6-MGD capacity and was designed to facilitate an expansion of 3 MGD. The system has three storage tanks with a total capacity of 1.6 MGD. Average daily water demands for the city's system were 4.45 MGD in 1990 and 4.04 MGD in 1991. The city provides water to Blytheville Municipal Airport. Recently a major water user in the city of Blytheville indicated that they will be closing their facility. This closure, expected to occur prior to base closure, will make available 0.5 MGD of water and reduce the short-term need for additional treatment and well capacity. The estimated water consumption for 1993 (Table 3.2-5) reflects the loss of this demand. The city has discussed possible facility additions to improve system pressure.

Potable water in the city of Gosnell is provided by the Gosnell Water Association. The association obtains water from two wells that are drilled to 1,100 feet. The combined maximum pumping rate is estimated to be 0.72 MGD. A 100,000-gallon elevated tank and a 430,000-gallon standpipe provide the association with storage. In 1990, the association's average daily water use was 0.37 MGD. In 1991 the average daily water

use was approximately 0.43 MGD. The association is considering a number of improvements to the existing system.

Preclosure Reference. Average daily water consumption in the ROI is presented in Table 3.2-5. Daily water consumption at Eaker AFB has averaged 0.7 MGD.

Closure Baseline. Water consumption at Eaker AFB will decrease as the drawdown of personnel occurs from 1991 to closure. The resulting baseline demand within the ROI by 1993 is estimated at 3.22 MGD. This is approximately 42 percent lower than the 1990 consumption level identified in Table 3.2-5.

3.2.4.2 Wastewater. The ROI for wastewater consists of three primary treatment systems serving Eaker AFB, the city of Blytheville, and the city of Gosnell. These systems can process a total of 5.8 MGD of wastewater. In 1990, an average of 3.85 MGD of wastewater was processed.

On-Base. Eaker AFB operates its own wastewater treatment plant constructed in 1941 and modified several times, including the addition of an aerated equalization basin in 1991. The plant has the capacity to process sewage at a rate of 1.69 MGD. The plant consists of primary treatment including a bar screen, an aerated grit chamber, and comminuter, and secondary treatment consisting of a trickling filter followed by two rotating biological collectors. The plant also includes a final clarifier and a chlorine contact basin. After treatment, wastewater is discharged into Pemiscot Bayou (Ditch 27, Drainage District 17).

The plant discharges to Pemiscot Bayou under National Pollutant Discharge Elimination System (NPDES) permit number AR0020338, administered by the Arkansas Department of Pollution Control and Ecology (ADPCE). A new permit application was submitted in February 1992. Under the existing permit a Notice of Violation has been issued as a result of Eaker AFB exceeding the biological oxygen demand (BOD) and total suspended solids (TSS) discharge levels from May 1990 to December 1991.

Wastewater is routed to the plant by three lines, from the base proper, the weapons storage area (WSA)/alert areas, and military family housing. The base proper is serviced by a gravity system that has two intermediate lift stations delivering the wastewater to the plant's pumping station. A combined gravity and pressure system collects wastewater from the on-base housing areas. This system has five lift stations which deliver the wastewater to the bar screen area of the plant. Two of the lift stations have aeration systems to increase the dissolved oxygen in the wastewater.

A third system, which provides service to the WSA/alert areas, has three lift stations, and wastewater is pumped to the treatment plant's wet well and

then to a new equalization basin. The basin is used to control the flow of industrial wastewater and aerate the wastewater before it enters the treatment plant.

There are four remote treatment systems on base. Septic systems serve the golf course, small arms range, and radio communications receiver. A lagoon treats waste from the explosive ordnance area. A permit would be required from the Arkansas Health Department if a new septic system is installed.

Off-Base. The city of Blytheville processes its wastewater at three separate treatment plants. Each plant operates independently of the others and has an NPDES permit from the ADPCE. Each system consists of an extended aeration basin, an integral clarifier, and two polishing basins. The effluent passes through an ultraviolet disinfection system prior to discharge.

Closest to Eaker AFB is the west plant with a capacity of 1.5 MGD. Average daily flows equaled 0.86 MGD in 1990. The north plant has a capacity of 0.8 MGD and average daily flows were 0.42 MGD. The south plant has a capacity of 1.5 MGD and average daily flows were 0.64 MGD. Blytheville Municipal Airport operates its own septic system.

In accordance with the terms of the NPDES permit for the west plant, the city is conducting a Toxicity Reduction Evaluation. This evaluation was required when various effluent test results suggested the presence of toxins. Influent analysis indicates the presence of copper, zinc, and volatile to semi-volatile organic constituents. Effluent analysis detected low levels of cyanide. Sludge analysis indicates detectable levels of copper, zinc, cadmium, chromium, mercury, and silver. Currently, this evaluation is continuing with a review of the city's Industrial Pretreatment Program and further sampling and analysis.

The city of Gosnell operates two separate oxidation lagoon systems. The larger system, located west of Bethany Street, has two cells and covers 16 acres. This system discharges to Ditch 25. The second system, referred to as "northgate" has two cells and covers 10 acres. This system discharges to Ditch 24. There is no metering system at either facility; however, average daily flows range from 0.18 MGD in summer months to 0.31 MGD in winter months. Both lagoon systems are operating under a consent order from ADPCE, which requires the city to upgrade its treatment levels to minimum standards by 1994. The city has applied for a $1.5 million loan to construct the necessary improvements. Interim NPDES permits have been issued to allow operation of the existing facilities.

Preclosure Reference. Table 3.2-5 presents wastewater generation in the ROI for the years 1990-1993. Eaker AFB generated approximately 0.58 MGD in 1990 and 0.36 MGD in 1991. In 1990 this amount constituted 15 percent of the wastewater generated in the ROI.

Closure Baseline. As the drawdown of personnel proceeds, wastewater generation in the ROI will decrease to an estimated level of 2.8 MGD in 1993. This is 27 percent lower than the 1990 generation level identified in Table 3.2-5.

3.2.4.3 Solid Waste

On-Base. Currently, solid waste is hauled off base by a local waste disposal firm. The wastes are either disposed at Mississippi County's landfill in Luxora, Arkansas, or taken to the city of Blytheville's incinerator. Scrap metals (steel, copper, stainless steel) are recycled through the Defense Reutilization and Marketing Office (DRMO). Demolition wastes have been disposed at on-base Landfill 4. Hospital wastes are hauled off base under contract by a private firm and are transported to a disposal facility in Arkansas.

Off-Base. Mississippi County's Class I landfill consists of 100 permitted acres. A Class I facility serves a population over 5,000 and can handle domestic and special wastes, such as sludges, ash, and asbestos. Special wastes require separate written approval by ADPCE. The county indicates that its average daily flow varies from 130 to 200 tons per day including Blytheville Municipal Airport. Yearly data from ADPCE indicate an average daily flow of 121 tons per day. Currently, 40 acres are available for solid waste disposal. The county estimates the useful life of that acreage at 10 years. The county owns an additional 540 acres adjacent to the existing landfill.

The city of Blytheville collects residential and commercial solid waste and hauls it to its incinerator, which consists of two 35-ton per day units. In 1991, 10,417 tons of solid waste were processed. After sorting and [illegible]neration, 1,677 tons of household furniture and large appliances were [illegible]n to a Class IV Landfill west of Blytheville, and 2,078 tons of ash were disposed at the county landfill. In July 1991, to further reduce the amount of waste disposed, the city opened a composting facility at a former landfill site to recycle yard wastes.

The East Arkansas Planning and Development Commission has contracted to have a solid waste management plan prepared for the 12 counties in the commission's study area. The study will make recommendations concerning the need for, and the closure of, landfills in the region and should be available in 1993.

Preclosure Reference. Table 3.2-5 presents solid waste generation in the ROI for the years 1990-1993. Eaker AFB generated 8.3 tons per day in 1990. This amount constituted 7 percent of the solid waste generated in the ROI.

Closure Baseline. As the drawdown of personnel proceeds, solid waste generation in the ROI should decrease to an estimated level of 100 tons per day in 1993. This is 18 percent lower than the 1990 generation level identified in Table 3.2-5.

3.2.4.4 Energy

Electricity. Arkansas Power & Light, a division of Entergy Corporation, provides electricity to Eaker AFB and the cities of Blytheville and Gosnell, as well as other customers in their allocated service area. The MCEC, one of 17 cooperatives within the Arkansas Electric Cooperative Commission, provides electricity to navigational aids at Eaker AFB and to the surrounding rural area of Mississippi County.

On-Base. Arkansas Power & Light supplies electricity to the base through the main substation and the incoming 34.5 kilovolt (kV) main line, which are owned and operated by Arkansas Power & Light. The substation also receives an alternate feed entering the base from the southeast. The substation consists of two 12-megavolt ampere (MVA) transformers and one 3.5-MVA transformer. The 12-MVA transformers are providing 4 kV to the distribution systems; however, they have the capability to provide 12.46 kV. The distribution system, owned and operated by the Air Force, is PCB free, and several of the transformers have dual voltage primaries in anticipation of increasing distribution voltage from 4 kV to 12.46 kV. Ten feeders emanate from the main substation. One feeder, operating at 12.46 kV, provides electricity to the city of Gosnell. Another 12.5 kV feeder supplies electricity to the multi-family housing in the northwest portion of the base. The other eight feeder lines supply electricity throughout the base via overhead and underground services.

The base receives electricity from MCEC for navigational aids. The primary voltage is 7.2 kV with a 120/240 volt secondary.

Off-Base. In 1990, Arkansas Power & Light supplied approximately 373,464 MWH to their local customers including 44,345 MWH to Eaker AFB. Throughout the entire Arkansas Power & Light system a total of 15,039,000 MWH were consumed by 598,530 customers (Moore, 1992). Arkansas Power & Light does not anticipate any problems in providing additional electrical power to meet an increase in consumption.

MCEC had 3,467 customers in 1990, including the Nucor steel mill and the Blytheville Municipal Airport. Annual consumption was 701,403 MWH in 1990. In FY 1990, MCEC supplied Eaker AFB with 43.5 MWH. By 1993, MCEC anticipates that its sales will approximately double since it will provide service to the new sheet steel mill in Hickman, Arkansas.

Preclosure Reference. Table 3.2-5 presents electrical consumption in the ROI for the years 1990-1993. Eaker AFB consumed approximately 122 MWH per day in 1990 and 127 MWH per day in 1991. This amount constituted 4 percent of the electricity consumed in the ROI in 1990.

Closure Baseline. Electrical consumption in the ROI will actually increase as the drawdown of personnel occurs at Eaker AFB, as a result of the new steel mill that is estimated to require 700 MWH per day. Total demand for electricity in the ROI is identified in Table 3.2-5.

Natural Gas. Service to Eaker AFB and portions of Mississippi County is provided by Associated Natural Gas, a division of Arkansas Western Gas Company. Arkansas Western Gas Company is a wholly owned subsidiary of Southwestern Energy Company.

On-Base. Associated Natural Gas delivers gas to Eaker AFB via a 4-inch line at 350 psi entering near Gate 2. The gas pressure is reduced at two pressure regulators/flow meter stations to 100 psi. The natural gas distribution system delivers gas to almost every building on base. Approximately 132,000 feet of gas line extend throughout the base, including 75,000 feet of polyethylene pipe.

Off-Base. In 1990 Associated Natural Gas supplied approximately 19.8 thousand therms per day in the ROI. According to Associated Natural Gas, adequate natural gas supplies are available to meet the needs of existing customers. Associated Natural Gas personnel have evaluated their local consumer base and project a slight drop in the number of customers as Eaker AFB closes. Using a per-capita demand rate developed from Associated Natural Gas consumption data, natural gas demand within the ROI was estimated for the projected customer base without the reuse of Eaker AFB (Table 3.2-5). Natural gas is not used at Blytheville Municipal Airport.

Preclosure Reference. Table 3.2-5 presents natural gas consumption in the ROI for the years 1990-1993. Eaker AFB consumed approximately 2.4 thousand therms per day in 1990 and 1.9 thousand therms per day in 1991. This amount constituted 12 percent of the natural gas consumed in the ROI in 1990.

Closure Baseline. As the drawdown of personnel proceeds, natural gas consumption in the ROI will decrease to an estimated level of 14.36 thousand therms per day in 1993. This is 28 percent lower than the 1990 consumption level identified in Table 3.2-5.

3.3 HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

Hazardous materials and hazardous waste management activities at Eaker AFB are governed by specific environmental regulations. For the purpose of the following analysis, the term hazardous waste or hazardous materials will mean those substances defined as hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 USC §9601-9675, as amended, and the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), 42 USC §6901-6992, as amended. In general, this includes substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present substantial danger to public health or welfare or the environment when released into the environment. The state regulations, which are at least as stringent as federal regulations, are outlined in the Arkansas Code of 1987 annotated (ACA), Title 8, Environmental Law. These regulations are enforced by the ADPCE.

Transportation of hazardous materials is regulated by the federal Department of Transportation (U.S. DOT) regulations within Title 49 of the Code of Federal Regulations (CFR).

Treatment and disposal of nonhazardous waste, including wastewater, is discussed in Section 3.2.4, as part of utility infrastructure support.

The ROI encompasses all geographic areas that are exposed to the possibility of a release of hazardous materials or hazardous wastes. The ROI for known contaminated sites is within the existing base boundaries. Specific geographic areas affected by past and current hazardous waste operations, including remediation activities, are presented in detail in the following sections.

The preclosure reference for the purposes of this analysis was established as December 1990. This date represents conditions of full mission operation prior to the initiation of drawdown activities.

3.3.1 Hazardous Materials Management

Preclosure Reference. Hazardous materials most commonly utilized by Eaker AFB include aviation and motor fuels; numerous types of petroleum products such as motor oils, lubricants, and hydraulic fluids; cleaning solvents; pesticides (see Section 3.3.6); paints; and thinners. These materials are delivered to base supply (Building 433) and from there distributed to the workplace in which they are utilized, with the exception of bulk fuel delivery.

Eaker AFB has a Spill Prevention Control and Countermeasures (SPCC) Plan which designates the procedures to be followed in the event of a release of

hazardous substances of any type or form. The SPCC Plan identifies the organizations, personnel, and equipment responsible for carrying out response functions (U.S. Air Force, 1990c). The SPCC Plan is required under 40 CFR Part 112. Eaker AFB also follows the base Hazardous Waste Management Plan (HWMP) which establishes policies, assigns responsibilities, and provides guidance for proper management of hazardous wastes. This plan includes a list of hazardous materials utilized on base that could potentially become hazardous wastes.

Material Safety Data Sheets for all hazardous materials utilized on base are obtained from the Bioenvironmental Engineering Office located at the base hospital (Building 650).

Hazardous materials are also used at Blytheville Municipal Airport, in support of routine aircraft operations. These materials are similar to those used by Eaker AFB.

Closure Baseline. Upon base closure, only the OL will be using hazardous materials. All parties will be responsible for managing these materials in accordance with federal, state, and local regulations to protect their employees from occupational exposure to hazardous materials and to protect the public health of the surrounding community.

The OL will be responsible for the safe storage and handling of hazardous materials used in conjunction with all base maintenance operations, such as paint, paint thinner, solvents, corrosives, ignitables, pesticides, and miscellaneous wastes associated with vehicle and machinery maintenance (motor oils/fuels). These materials will be delivered to the base in compliance with the Hazardous Materials Transportation Act (HMTA) under 49 CFR.

3.3.2 Hazardous Waste Management

Preclosure Reference. Normal operations at Eaker AFB currently produce wastes defined as hazardous by RCRA, 40 CFR Part 261-265, and by the Arkansas Hazardous Waste Management Act, ACA Title 8, Chapter 7, Section 203.

Hazardous wastes generated on base are collected at accumulation points located throughout the industrial areas of the base. These designated satellite accumulation points may store less than 55 gallons of waste for an indefinite period of time (less than 90 days, in most instances). The individual industrial shops at which these satellite accumulation points are located are responsible for maintaining the facility through weekly inspections and for preparing all necessary manifests. A monthly inspection is conducted randomly by the Base Environmental Management Branch. Once the amount of wastes in a satellite accumulation point reaches the

55-gallon limit, the waste must be transferred to the DRMO temporary storage facility (Building 426) for final disposal off base. The wastes are transported off base and disposed by a licensed contractor prior to the expiration of the storage limit. Accumulation of up to 26,400 pounds of hazardous waste is allowed at the temporary storage facility.

The DRMO facility operated under an RCRA interim Part B permit (Permit No. AR8571924473), issued by the ADPCE. In view of the impending closure of the installation, the permit application requesting permanent permit status for the DRMO was withdrawn. As a result, the facility lost its interim status as a storage facility in April 1992 and has since become a 90-day storage facility. Hazardous wastes are stored temporarily at two 90-day accumulation points and 16 satellite accumulation points.

(Table 3.3-1). The wastes are transported off base and disposed by a licensed contractor in accordance with RCRA as implemented by 40 CFR Parts 260-270 prior to the expiration of the temporary 90-day storage limit.

Table 3.3-1. Hazardous Waste Accumulation Points*

Site	Location (Building #)	Description
Satellite Accumulation Points (up to 55 gallons)		
1	105/106	Engine Test Cell
2	130	Munitions Maintenance Squadron Gun Room
3	160	Army-Air Force Exchange Service (AAFES) Gas Station and Shoppette
4	203	Electro-Maintenance
5	205**	Organizational Maintenance Squadron
6	214	Aerospace Ground Equipment
7	237	Auto/Hobby Shop
8	450	Flight Maintenance Squadron, Nose Dock
9	453	Flight Maintenance Squadron, Nose Dock
10	455	Corrosion Control Maintenance
11	467	Refueling Vehicle Maintenance
12	468	Vehicle Maintenance
13	479	Civil Engineering Materials Control
14	419	Civil Engineering Self Help Shop
15	513	Disaster Preparation
16	641	Reprographics
Temporary Storage Facility (90-day storage)		
17	808	Readiness Building
18	426	DRMO

* Data current as of June 1992.

** Actual location is west of Building 1234.

On-base management of hazardous wastes is outlined in the Eaker AFB HWMP and the SPCC Plan, which provide guidance for management and handling of hazardous wastes as well as contingency plans for any release of a hazardous waste.

From 1987 to 1989, an average of 14,000 pounds of hazardous waste was generated annually by operations at Eaker AFB. These wastes consisted mainly of solvents and various petroleum wastes such as nonrecycled oils, fuels, paints, and batteries.

In 1990, base activities increased to support Operation Desert Storm, and 45,500 pounds of hazardous waste were generated. In 1991, the amount of hazardous waste generated increased to 256,000 pounds, primarily due to housekeeping activities associated with drawdown. Of this waste 180,000 pounds were waste oils and fuels from the removal of two 50,000-gallon waste oil/fuel underground storage tanks (USTs).

Hazardous waste at Blytheville Municipal Airport includes less than 100 gallons of waste oil and 10 spent aircraft batteries generated annually.

Closure Baseline. At the time of base closure, all of the hazardous waste generated by base functions will have been collected from all storage and designated satellite accumulation points and disposed off site to a permitted facility, in accordance with RCRA. The DRMO facility will close within 180 days following receipt of the final volume of hazardous wastes, or within 180 days of the time the facility closure plan is approved by the regulatory authorities. Hazardous waste generated by the OL will be tracked to ensure proper identification, storage, transportation, and disposal, as well as implementation of waste minimization programs.

3.3.3 Installation Restoration Program Sites

The IRP is an Air Force program to identify, characterize, and remediate environmental contamination on its installations. Although legally acceptable at the time, procedures followed prior to the mid-1970s for managing and disposing of many wastes often resulted in contamination of the environment. The program has established a process to evaluate past disposal sites, control the migration of contaminants, and control potential hazards to human health and the environment. Section 211 of the Superfund Amendments and Reauthorization Act (SARA), codified as the Defense Environmental Restoration Program (DERP), of which the Air Force IRP is a subset, ensures that the DOD has the authority to conduct its own environmental restoration programs.

Prior to passage of SARA and the establishment of the National Contingency Plan (NCP) for hazardous waste sites, Air Force IRP procedures followed DOD policy guidelines mirroring the U.S. EPA's Superfund Program. Since

SARA was passed, most federal facilities have been placed on a federal docket and the U.S. EPA has been evaluating the facilities' waste sites for possible inclusion on the National Priorities List (NPL). The U.S. EPA has not proposed Eaker AFB for listing on the NPL.

Ongoing activities at identified IRP sites may delay or limit some proposed land uses at or near those sites. Future land uses by the recipients on a site-specific level may be, to a certain extent, limited by the severity of contamination or level of remediation effort at these IRP sites. Reasonably foreseeable land use constraints are discussed in this EIS. Regulatory review as required by the Air Force programs will also ensure that any site-specific land use limitations are identified and considered. A representation of the IRP Management Process followed by Eaker AFB is shown in Figure 3.3-1.

The original IRP was divided into four phases, consistent with CERCLA:

- Phase I: Problem Identification and Records Search
- Phase II: Problem Confirmation and Quantification
- Phase III: Technology Development
- Phase IV: Corrective Action.

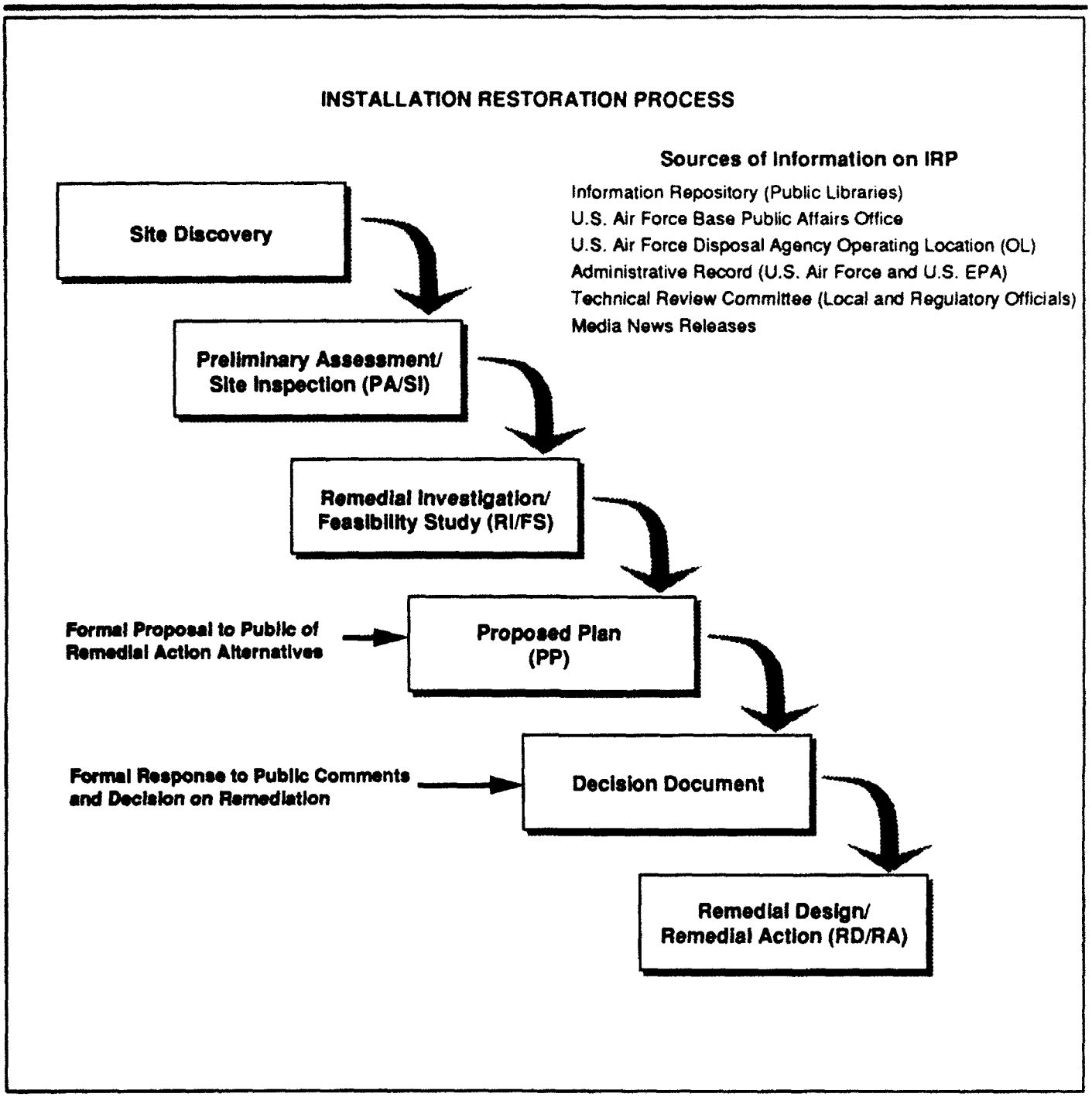
After SARA was passed in 1986, the IRP was realigned to incorporate the terminology used by the U.S. EPA and to integrate the new requirements in the NCP. The result was the creation of three action stages:

- Preliminary Assessment/Site Inspection (PA/SI)
- Remedial Investigation/Feasibility Study (RI/FS)
- Remedial Design/Remedial Action (RD/RA).

The PA portion of the first stage under the NCP is comparable to the original IRP Phase I and consists of a records search and interviews to determine whether potential problems exist. A brief SI that may include soil and water sampling is performed to give an initial characterization or confirm the presence of contamination at a potential site.

An RI is similar to the original Phase II and consists of additional field work and evaluations to assess the nature and extent of contamination. It includes a risk assessment and determines the need for site remediation.

The original IRP Phase IV has been replaced by the FS and the RD. The FS documents the development, evaluation, and selection of remedial action



Pictorial Presentation of IRP Process

Figure 3.3-1

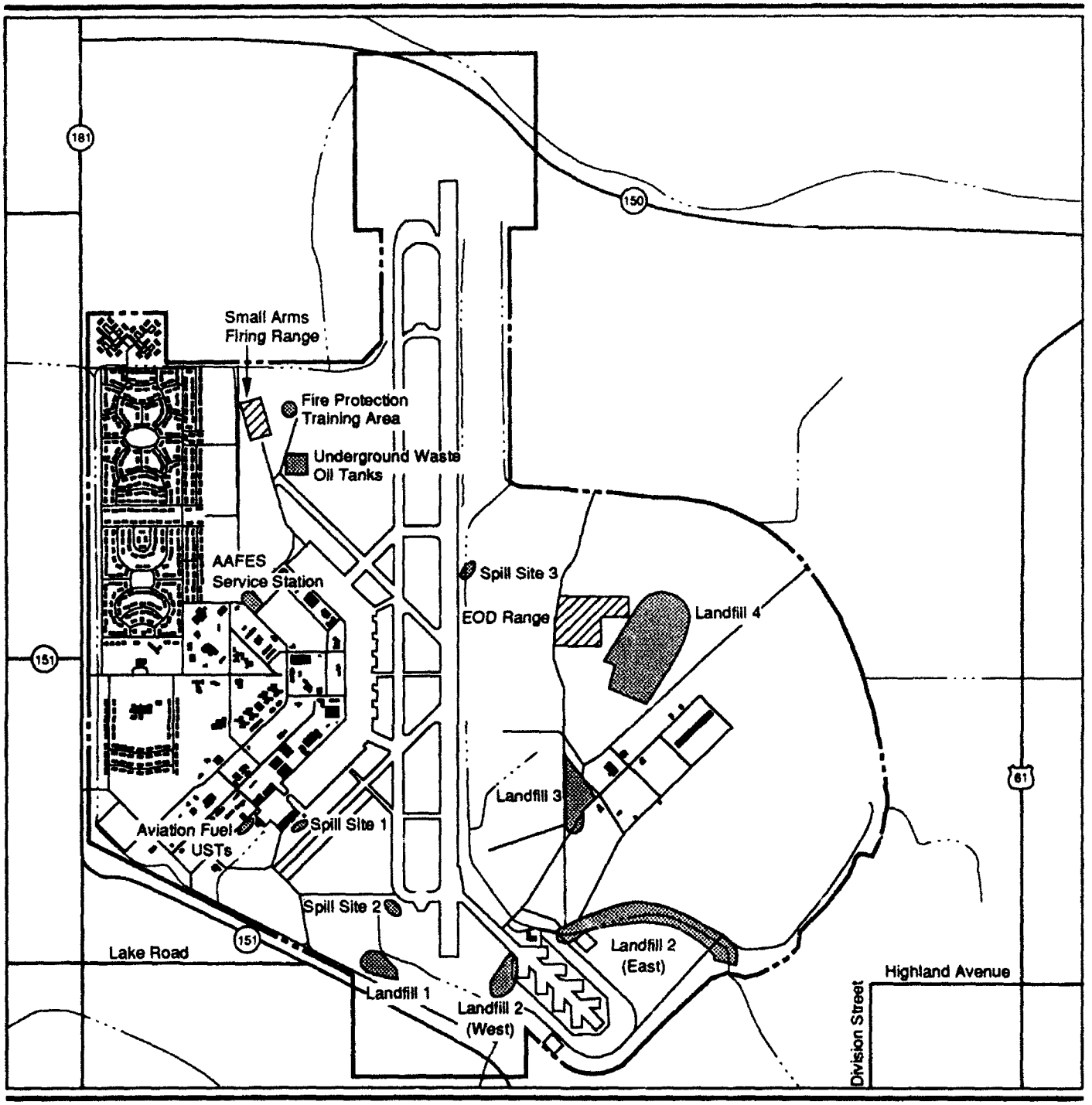
alternatives to remediate the site. The selected alternative is then designed (RD) and implemented (RA). Long-term monitoring is often performed in association with site remediation to assure future compliance with contaminant standards or achievement of remediation goals. The Phase III portion of the IRP process is not included in the normal SARA process. Technology Development (TD) under SARA is done under separate processes including the Superfund Innovative Technology Evaluation program. The Air Force has an active TD program in cooperation with the U.S. EPA to find solutions to problems common to Air Force facilities.

The closure of Eaker AFB will not affect the ongoing IRP activity. These IRP activities, managed by the OL, will continue in accordance with federal, state, and local regulations to protect human health and the environment, regardless of the disposal decision. Currently Eaker AFB has no IRP management agreement with any federal, state, or local authority.

The public may keep abreast of the IRP at Eaker AFB through various sources of information (Figure 3.3-1). Additionally, the IRP as mandated by CERCLA and the NCP has a public participatory program much like the one implemented in the preparation of this EIS. The Air Force will, with the acceptance of each RI/FS by the regulatory community, prepare a proposed plan for the remediation of a site(s) which will include a discussion of alternatives considered. The proposed plan will be distributed to the public for comment; a public meeting will be held to discuss the proposed plan and comments on the proposed plan will be accepted by the Air Force. The Air Force will then respond to all comments, making those responses part of a decision document of what the remediation will entail prior to any remedial action being taken (Figure 3.3-1).

Preclosure Reference. Because the Air Force began the IRP process at Eaker AFB in 1985, prior to terminology and procedural changes, both phases and stages are contained in the IRP administrative record. The IRP Phase I Records Search was published in August 1985. It initially identified nine potential contamination sites: four landfills, three spill sites, the FPTA, and the waste oil underground storage tanks. All nine sites were considered areas of primary concern and recommended for further investigation (Figure 3.3-2).

In April 1988, the Air Force initiated a site investigation study in order to collect, analyze, and evaluate additional data for the nine sites identified during the Phase I study. The site investigation recommended that all sites except Spill Site 3 be investigated further. An RI/FS is currently in progress to determine the extent of contamination to the soils and groundwater at the eight sites; the data generated will then provide a foundation for the preparation of a basewide risk assessment report, which is tentatively scheduled for release in October 1992, as part of the RI. Remediation methods and timetables will also be available in December 1992, as part of



EXPLANATION

IRP Site

EOD Range and Small Arms Firing Range

Base Boundary

Note: Heating oil USTs are distributed throughout the industrial portion of the base and are not illustrated on this figure.

0 625 1250 2500 Feet

Installation Restoration Program Sites, EOD Range, and Small Arms Firing Range

Figure 3.3-2

the FS. An additional records search and subsequent soils and groundwater testing by base personnel in 1991 identified the presence of a small gasoline plume under the base Army-Air Force Exchange System (AAFES) service station. Also during the removal of four aviation fuel tanks southeast of Building 426, soil contamination was found. These areas were added as two IRP sites. Further records searches revealed an additional 45 underground heating oil storage tanks, located throughout the base. These tanks qualify for Defense Environmental Restoration Account (DERA) funding and are identified as another single IRP site.

Eleven IRP sites have thus been identified at Eaker AFB (Figure 3.3-2) for inclusion in the remediation process. This section provides a brief description of each site including a site location, size, description of contaminants, site history, and current disposition. Although Spill Site 3 is no longer considered an active IRP site, its description and analysis are included here.

Results of sampling procedures utilized during IRP site characterization at Eaker AFB were based on a number of standards. These included the ambient water quality criteria for human health which protects the highest beneficial use of water, and the secondary drinking water criteria which is a non-health-based standard dealing with the aesthetic values of water such as odor and clarity. The maximum contaminant levels (MCL) were also considered, to define the highest legally enforceable standards for certain constituents within drinking water which cannot be exceeded.

Landfill 1 is located southeast of the wastewater treatment plant. The landfill was operated between 1942 and 1947, and was used primarily for trench and fill of ash from the base incinerator. The estimated volume is 1.6 million cubic feet of waste. During base deactivation in 1947, the landfill was utilized for the disposal of surplus materials.

Three groundwater monitoring wells were installed around this site in 1988. Sampling revealed copper and nickel exceeding the drinking water quality criteria for human health. Mercury exceeded the MCL and sulfate concentrations exceeded the secondary drinking water quality criteria. Soil sampling revealed five metals and five organic compounds all within background concentrations. The landfill is currently capped and the surface area is utilized for agriculture.

Landfill 2 was operated by the city of Blytheville for disposal of municipal refuse between 1950 and 1954. In 1957, part of the landfill was removed to construct the SAC alert area. The removed debris was placed in Landfill 3. The western section of the landfill is located at the southwest corner of the alert area, and the eastern section is located adjacent to the north side of Razorback Lake. Landfill 2 is estimated to contain 3.8 million cubic feet of waste.

Six groundwater monitoring wells were installed in 1988, and a subsurface soil sample was taken from each well. These samples revealed the presence of 7 metals and 20 organic compounds. Surface sampling revealed the presence of four metals, petroleum hydrocarbons, and four organic compounds; monitoring well and soil sampling revealed that arsenic, chromium, and lead exceeded MCL. Beryllium and nickel concentrations exceeded the ambient water quality criteria for human health. The landfill is currently capped; the western portion is covered with grass and the eastern portion is utilized for agriculture.

Landfill 3, used between 1955 and 1962, is located west of the munitions storage area. Shop wastes and household refuse were disposed here by a trench and fill method. Some burning of waste also occurred prior to the landfill closure. Landfill 3 is estimated to contain more than 5 million cubic feet of waste.

Five monitoring wells were installed in 1988. Groundwater and soil sampling revealed high levels of numerous metals, organic compounds, and petroleum hydrocarbons. Landfill 3 is presently capped, and structures have been constructed over the original landfill site

Landfill 4 was opened in 1962 and is still in use. This site is located north of the munitions storage area and immediately east of the Chickasawba cemetery. Prior to 1985, a trench and fill operation was utilized to handle shop wastes and household refuse. Since that time, these practices have been discontinued. This site is estimated to contain 20 million cubic feet of waste.

Groundwater and subsurface soil sampling took place with the installation of seven monitoring wells. Sampling revealed concentrations of numerous metals and organic compounds. A number of polynuclear aromatic hydrocarbons, which are usually the result of burning organic matter, were also discovered. The landfill is currently covered with scattered mounds of surface debris. The proposed remediation activity is to construct a clay cap over the landfill.

The FPTA, in operation from 1955 through February 1989, is located in the northwest section of the base midway between the runway and base housing. Two different locations at the FPTA have been used for training. From 1955 to the late 1960s, exercises were conducted approximately twice weekly, using approximately 500 gallons of waste fuel and oil at each burn. Waste solvents were burned in a separate pit located next to the FPTA. Waste materials were delivered to the site in drums, bowsers, and tanker trucks. Water and protein foam were used as extinguishing agents during this period. After each exercise, water was drained to a second pit and allowed to evaporate/infiltrate (NUS Corporation, 1990).

Since the late-1960s, exercises have been reduced to approximately twice monthly. Typically, 300 to 400 gallons of nonspecification JP-4 are burned per exercise; other waste oils and fuels are no longer burned. The extinguishing agent used is aqueous film-forming foam. Residual liquids drain to an oil/water separator and are discharged to a field. Accumulated oil is pumped out periodically and disposed in accordance with all applicable regulations.

Groundwater and soil sampling began with the installation of five monitoring wells. Sampling revealed the presence of numerous metals and organic compounds as well as petroleum hydrocarbons. Most of the organic compounds were polynuclear aromatic hydrocarbons, which result from burning organic compounds. The concentration of benzene discovered at this site is below the MCL but exceeds the ambient water quality criteria for human health; xylene levels exceed the secondary drinking water quality criteria. Recommended plans address remediation of both soil and groundwater media.

Spill Site 1. Spill Site 1 is located southeast of Building 450 in the southern portion of the parking apron and is currently a grass covered field. The spill is the result of a leak in the JP-4 hydrant system. The pipe leaked an unknown amount prior to 1973 when the hydrant system was pressure tested, the leak discovered, and repairs initiated. During repairs, fuel-saturated soil was observed.

In 1988, three monitoring wells were installed, with soil and groundwater sampling accomplished during well installations. Acetone, ethylbenzene, and total xylenes were detected in both subsurface soil and groundwater samples; carbon disulfide was present in soil samples; and petroleum hydrocarbons were detected in one of the groundwater samples. Only benzene exceeded the MCL and the level of total xylenes exceeded the secondary drinking water quality criteria. Remediation of contaminated soils has been recommended.

Spill Site 2. Pressure testing of the JP-4 hydrant system in 1974 identified another leak in the system. It is not known when this system began leaking or the amount of JP-4 lost. During the repair work, the soils were found to be saturated with fuel. Spill Site 2, located at the southern end of the main taxiway, is currently a grass covered field.

Three monitoring wells were installed in 1988, with soil and groundwater sampling accomplished during installation. Sediment sampling results indicated the presence of toluene, ethylbenzene, total xylenes, chlorobenzene, and tetrachloroethene. Groundwater sampling showed the presence of benzene which exceeded the MCL, ethylbenzene which exceeded the proposed MCL, and total xylenes which exceeded the

secondary drinking water quality criteria. Remediation of contaminated soils has been recommended.

Spill Site 3. Spill Site 3, located along the eastern edge and midway down the main runway, is now a grass-covered field. The spill occurred in 1981 following an aborted takeoff by a KC-135 tanker, which resulted in the loss of an undetermined amount of JP-4 along the flightline. Immediately following the accident, the spilled fuel was collected and placed in an evaporation/infiltration pit in the vicinity of taxiway D.

Six monitoring wells were installed at the spill site in 1988; two were temporary due to the uncertainty of the exact spill location. The sampling and analysis program was targeted to detect the presence of JP-4. No targeted compounds were detected during the sampling operations. It has been determined that no further action is required at Spill Site 3, and the site was closed in 1990.

Underground Waste Oil Tanks. Five underground waste oil tanks were removed and replaced by two new 10,000-gallon tanks in 1988. During removal, stained soils were noted at the site. The original tanks were installed as early as 1963, and carried no cathodic protection. From 1963 to 1972, the tanks were used to store diesel fuel and gasoline for the old base service station. In 1972, the five tanks (one 500-gallon and four 4,000-gallon) were converted to use for storage of waste oils, solvents, and fuels.

To determine the extent of past contamination, four monitoring wells were installed in 1988, and subsurface soil samples were taken from three of the wells during installation. The sample results showed the presence of seven metals and four organic compounds in the subsurface and six metals and six organic compounds in two sediment samples. Only beryllium levels exceeded the natural background concentrations. Groundwater sampling detected the presence of selenium, benzene, carbon disulfide, and di-n-octyl phthalate. Although the maximum concentration for benzene was below its MCL of 5 micrograms per liter (µg/l), it did exceed the ambient water quality criteria for human health. Total dissolved solids exceeded the secondary water quality criteria. No criteria for carbon disulfide and di-n-octyl phthalate have been established.

AAFES Service Station. The AAFES service station is in Building 160 at the northern portion of the main base area. This site was recently identified as an IRP site during a records search that indicated the presence of soils and groundwater contamination. This contamination resulted from a faulty coupling within a fuel line, which had leaked an undetermined amount of gasoline since 1974. The faulty coupling was repaired in 1974.

Sampling has recovered gasoline which is currently floating on top of the local groundwater; sampling further indicates that the product plume is localized within the immediate area of the service station.

Aviation Fuel Underground Storage Tanks. An additional records search prompted further investigation that led to the inclusion of this IRP site, located southeast of Building 426 in the southern portion of the main base area. During the removal of 4 of the 12 aviation fuel USTs in 1988, extensive soil contamination was discovered. This site qualifies for DERA funding. The remaining eight USTs have been designated as an IRP site.

In December 1991, three monitoring wells were installed; the sampling results revealed no chlorinated materials. Fuel is the only contamination indicated.

Heating Oil USTs. There are 45 underground heating oil storage tanks located throughout the base, all of which qualify for removal under DERA.

In addition to the mandates of the IRP, prior to disposal of any property at Eaker AFB, the Air Force must also comply with the provisions of CERCLA §120. CERCLA §120(h) requires that, before property can be transferred from federal ownership, the United States must provide notice of specific hazardous waste activities on the property and include in the deed a covenant warranting that "all remedial action necessary to protect human health and the environment with respect to any [hazardous] substance remaining on the property has been taken before the date of such transfer." Furthermore, the covenant must also warrant that "any additional remedial action found to be necessary [as a result of U.S. Government activity] after the date of such transfer shall be conducted by the United States."

The Air Force must complete the IRP for the contaminated sites on Eaker AFB and provide the assurances required by CERCLA §120(h) for all properties disposed. The combination of these requirements may delay disposal of parcels that affect reuse.

The Air Force is committed to the identification, assessment, and remediation of the contamination from hazardous substances at Eaker AFB. This commitment will assure the protection of public health as well as restoration of the environment. Additionally, the Air Force will work aggressively with the regulatory community to ensure that disposal of property occurs at the earliest reasonable date so as not to impede the economic redevelopment of the area through reuse of Eaker AFB. Quantification of those delays based on the conceptual plans for all redevelopment alternatives and what is currently known at this stage of the IRP is not possible.

Closure Baseline. The closure of Eaker AFB will not affect the ongoing IRP activity. These IRP activities will continue in accordance with U.S. EPA, state, and local regulatory agency regulations to protect human health and the environment, regardless of the alternative chosen for reuse.

IRP remedial activities will continue well past the December 1992 closure date for Eaker AFB. The OL will oversee the coordination of the remediation contractors and assure that U.S. EPA and ADPCE concerns are addressed. The Air Force will retain necessary interests (for example, easements) in order to perform operations and maintenance on all remediation systems. The current schedule for future IRP activities is provided in Table 3.3-2.

Table 3.3-2. Eaker AFB IRP Activity Schedule, April 15, 1992

Document Name	Date Initiated
RI/FS for all sites	September 1992/ January 1993*
RD, remove heating oil USTs basewide	August 1992
RD, 5 sites (FPTA, Spill Sites, and UWOT, AAFES service station)	August 1992
RD four landfill sites	August 1992
RA, soil remediation, Spill Site 1	August 1992
RA, soil remediation, Spill Site 2	August 1992
RA, soil remediation, FPTA	August 1992
RA, soil remediation, UWOT	August 1992
RA, soil remediation/tank removal	August 1992
RA, removal of USTs	May 1993
RA, USTs at AAFES service station	August 1992

*Completion date.
UWOT = underground waste oil tanks.

3.3.4 Storage Tanks

USTs are subject to federal regulations within RCRA, 40 CFR part 280. These regulations were mandated by the Hazardous and Solid Waste Amendments of 1984. The state regulates both underground and aboveground storage tanks under the Arkansas storage tank regulations, ADPCE Regulation Number 12. USTs are also regulated under the Arkansas Underground Storage Tanks Acts, ACA 8-7-8.

Preclosure Reference. UST policies, responsibilities, maintenance, and environmental guidance are provided by the Eaker AFB Storage Tank Management Plan. There are currently 126 USTs of which 68 are active (Table 3.3-3) and 58 are inactive (Table 3.3-4). Disposition of storage tanks will be addressed as part of the overall base closure plan.

Table 3.3-3. Inventory of Active Underground Storage Tanks
Page 1 of 2

Location (Facility No.)	Capacity (gallons)	Contents	Installation Date	Construction Material
160-1*	10,000	Gasoline	1969	Steel
160-2*	10,000	Gasoline	1969	Steel
160-3*	6,000	Gasoline	1971	Steel
160-4*	200	Oil	1971	Fiberglass
168	6,000	Diesel fuel	1986	Fiberglass
169	2,000	Gasoline	1986	Fiberglass
170	2,000	JP-4	1986	Fiberglass
201	300	Diesel fuel		Steel
203	5,000	Fuel oil	1989	Steel
214**	550	Oil/water separator	1986	Fiberglass
221	1,500	Diesel fuel	1955	Steel
229	3,000	Diesel fuel	1974	Steel
231-1	5,000	Diesel fuel	1991	Steel
231-2	6,000	Fuel oil	1991	Fiberglass
434	10,000	Fuel oil		Steel
467-1	2,000	Fuel oil	1962	Steel
467-2	2,000	JP-4 reclaimed	1962	Steel
467-3**	200	Oil/water separator	1962	Steel
468**	1,000	Waste oil	1990	Steel
480	550	Waste fuel	1989	Steel
641	550	Diesel fuel	1988	Fiberglass
651	10,000	Fuel oil	1958	Steel
654	3,000	Diesel fuel	1985	Fiberglass
1005	50	Gasoline	1960	Steel
1205	3,000	Fuel oil	1985	Steel
1212	1,500	Fuel oil	1959	Steel
1213	6,000	Fuel oil	1974	Steel
1214	3,500	Fuel oil	1959	Steel
1218	1,100	Fuel oil	1980	Steel
1020-1	50,000	JP-4	1959	Steel
1020-2	50,000	JP-4	1959	Steel
1020-3	50,000	JP-4	1959	Steel
1020-4	50,000	JP-4	1959	Steel
1020-5	1,000	JP-4 waste	1959	Steel
1223	500	Diesel fuel	1956	Steel
1232-1	1,000	JP-4 waste	1959	Steel

Table 3.3-3. Inventory of Active Underground Storage Tanks
Page 2 of 2

Location (Facility No.)	Capacity (gallons)	Contents	Installation Date	Construction Material
1232-2	50,000	JP-4	1959	Steel
1232-3	50,000	JP-4	1959	Steel
1232-4	50,000	JP-4	1959	Steel
1232-5	50,000	JP-4	1959	Steel
1234-1	1,000	JP-4 waste	1959	Steel
1234-2	50,000	JP-4	1959	Steel
1234-3	50,000	JP-4	1959	Steel
1234-4	50,000	JP-4	1959	Steel
1234-5	50,000	JP-4	1959	Steel
1242	1,500	Diesel fuel	1974	Steel
1249	3,000	Diesel fuel	1981	Steel
1279	3,000	Diesel fuel	1981	Steel
1285-1	6,000	Fuel oil	1983	Steel
1285-2	500	JP-10	1983	Steel
1285-3**	2,700	Oil/water separator	1983	Steel
1286	550	Fuel oil	1981	Steel
1288-1	4,000	Fuel oil	1983	Steel
1288-2**	500	Oil/water separator	1983	Steel
1293	550	Fuel oil		
1295	7,000	JP-10	1983	Steel
1297	7,000	JP-10	1983	Steel
1298	7,000	JP-10	1983	Steel
1303	1,500	Fuel oil	1960	Steel
1305	500	Fuel oil	1960	Steel
1320-1	1,000	JP-4 waste	1959	Steel
1320-2	50,000	JP-4	1959	Steel
1320-3	50,000	JP-4	1959	Steel
1320-4	50,000	JP-4	1959	Steel
1320-5	50,000	JP-4	1959	Steel
1336	1,000	Diesel fuel	1972	Steel
1344-1**	10,000	Waste oil	1988	Steel
1344-2**	10,000	Waste fuel	1988	Steel

* To remain in place.
** Undergoing RCRA corrective measures investigation.

Note: All tanks to be removed except as noted.

Table 3.3-4. Inventory of Inactive Underground Storage Tanks
Page 1 of 2

Location (Facility No.)	Capacity (gallons)*	Contents	Installation Date*	Construction Material
104	2,000	Fuel oil	1955	Steel
105	6,000	Fuel oil	1960	Steel
107	4,000	Fuel oil	1955	Steel
130	1,000	Fuel oil	1959	Steel
150	1,000	Fuel oil	1955	Steel
201	1,000	Fuel oil	1956	Steel
202	1,000	Fuel oil	1956	Steel
206-1	1,000	Fuel oil	1963	Steel
206-2	1,000	Fuel oil	1963	Steel
215	10,000	Fuel oil	1956	Steel
215	600	Waste fuel		Steel
218	2,500	Fuel oil	1961	Steel
229	3,000	Fuel oil	1974	Steel
234	2,000	Fuel oil	1955	Steel
240	1,050	Fuel oil	1955	Steel
410 (8 each)	25,000	Aviation gas	Abandoned	Steel
433	1,000	Fuel oil	1956	Steel
450	15,000	Fuel oil	1959	Steel
453	15,000	Fuel oil	1959	Steel
455-1	20,000	Fuel oil	1959	Steel
455-2	6,000	PD 680	1959	Steel
457	20,000	Fuel oil	1962	Steel
466	550	Fuel oil	1963	Steel
467	275	Fuel oil	1962	Steel
468	2,000	Fuel oil	1967	Steel
470	1,500	Fuel oil	1962	Steel
491	550	Fuel oil	Not in use	Steel
492	550	Fuel oil	Not in use	Steel
493		Gasoline	Not in use	Steel
513-1	4,000	Fuel oil	1955	Steel
513-2	4,000	Fuel oil	1955	Steel
513-3	5,000	Fuel oil	1955	Steel
522	2,500	Fuel oil	1956	Steel
551	1,000	Fuel oil	1956	Steel
552	1,000	Fuel oil	1956	Steel
555	750	Fuel oil	1968	Steel

Table 3.3-4. Inventory of Inactive Underground Storage Tanks
Page 2 of 2

Location (Facility No.)	Capacity (gallons)*	Contents	Installation Date*	Construction Material
556	4,000	Fuel oil	1959	Steel
613-1	4,000	Fuel oil	1955	Steel
613-2	4,000	Fuel oil	1955	Steel
613-3	4,000	Fuel oil	1955	Steel
625	4,000	Fuel oil	1956	Steel
630	1,050	Fuel oil	1955	Steel
640	1,000	Fuel oil	1955	Steel
641-1	560	Fuel oil	1955	Steel
641-2	1,000	Fuel oil	1955	Steel
645	560	Fuel oil	1955	Steel
700	1,500	Fuel oil	1957	Steel
702	2,000	Fuel oil	1955	Steel
800	575	Fuel oil	1956	Steel
1016	575	Fuel oil	Not in Use	Steel
1225	1,050	Fuel oil	1960	Steel

* Provided when available.

Note: All tanks to be removed.

Of the 70 aboveground storage tanks on base, all but two are still active. Table 3.3-5 provides an inventory of the aboveground storage tanks. The two largest aboveground storage tanks, which have been pickled due to impending closure, are 1,260,000 and 840,000 gallons. Both were utilized as JP-4 storage units. The tanks were supplied by a 13-mile pipeline operated by the Rail Terminal Company. This pipeline originates at the Mississippi River where JP-4 was brought in by barge and stored in two large tanks at the river awaiting transfer to the base. There are 24 oil-water separators at Eaker AFB (Table 3.3-6), which range in size from 60 to 5,000 gallons.

Blytheville Municipal Airport has several inactive and active storage tanks on site. These include:

- Two inactive 1,200-gallon Jet A Fuel USTs that have not been used since 1990

- One inactive 10,000-gallon AVGAS UST now laying aboveground on the north end of the airport property. This tank still contains approximately 1,200 gallons of product.

Active storage tanks at Blytheville Municipal Airport include a 15,000-gallon aboveground storage tank which contains AVGAS and a 100-gallon gasoline aboveground storage tank used to fuel ground vehicles.

Closure Baseline. USTs identified to support reuse activities must comply with all applicable federal, state, and local regulations regarding system integrity, spill prevention, and liability insurance. USTs that do not meet current regulations will be deactivated and removed. The Air Force currently plans to remove 107 of the 126 USTs remaining on base; the tanks identified for removal are listed in Table 3.3.5. An additional eight USTs will be removed under the base IRP (Aviation Fuel USTs). Four USTs at the AAFES service station successfully passed a tank tightness test in September of 1991 and will remain in place. The remaining seven USTs will be studied under a RCRA corrective measures investigation during FY 1993 to determine if removal is necessary.

The aboveground storage tanks will be purged to minimize fire hazards at base closure, and reactivated if needed to support reuse activities. All oil-water separators will be pumped and cleaned of contaminants.

3.3.5 Asbestos

Asbestos-containing building material (ACBM) remediation is regulated by the U.S. EPA, the Occupational Safety and Health Administration (OSHA), and the ADPCE. Asbestos fiber emissions into the ambient air are regulated in accordance with Section 112 of the Clean Air Act (CAA), which

Table 3.3-5. Inventory of Aboveground Storage Tanks
Page 1 of 2

Location (Facility No.)	Capacity (gallons)*	Contents	Installation Date*	Construction Material*
100	110	Diesel fuel		Steel
105	15	Gasoline		Steel
106	550	Oil/water separator	1989	Fiberglass
140	25	Diesel fuel		Steel
204	110	Diesel fuel		Steel
205	110	Diesel fuel	1991	Steel
207	110	Diesel fuel		Steel
214	60	Diesel fuel		Steel
223	1,000	Detergent	1960	Steel
233	600	Diesel fuel	1962	Steel
320	2,500	JP-4	1955	
410	25,000	Gasoline	1988	Steel
410	300	Oil/water separator	1986	Steel
411	25,000	Diesel fuel	1988	Steel
412	25,000	Diesel fuel	1988	Steel
414-1	3,000	JP-4 reclaimed	1986	Steel
414-2	3,000	JP-4 reclaimed	1986	Steel
414-3	3,000	JP-4 reclaimed	1986	Steel
424	12,000	Deicing fluid	1965	Steel
425	12,000	Deicing fluid	1965	Steel
433	110	Gasoline		Steel
463	110	Diesel fuel	1964	Steel
464	50	Diesel fuel		Steel
480	50	Diesel fuel		Steel
481	840,000	JP-4	1956	Steel
484	1,260,000	JP-4	1956	Steel
491	110	Diesel fuel	1955	Steel
492	550	Diesel fuel		Steel
493	275	Diesel fuel	1990	Steel
556	275	Diesel fuel		Steel
705	50	Diesel fuel		Steel
808	60	Diesel fuel	1991	Steel
820	150	Diesel fuel		Steel
854	25	Diesel fuel		Steel
1007	150	Diesel fuel		Steel

Table 3.3-5. Inventory of Aboveground Storage Tanks
Page 2 of 2

Location (Facility No.)	Capacity (gallons)*	Contents	Installation Date*	Construction Material*
1200	275	Diesel fuel	1958	
1215-1	250	Propane		
1215-2	250	Propane		
1220-1	250	Propane	1980	
1220-2	250	Propane		
1220-3	250	Propane		
1220-4	275	Diesel fuel		
1225	275	Diesel fuel		
1229-1	250	Propane		
1229-2	250	Propane		
1232	500	Diesel fuel		
1234	500	Diesel fuel		
1238-2	500	Waste JP-4	1989	Steel
1244-1	250	Propane		
1244-2	250	Propane		
1255	275	Diesel fuel		
1256	275	Diesel fuel		
1260	110	Diesel fuel		
1281	560	Diesel fuel	1985	Steel
1282	560	Gasoline	1985	Steel
1283	560	Gasoline	1985	Steel
1285	1,000	Diesel fuel	1990	
1287	750	Diesel fuel		
1303	2,500	JP-4	1960	
1307		Propane		
1308	500	Propane		
1320	500	Diesel fuel		
1340	5,000	Reclaimed fuel	1972	
1380	110	Diesel fuel		
1392	110	Diesel fuel		
1649	60	Diesel fuel		
1767	60	Diesel fuel		
2026	110	Diesel fuel		

* Provided when available.

Table 3.3-6. Inventory of Oil/Water Separators at Eaker AFB

Location	Description	Capacity (Gal)
100	Fire station wash rack	250
106	Nonpowered AGE	2,600
203	FMS	165
214	AGE	397
215	Field maintenance shops	60
223	Aircraft wash rack	5,000
410	Fuels tanks 410-412	300
452	Nose dock	2,000
453	Nose dock	2,000
455	Corrosion control	4,000
455	Corrosion control	165
457	Fuel cell dock	750
457	Fuel cell dock	750
465	Vehicle wash rack	5,000
467	Refuel vehicle maintenance	300
468	Automotive maintenance	500
468	Automotive maintenance	4,300
474	Civil Engineering wash rack	165
1234	Fuels lateral control pits	1,500
1236	Fuels parking area	200
1238	Fuels laboratory	200
1285	Integrated maintenance	2,700
1288	Missile Maintenance Squadron AGE	1,800
1344	Waste oil storage	500

established the National Emissions Standards for Hazardous Air Pollutants (NESHAP). The NESHAP regulations address the demolition or renovation of buildings with asbestos-containing materials (ACM). The Toxic Substances Control Act (TSCA) and the Asbestos Hazard Emergency Response Act (AHERA) provide the regulatory basis for handling ACBM in kindergarten through 12th grade school buildings. AHERA and OSHA regulations cover worker protection for employees who work around or remediate ACBM. The state of Arkansas regulations pertaining to ACBM remediation are found in the Arkansas Air Pollution Control Code (ACA 8-4-101 et seq.) and the Arkansas Hazardous Waste Management Act (ACA 8-7-201 et seq.).

Renovation or demolition of buildings with ACM, has a potential for releasing asbestos fibers into the air. Asbestos fibers could be released due

to disturbance or damage, from various building materials, such as pipe and boiler insulation, acoustical ceilings, sprayed-on fire proofing, and other material used for sound-proofing or insulation.

There are two primary categories which describe ACM. Friable ACM is defined as any material containing more than 1 percent asbestos (as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, polarized light microscopy) that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. Nonfriable ACM is defined as material which contain more than 1 percent asbestos but do not meet the rest of the criteria for friable ACM.

Preclosure Reference. The current Air Force practice is to manage or remove ACM in active facilities, and remove ACM, per regulatory requirements, prior to facility demolition. Removal of ACM occurs when there is a potential for asbestos fiber release that would affect the environment or human health. The Air Force policy concerning the management of asbestos for base closures can be found in Appendix G.

A basewide survey for ACM is required by FPMR disclosure law prior to base disposal.

An asbestos survey of selected base buildings was conducted in August 1992, and the final report is scheduled for delivery in November 1992. See Appendix G for buildings surveyed. A partial survey of the hospital, conducted in 1988, as well as other partial surveys conducted prior to facility renovations indicates that ACM was used as adhesive for floor and ceramic tiles, insulation materials, and exterior siding in base facilities, including base housing (U.S. Air Force, 1991a). The Eaker AFB Asbestos Management/Operating Plan was developed to establish management and operating procedures for ensuring that personnel are not exposed to excessive levels of airborne asbestos. The implementation of this plan is the responsibility of the Base Civil Engineering (BCE) office. The Bioenvironmental Engineers support BCE with site surveys, sampling, and monitoring of in-house asbestos removal projects performed by the on-base asbestos abatement team or outside contractors. No asbestos surveys have been conducted at the Blytheville Municipal Airport.

Closure Baseline. Asbestos will be removed as necessary to protect human health. Beyond that, an analysis will be conducted to determine the cost effectiveness of removing ACM versus devaluing the property prior to reuse. ACM will be removed if a building is, or is intended to be, used as a school or child-care facility. Exposed friable asbestos will be removed in accordance with applicable health laws, regulations, and standards, if it is determined that a hazard exists.

3.3.6 Pesticide Usage

The federal regulations that control the use of pesticides are contained within the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Pesticide management activities are subject to federal regulations contained in 40 CFR 162, 165, 166, 170, and 171. All pest management activities at Eaker AFB are conducted in accordance with Air Force regulations and management recommendations which follow FIFRA guidelines set forth by the state of Arkansas.

Preclosure Reference. The Pest Management Program at Eaker AFB (including the golf course) is conducted by the Entomology Shop of the 97th Civil Engineering Squadron. On-base application practices are frequently inspected by the Base Bioenvironmental Engineering and Environmental Health Offices. Table 3.3-7 provides an inventory of pesticides currently utilized at Eaker AFB. All pesticides are stored at the Entomology Shop, Building 1003. Products are purchased on an as needed basis, and may be directly obtained through local channels or ordered through base supply.

Pesticides are not used for grounds maintenance at the Blytheville Municipal Airport. However, crop-dusting aircraft have historically been rinsed of pesticides at the airport.

Closure Baseline. At the time of closure, pesticides will be used by the OL for pest management and grounds maintenance.

3.3.7 Polychlorinated Biphenyls

Commercial PCBs are industrial compounds produced by chlorination of biphenyls. PCBs persist in the environment, accumulate in organisms, and concentrate in the food chain. PCBs are used in electrical equipment, primarily in capacitors and transformers, because they are electrically nonconductive and stable at high temperatures.

The disposal of these compounds is regulated under the federal TSCA, which banned the manufacture and distribution of PCBs with the exception of PCBs used in enclosed systems. By federal definition, PCB equipment contains 500 parts per million (ppm) PCBs or more, whereas PCB-contaminated equipment contains PCB concentrations equal to or greater than 50 ppm but less than 500 ppm. TSCA regulates and U.S. EPA enforces the removal and disposal of all sources of PCBs containing 50 ppm or more; the regulations are more stringent for PCB equipment than for PCB-contaminated equipment.

Arkansas regulates PCBs through the ADPCE under the Hazardous Waste Management Code of 1979, ACA 8-7-201 et seq.

Table 3.3-7. Pesticides
Page 1 of 2

Product	Quantity	
Insecticides		
Baygon	3	gallons
Baygon 2%	2	pounds
B-Gone	20	pounds
Calcium Cyanide	1	can
D-Cor Waspstopper	110	cans
Demon WP	1	pound
Diazinon 2D	20	pounds
Diazinon 2%	5	pounds
4E Dursban	5	gallons
Dursban L.O.	6	ea 1.25 oz. bottles
Ficam W	2	pounds
Gencor	40	bottles
Killmaster II	1/2	gallon
Malathion E.C.	2	gallons
Malathion T. Grade	4	drums
Orthene	23	ounces
Paradiachlorbenzine	36	pounds
Perma Dust PT240	34	cases
Phostoxin	1	pound
Pyrid	10	cans
Safrotin E.C.	70	bottles
Sevin Dust	40	pounds
Tempo	24	bottles
Synthrin	1/2	gallon
Tap	2	gallons
Dursban 4E	5	gallons
Termiticide		
Dursban TC	5	gallons

Table 3.3-7. Pesticides
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Product	Quantity	
Rodenticides		
Anticoagulant	31	pounds
Avitrol (used for birds)	25	pounds
Pival	35	pounds
R-55 Repellant	3	gallons
Talon G	1	case
Fungicides		
Benlate	8	pounds
Herbicides		
Benefin 2.5 Granule	25	pounds
Campaign	60	gallons
Diquat	20	gallons
Dowpon M	5	pounds
DSMA	10	gallons
Hi-Yield Decimate	2	gallons
Hyvar XL	60	gallons
Kerb	3	pounds
Monuron 80 WP	20	pounds
MSMA Plus	10	gallons
Nix Killer	1	pint
Oxford Low Grow	6	gallons
Ron Star	20	pounds
Round Up	30	gallons
Simazine	10	pounds
Trimec	15	gallons
Wilt Pruf	2	gallons

Preclosure Reference. The Environmental Management Office is responsible for the management of PCBs at Eaker AFB. Currently, no Air Force-owned equipment contains over 50 ppm PCB. Three on-base regulators owned by Arkansas Power & Light currently contain over 50 ppm PCB. These regulators are presently labeled. Transformers at the Blytheville Municipal Airport owned by MCEC have not been tested for PCB content.

Closure Baseline. Arkansas Power & Light will own three pieces of federally regulated PCB-contaminated equipment on base at closure. New owners will be informed of items containing less than 50 ppm PCBs which remain in place. PCB items remaining after base closure will be managed in compliance with federal and/or state regulations. Arkansas Power & Light will retain responsibility for management of their equipment.

3.3.8 Radon

Radon is a naturally occurring, colorless, and odorless radioactive gas that is produced by radioactive decay of naturally occurring uranium. Uranium decays to radium, of which radon gas is a by-product. Radon is found in high concentration in rocks containing uranium, such as granite, shale, phosphate, and pitchblende. Atmospheric radon is diluted to insignificant concentrations. Radon that is present in soil, however, can enter a building through small spaces and openings, accumulating in enclosed areas, such as basements. The cancer risk caused by exposure, through the inhalation of radon, is currently a topic of concern.

There are no federal or state standards regulating radon exposure at the present time. The U.S. EPA offers a pamphlet, "A Citizen's Guide to Radon" (U.S. Environmental Protection Agency, 1986), which offers advice to persons concerned with radon in their home. U.S. Air Force policy requires implementation of the Air Force Radon Assessment and Mitigation Program (RAMP) to determine levels of radon exposure of military personnel and their dependents. The U.S. EPA has made testing recommendations for both residential structures and schools. For residential structures, using a 2- to 7-day charcoal canister test, a level between 4 and 20 picocuries per liter (pCi/l) should lead to additional screening within a few years. For levels of 20 to 200 pCi/l, additional confirmation sampling should be accomplished within a few months. If the level is in excess of 200 pCi/l, the structure should be evacuated immediately. Schools are to use a 2-day charcoal canister test; if readings are 4 to 20 pCi/l, a 9-month school year survey is required. Table 3.3-8 summarizes the recommended radon surveys and action levels.

Preclosure Reference. The Air Force policy requires a detailed radon assessment program for levels of 4 pCi/l or greater. The initial screening survey at Eaker AFB was conducted in 1988 by the base Bioenvironmental Engineering Group. The survey consisted of 36 samples taken from military housing units, the child-care center, billeting, and the airman's dormitories.

Table 3.3-8. Recommended Radon Surveys and Mitigations

Facility	U.S. EPA Action Level	Recommendation
Residential	4 to 20 pCi/l	Additional screening. Expose detector for 1 year. Reduce radon levels within 3 years if confirmed high readings exist.
Residential	20 to 200 pCi/l	Perform follow-up measurements. Expose detectors for no more than 6 months.
Residential	Above 200 pCi/l	Perform follow-up measurements. Expose detectors for no more than 1 week. Immediately reduce radon levels.
Two-Day Weekend Measurement		
School	4 to 20 pCi/l	Confirmatory 9-month survey. Alpha track or ion chamber survey.
School	Greater than 20 pCi/l	Diagnostic survey or mitigation.

Note: Congress has set a national goal for indoor radon concentration of the outdoor ambient levels of 0.2 to 0.7 pCi/l.

All samples resulted in radon levels below the U.S. EPA's recommended mitigation level of 4 pCi/l; therefore, no detailed assessment survey is needed and mitigation activities are not necessary or advised. Radon testing has not been conducted at Blytheville Municipal Airport.

Closure Baseline. Initial radon screening sample results were all below 4 pCi/l; no follow-up assessment survey is required.

3.3.9 Medical/Biohazardous Waste

Current federal regulations do not provide for regulation of medical wastes, but do allow states to individually regulate medical wastes. The disposal of medical/biohazardous waste generated at Eaker AFB is conducted under the Arkansas Department of Health *Rules and Regulations Pertaining to the Management of Special Waste from Health Care Regulating Facilities* (ACA 20-7-109).

Preclosure Reference. Eaker AFB currently operates a 25-bed hospital which provides both in- and out-patient care to active military and their dependents, as well as retirees and their dependents. The clinic currently produces approximately 600 pounds of medical/biohazardous waste per month. The waste is collected weekly by a contractor and disposed off base at a permitted landfill in accordance with the state regulations. Waste

generation will decline with the approach of base closure as services are phased out. The clinic dispenses only tablet form chemotherapeutic drugs and does not engage in radiation treatment activities. A small amount of medical/biohazardous waste is generated by the on-base dental and veterinary clinics; this amount is included as part of the monthly total and disposed by the same contractor.

Medical and dental X-ray operations, as well as other on-base X-ray and photographic operations, produce photochemical wastes and utilize silver recovery units. The silver recovery units treat photochemical wastes prior to discharge to the local sewage system. No medical/biohazardous waste is generated at Blytheville Municipal Airport.

Closure Baseline. The hospital will be inactive and no biohazardous waste will be generated at base closure. Existing biohazardous waste will be processed and removed prior to closure in accordance with appropriate federal, state, and local regulations.

3.3.10 Ordnance

Eaker AFB has operated an Explosive Ordnance Disposal (EOD) Range since the mid-1950s. The EOD Range is located along the western boundary of Landfill 4, approximately 2,000 feet east of the main runway (see Figure 3.3-2). The EOD Range consists of an open grass-covered field, approximately 800 feet by 700 feet in size, with a metal burn furnace, numerous burn pits, and various bunkers used for protection of personnel. Adjacent to and included as part of the northern boundary of the EOD Range is the 40-millimeter grenade range, approximately 300 feet wide by 1,340 feet long.

An outdoor small arms firing range is located in the northwest portion of Eaker AFB, between the military family housing area and the Fire Protection Area (see Figure 3.3-2). The range was constructed in 1957 and consists of three earthen berms forming an open rectangle, and several wooden baffles which dissect the width of the range.

Any ordnance remaining after disposal is regulated under RCRA; the transportation of any ordnance falls under U.S. DOT regulations.

Preclosure Reference. The EOD Range operates under an RCRA Part B permit (AR8571924473) application, submitted to the U.S. EPA in 1988. Materials disposed include commercial dynamite, jet engine ignition cartridges, flares, and various types of ammunition, such as 40-millimeter rifle grenades, 50-caliber shells, and other types of ordnance.

Approximately 25 pounds of small arms ammunition is disposed of every 3 to 5 months by burning the material in the burn furnace. Diesel fuel is utilized as an ignition source. Other materials are placed in open, unlined earthen pits and either detonated or burned. Residue from such activities is then covered with 4 to 6 feet of soil. Recently these disposal activities have occurred monthly, with an annual net explosive weight of approximately 50 pounds.

The firing range is utilized on a regular basis to qualify military personnel in small arms proficiency. Targets are placed at various intervals and fired upon, with most bullets lodging in the protection berm at the rear of the range. These bullets, which contain lead, could pose a threat to human health and the environment. No known ordnance hazards exist at Blytheville Municipal Airport.

Closure Baseline. The EOD Range will be cleared of ordnance prior to disposal of that parcel. A draft closure plan will be submitted for approval to U.S. EPA and the ADPCE within 90 days after receipt of a consent order form ADPCE. The Small Arms Firing Range will be cleared of spent bullets by the U.S. Air Force prior to disposal of that facility.

3.4 NATURAL ENVIRONMENT

This section describes the affected environment for natural resources: soils and geology, water resources, air quality, noise, biological resources, and cultural resources.

3.4.1 Soils and Geology

Soils, geology, mineral resources, and seismic issues are addressed in this section. The ROI for soils is localized and limited to Eaker AFB. The ROI for geology extends to include the general tectonic framework that encompasses Mississippi County.

3.4.1.1 Soils. All of Eaker AFB is located on the Amagon-Dundee-Crevasse association (U.S. Department of Agriculture, 1971). This association is typified by being poorly to excessively drained, and loamy and sandy in character. Small sand blown areas, almost dune-like in texture and morphology, are not uncommon. About 30 percent of Mississippi County's surface is of this same association.

There are 17 soils units mapped within the Eaker AFB boundary. About half of the area of the base is mapped as Routon-Dundee-Crevasse complex, in which Routon, Dundee, and Crevasse soils are so intermingled as to be practically inseparable. Also commonly mapped are Steele and Tunica soils. Clays, silts, sands, and loam are by far the predominant textural-compositional components of these 17 soils units. The U.S. Department of

Agriculture (1971) provides detail about the soils types, description, and uses. The characteristics of these soils are summarized in Table 3.4-1, and the general distribution of soils on the base is shown in Figure 3.4-1.

All soils in the county (including those on Eaker AFB) result from the weathering of ancient alluvial Mississippi River flood deposits, overprinted by the minor effects of recent eolian (windblown) action. Most of the soils at Eaker AFB are relatively nontransmissive, fine-grained, clayey soils, which promote rapid runoff of rain with little infiltration. Under these circumstances, surface spills of contaminants would normally be transported downstream and into the surface drainage with each rainstorm. All mobile contaminants that do infiltrate the soils would probably be carried slowly downgradient in a southwesterly direction by groundwater.

There are several areas on Eaker AFB where soils are likely to be contaminated (U.S. Air Force, 1985). These locations include the FPTA, three JP-4 spill sites, various underground waste oil tank sites, and four landfill areas. Each of these areas will be investigated independently to determine the extent of contamination, if any. Descriptions and locations of these areas are found in Section 3.3, Hazardous Materials and Hazardous Waste Management.

Land use after disposal of any parcels will be partially determined by soil distribution. Most of the base property is not well suited for the construction of buildings because of the shrink/swell potential of the soils (Booker and Associates, n.d.). However, limits on construction of buildings in the area can be overcome by engineering practices, including stronger foundations in building construction. Almost all of the soils on the base are suitable, without restriction, for agriculture. The U.S. Department of Agriculture SCS determined that all arable land on Eaker AFB is prime farmland (U.S. Air Force, n.d.; 7 USC §§4201-4209; 7 CFR Part 658). However, the very sandy areas are least farmable due to excessive infiltration of precipitation. The Farmland Conversion Impact Rating Forms, AD-1006, are presented in Appendix H.

3.4.1.2 Physiography and Geology

Physiography. Eaker AFB, like all of Mississippi County, is located in the Mississippi Embayment of the Atlantic and Gulf Coastal Plains physiographic province (Murray, 1961). The terrain in Mississippi County is characteristically very flat and level except in areas very close to the Mississippi River. Elevations on Eaker AFB property range from 245 to 265 feet above MSL (Booker and Associates, n.d.).

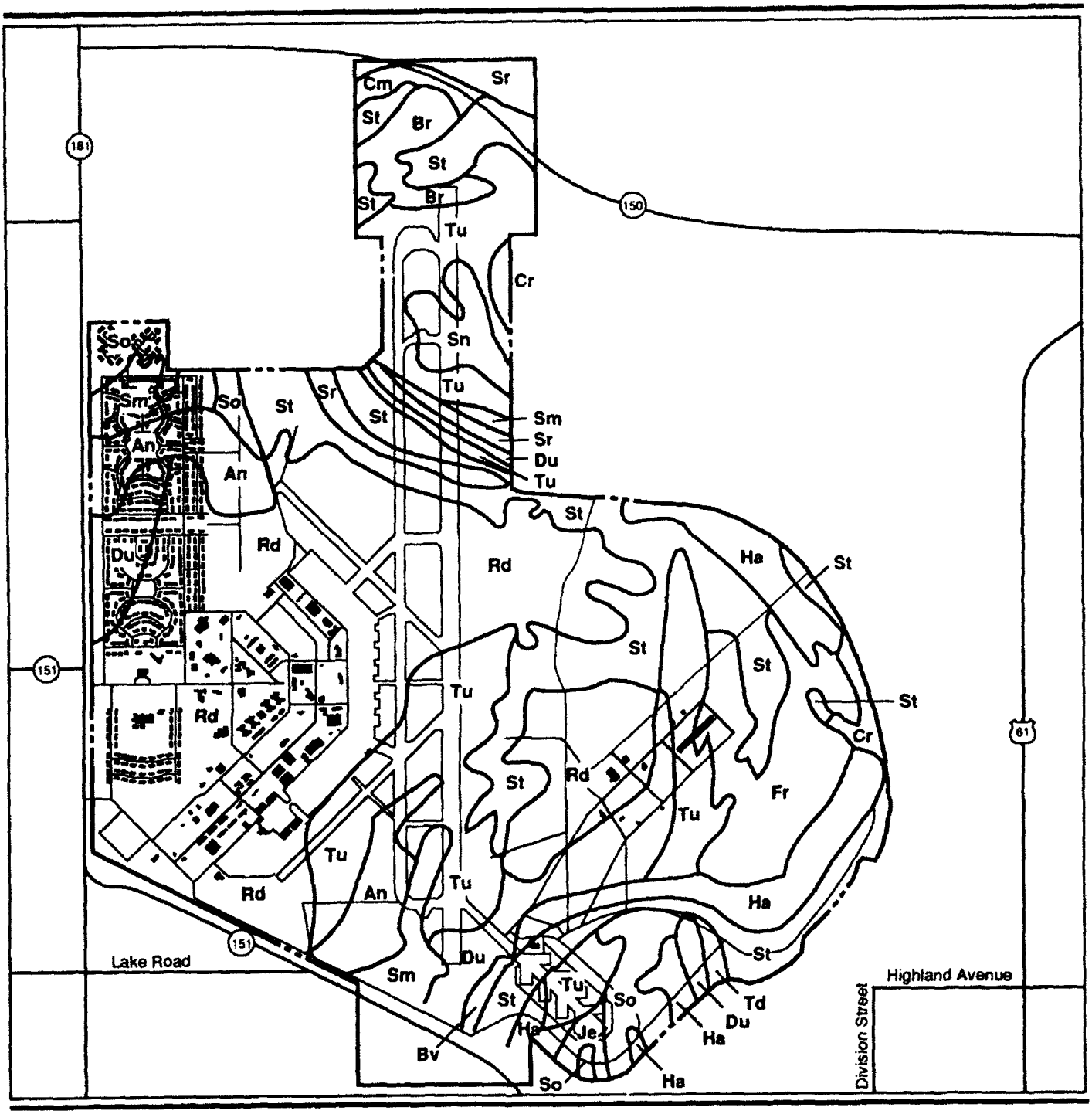
Due to the very low relief, runoff from the base is assisted by the use of man-made drainage canals. Because the surficial deposits are so young

Table 3.4-1. Soil Summary for Eaker Air Force Base

Map Symbol	Unit Description	Dominant Texture	Unit Permeability* (inches/hour)	Infiltration Capability
An	Amagon sandy loam	Sandy to silty clay loam	0.06 – 2.0	Poor
Br	Bowdre silty clay loam	Fine sandy to silty clay loam	0.06 – 0.63	Moderately good
Bv	Bruno-Crevasse complex	Loamy sand to sandy loam	0.06 – >6.3	Excellent
Cm	Commerce silt loam	Silt loam to silty clay loam	0.2 – 2.0	Somewhat poor
Cr	Crevasse loamy sand	Loamy sand to sand	>6.3	Excellent
Du	Dundee silt loam	Silt to fine sandy loam	0.2 – 2.0	Somewhat poor
Fr	Forestdale-Routon Complex	Silty clay to sandy loam	<0.06 – 2.0	Poor
Ha	Hayti fine sandy loam	Fine sandy loam to loam	0.2 – 6.3	Poor
Je	Jeanerette silt loam	Silty clay loam to fine sandy loam	0.06 – 2.0	Poor
Rd	Routon-Dundee-Crevasse Complex	Sandy to silty clay loam	0.2 – 2.0	Poor
Sm	Sharkey-Steele Complex	Silty clay to clay	<0.06	Poor
Sn	Sharkey and Steele soils	Silty clay to clay	<0.06	Poor
So	Steele loamy sand	Clay to loamy sand	0.2 – >6.3	Moderately good
Sr	Steele silty clay loam	Clay to loamy sand	0.2 – >6.3	Moderately good
St	Steele and Tunica soils	Clay to loamy sand	0.2 – >6.3	Moderately good
Td	Tiptonville and Dubbs silt loams	Fine sandy to silty loam	0.2 – 2.0	Moderately good
Tu	Tunica silty clay	Clay to silty loam	>0.06 – 0.63	Poor

* The symbol > means greater than.
The symbol < means less than.

Source: U.S. Department of Agriculture, 1971.



EXPLANATION

Soil series and area. See Table 3.4-1 for explanation.

Base Boundary

Soils Distribution

0 625 1250 2500 Feet

Figure 3.4-1

(Quaternary in age) the strata have not yet developed any distinct geomorphic features, aside from the overall original flatness.

Geology. All of Mississippi County is typified by Quaternary alluvium at the surface, which averages about 125 feet in thickness (Murray, 1961). This alluvial wedge, which is thickest near the Mississippi River and thins in a westerly direction, is composed of clays, silts, sand, and minor gravel.

In the area of Eaker AFB, rocks of Cambrian and Ordovician age comprise the known basement terrain. Precambrian rocks are probably present and underlie the Cambrian sequence, but their presence is not documented. Overlying the Ordovician strata, with great disconformity, are 650 feet of strata of Late Cretaceous age. In turn, 1,875 feet of Tertiary detrital deposits conformably overlap the Cretaceous strata. Finally, the Quaternary alluvium, discussed above, was deposited by the Mississippi River.

There are no mineral deposits of economic interest known or expected to be discovered in Mississippi County (Arkansas Geological and Conservation Commission, 1985). Typically the clays, sands, and gravels which are near the surface in Mississippi County are intermixed, and practically inseparable for use in construction or other purposes. Coal, petroleum, and bromine-rich water are produced routinely in other parts of Arkansas, based upon exploration data, and are not believed to be present in the northeast corner of the state. Adjacent counties have produced or still produce clay, sand, and gravel for commercial use.

Eaker AFB is known to be in a zone of recent seismic activity (Jackson, 1979). The Mississippi-Wabash Seismic Belt includes all of Mississippi County, Arkansas, as well as parts of seven states along the Mississippi and Wabash rivers. The New Madrid fault, along which some of the strongest earthquakes in North America have been generated and recorded, is located less than 50 miles from Eaker AFB. Tremors are routinely recorded and felt near the base as a result of this tectonic feature. Because of the nature of the ground and proximity of the groundwater to the surface, the potential for liquefaction is substantial for the area near Eaker AFB. The area lies within a risk zone that is classified as Seismic Zone III, which is a moderate risk zone. Mississippi County has the potential for damage associated with earthquakes of magnitudes/intensities of VI on the Modified Mercalli Intensity Scale (Jackson, 1979).

Because of the high risk due to seismicity in the Eaker AFB area, there are local ordinances that govern the construction and upgrading of buildings. The city of Blytheville has adopted the 1991 Southern Building Code (SBC) to guide contractors and architects regarding construction standards (Stanbokin, 1992).

3.4.2 Water Resources

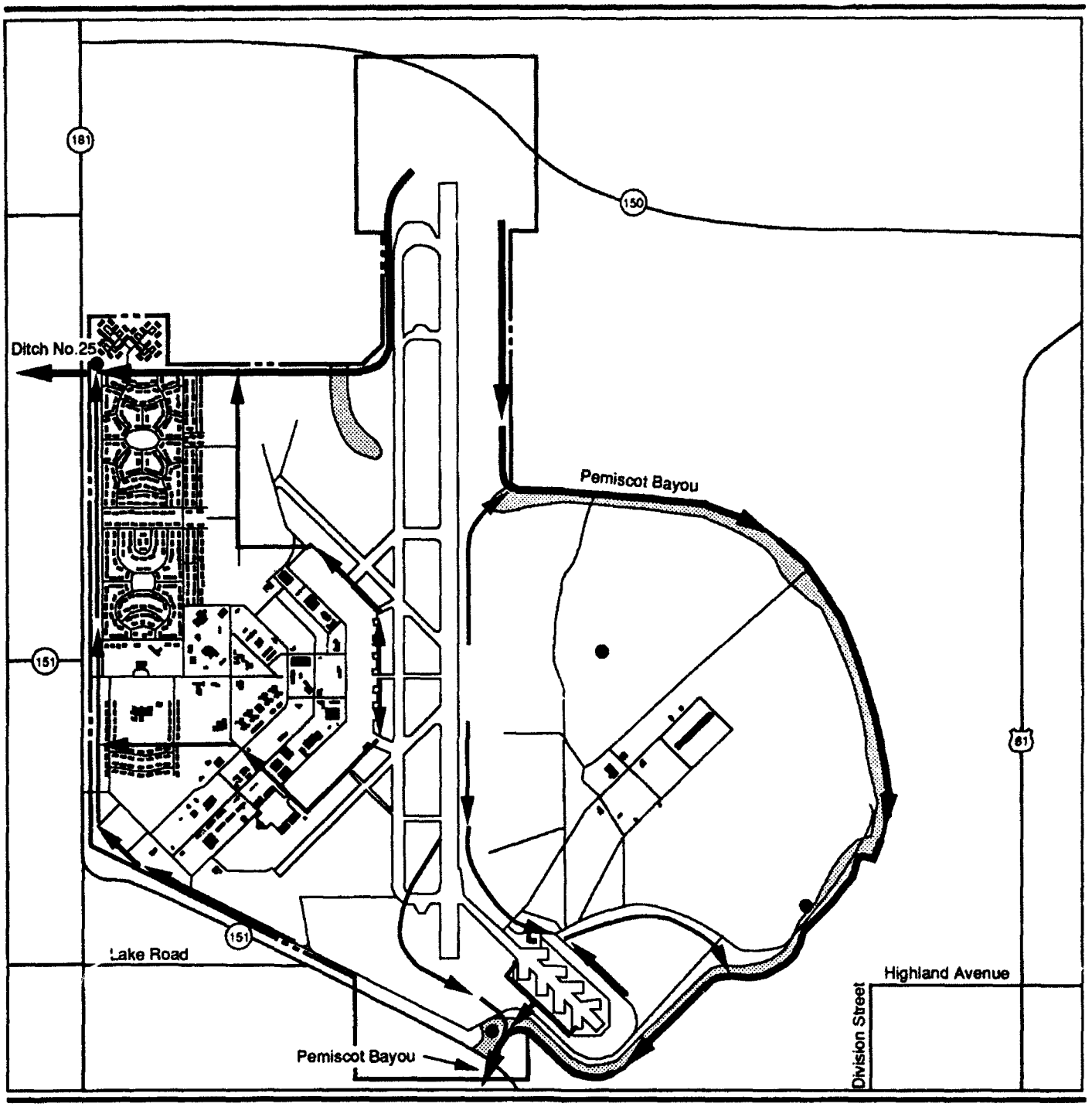
The ROI for water resources is localized and limited to the base, and contiguous water bodies. Calculations of wetland acreage include the entire water body, even if portions extend off base. Coastal areas and wild and scenic rivers are absent from the ROI.

3.4.2.1 Surface Water. Eaker AFB is within the St. Francis River watershed of the Lower Mississippi River Basin. The hydrologic setting is characteristic of the Mississippi River floodplain. Several agricultural drainage ditches and bayous have been dredged in the flat terrain for use in the drainage system. A combination of open drainage ditches and storm drains is used to capture and direct runoff from the base (U.S. Air Force, 1985). The storm drainage system on the base is shown in Figure 3.4-2. Storm water runoff east of the runway drains to Pemiscot Bayou. Runoff west of the runway drains to Ditch 25. Both Ditch 25 and the Pemiscot Bayou flow southwest to the Little River, then to the St. Francis River which discharges to the Mississippi River approximately 150 miles south of Eaker AFB.

Additional minor surface water on the base includes several small ponds. Two artificial ponds at the southern end of the base serve as capture lagoons for runoff from the alert apron. South of Pemiscot Bayou and east of the runway is a smaller pond. In addition, a 4-acre pond called Razorback Lake is located just east of the alert apron. Water quality in Razorback Lake is characterized by elevated concentrations of phosphorous (U.S. Air Force, 1990c).

Water monitoring stations for Pemiscot Bayou are located near the golf course clubhouse, and farther downstream at the SH 151 bridge. The Pemiscot Bayou captures the runoff from areas east of the runway, including the landfill, golf course, and alert apron. Runoff from the main base and most of the flightline drains into Ditch 25. The water quality of Ditch 25 is monitored where the ditch leaves the base. Chemical analyses indicate that water quality is similar at all three monitoring stations (U.S. Air Force, 1990c). However, levels of oil, grease, and sulfate were higher at the golf course monitoring station than at the highway bridge station. Surface water quality on base is fair. Nonpoint source runoff from agricultural activities has resulted in high sediment loads.

The potential for flooding at the base is minimal (U.S. Air Force, 1985). The majority of the base lies above the level of the 100-year floodplain. However, two areas are subject to inundation from the 100-year flood event (U.S. Department of Housing and Urban Development, 1982): along Pemiscot Bayou and an unnamed tributary to Ditch 25 at the north end of the which are shown in Figure 3.4-2.



EXPLANATION

Area subject to inundation from the 100-year flood

Direction of Flow

Surface Water Monitoring Site

Base Boundary

0 625 1250 2500 Feet

Surface Hydrology

Figure 3.4-2

The wetlands found on base total 54 acres and are located in areas above the headwaters of Pemiscot Bayou. Headwaters are defined as the point at which a stream has a flow of 5 cubic feet per second for more than half of the year. (See Section 3.4.5, Biological Resources, for discussion and location of wetland habitat on Eaker AFB.)

3.4.2.2 Surface Drainage. General drainage patterns, the storm drainage system, and monitoring sites on base are shown in Figure 3.4-2. The flat topography and low transmissivity soil types on base do not allow water to percolate, creating standing water problems. Low-lying areas throughout the base (e.g., area east of alert apron) are subject to flooding during heavy periods of rain. The soils also contribute to the high sediment loads in the drainage system.

Treated wastewater effluent from the base is discharged into Pemiscot Bayou approximately 0.5 mile south of the base. The discharge is permitted under the NPDES and effluent is in compliance with permit requirements, with the exception of BOD and TSS (U.S. Air Force, 1990c). Under the existing permit a Notice of Violation has been issued as a result of the base exceeding the BOD and TSS discharge levels from May 1990 to December 1991.

3.4.2.3 Groundwater. Two major aquifers underlie Eaker AFB, an upper aquifer of sands within Quaternary deposits and a lower aquifer of sands within the lower part of the Wilcox formation (Tertiary age). Irrigation wells and rural residences generally obtain water from the Quaternary sands. The on-base and municipal supply wells obtain potable water from the Wilcox formation. The two aquifers are separated by a ridge of approximately 800 feet of the Claiborne group, which consists of interbedded sands and clays.

The upper part of the Quaternary deposits consists of sandy clay and clay, whereas the remainder of the deposits are mainly sand and gravel. The sands and gravels are the major water-bearing units in the Quaternary deposits. The upper limit of the aquifer system, the water table, is 7 to 12 feet below land surface in the vicinity of the base (U.S. Geological Survey, 1990). The water table is highest in the area northeast of the base, indicating that this is an area of recharge to the Quaternary sands and gravels (U.S. Air Force, 1985). Recharge is by precipitation. The water flows through the Quaternary deposits in a general southwest to south direction.

A shallow well located at the golf course clubhouse is used for nonpotable purposes. The well probably withdraws water from the Quaternary deposits (U.S. Air Force, 1985). Water from the alluvial aquifer is generally a moderately hard to very hard calcium bicarbonate and has the potential for subsurface contamination resulting from past on-base practices. There are

several areas on Eaker AFB where the potential for contamination of the Quaternary aquifer is present (U.S. Air Force, 1985). These locations include the FPTA, three JP-4 spill sites, various underground waste oil tank sites, and four landfill areas. Each of these areas must be investigated independently to determine the extent of contamination. The lower Wilcox formation aquifer is protected from contamination by the interbedded sands and clays of the Claiborne group.

The wells that supply potable water to Eaker AFB, the city of Blytheville, and the city of Gosnell receive water from the Wilcox formation. The city of Blytheville obtains its water from four deep wells located approximately 2.3 miles southeast of the base, and the city of Gosnell obtains its water from two deep wells that are drilled to a depth of 1,100 feet. The base receives its potable water supply from two deep wells, the East Well and the West Well, each drilled to a depth of 1,310 feet. The water quality of the deep confined aquifer is excellent. Water in the aquifer is generally soft and is a sodium bicarbonate type (Max et al., 1985). Chemical analyses on water samples from the on-base wells indicate that the concentrations of dissolved solids, nitrate, and chloride are considerably lower than the drinking water standards (U.S. Air Force, 1990c). Iron concentrations are slightly elevated in approximately half the samples; therefore, potable water is treated to remove the iron.

Moderate historical declines in the groundwater levels of the Wilcox formation have been reported, although levels have stabilized in recent years (U.S. Geological Survey, 1990). Water levels in 1971 and 1982 were at historical lows of 17 feet below land surface. Since 1982, water levels have stabilized to between 7 and 12 feet below land surface.

The average daily water demand for Eaker AFB, the city of Blytheville, and the city of Gosnell is 0.72 MGD, 4.45 MGD, and 0.39 MGD, respectively. Estimated yearly demand in the ROI is 5.53 MGD in 1990, 5.16 MGD in 1991, 4.64 MGD in 1992, and 3.22 MGD in 1993. The local water supplies are adequate to meet the anticipated needs and no major water resource developments are expected (see Section 3.2.4).

3.4.3 Air Quality

Air quality in a given location is described as the concentration of various pollutants in the atmosphere, generally expressed in units of ppm or micrograms per cubic meter ($\mu g/m^3$). Air quality is determined by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. The significance of a pollutant concentration is determined by comparing it to federal and/or state ambient air quality standards. These standards represent the maximum allowable atmospheric concentrations which may occur and still protect public health and welfare, with a reasonable margin of

safety. The federal standards are established by the U.S. EPA and termed the National Ambient Air Quality Standards (NAAQS). The state of Arkansas has adopted the NAAQS as their representative air quality standards and they are termed the Arkansas Air Quality Standards (AAQS). The NAAQS and AAQS are presented in Table 3.4-2. The AAQS criteria pollutants are identical to the NAAQS. The main pollutants considered in this EIS are ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2) and particulate matter less than 10 microns in diameter (PM_{10}). The previous NAAQS for particulate matter were based upon total suspended particulate (TSP) levels; it was replaced in 1987 by ambient standards based only on the PM_{10} function.

The existing air quality of the affected environment is defined by air quality data and emissions information. Air quality data are obtained by examining records from monitoring stations maintained by the ADPCE. Information on pollutant concentrations measured for short-term (24 hours or less) and long-term (annual) averaging periods is extracted from the monitoring station data in order to characterize the existing air quality background of the area. Emission inventory information for the affected environment is obtained from the ADPCE, the U.S. EPA, and from Eaker AFB. Inventory data are separated by pollutant and reported in tons per day in order to describe the baseline conditions of pollutant emissions in the area.

Identifying the ROI for an air quality assessment requires knowledge of the pollutant types, source emission rates and release parameters, the proximity relationships of project emission sources to other emission sources, and local and regional meteorological conditions. For inert pollutants (all pollutants other than ozone and its precursors), the ROI is generally limited to an area within a few miles downwind from the source.

Ozone is a secondary pollutant formed in the atmosphere by photochemical reactions of previously emitted pollutants, or precursors. Ozone precursors are mainly reactive organic gases (ROGs) in the form of hydrocarbons and nitrogen oxides (NO_x). ROG are a subset of the groups of volatile organic compounds (VOCs) which are compounds containing carbon, excluding CO, carbonic acid, metallic carbides, metallic carbonates, and ammonium carbonate. ROGs are gaseous forms of VOCs and do not include methane or other nonreactive methane and ethane derivatives. NO_x is the designation given to the groups of all oxygenated nitrogen species, including nitric oxide (NO), nitrogen dioxide (NO_2), nitrous oxide (N_2O), nitric anhydride (N_2O_5), and nitrous anhydride (N_2O_3).

The ROI for ozone may extend much farther downwind than the ROI for inert pollutants. In the presence of solar radiation, the maximum effect of precursor emissions on ozone levels usually occurs several hours after they are emitted and therefore many miles from the source. Ozone and its precursors transported from other regions can also combine with local

Table 3.4-2. National Ambient and Arkansas Air Quality Standards

Pollutants	Averaging Time	National/Arkansas Standards[a]	
		Primary[b,c]	Secondary[b,d]
Ozone	1-hour	0.12 ppm (235 $\mu g/m^3$)	Same as primary standard
Carbon monoxide	8-hour	9 ppm (10 mg/m^3)	-
	1-hour	35 ppm (40 mg/m^3)	-
Nitrogen dioxide	Annual	0.053 ppm (100 $\mu g/m^3$)	Same as primary standard
Sulfur dioxide	Annual	0.03 ppm (80 $\mu g/m^3$)	-
	24-hour	0.14 ppm (365 $\mu g/m^3$)	-
	3-hour	-	1,300 $\mu g/m^3$ (0.5 ppm)
PM_{10}	Annual	50 $\mu g/m^3$[e]	Same as primary standard
	24-hour	150 $\mu g/m^3$	
Lead	Quarterly	1.5 $\mu g/m^3$	Same as primary standard

Notes:

(a) National standards, other than ozone and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year, with maximum hourly average concentrations above the standard, is equal to or less than 1.

(b) Concentration expressed first in units in which it was promulgated. Equivalent units given in parenthesis are based on a reference temperature of 25°C and a reference pressure of 760 millimeters of mercury. All measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 millimeters of mercury (1,013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

(c) National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than 3 years after that state's implementation plan is approved by the U.S. EPA.

(d) National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after the implementation plan is approved by the U.S. EPA.

(e) Calculated as arithmetic mean.

Sources: Clean Air Act, 42 USC 7401 et seq.; Arkansas Water and Pollution Control Act, 82-1901.

emissions to produce high local ozone concentrations. Ozone concentrations are generally the highest during the summer months and coincide with periods of maximum solar radiation. Maximum ozone concentrations tend to be regionally distributed because precursor emissions are homogeneously dispersed in the atmosphere.

For the purpose of air quality analysis, the ROI for emissions of ozone precursors from the project's construction and operational activities would be the existing airshed surrounding Eaker AFB, i.e., the northwest portion of Mississippi County. Project emissions of ROG and NO_x are, therefore, compared to emissions generated within Mississippi County. Mississippi County is bounded to the east by the Mississippi River, to the north by the Missouri county line, to the west by the Arkansas counties of Craighead and Poinsett, and to the south by Crittenden County. The ROI for emissions of the inert pollutants (CO, SO_2, and PM_{10}) is limited to the more immediate area surrounding Eaker AFB. Project-related emissions of inert pollutants are therefore compared to preclosure emissions as a means of assessing potential changes in air quality (see Section 3.4.3.2).

The federal CAA, as amended in August 1977 and November 1990, dictates that project emission sources must comply with the air quality standards and regulations that have been established by federal, state, and local regulatory agencies. These standards and regulations focus on (1) the maximum allowable ambient pollutant concentrations resulting from project emissions, both separately and combined with other surrounding sources, and (2) the maximum allowable emissions from the project.

3.4.3.1 Regional Air Quality. The local topography near Eaker AFB is relatively flat, with gradual slopes rising upward to the west and northwest. This topography near Eaker AFB has negligible effects on influencing local weather conditions and is conducive to good dispersion.

Windspeeds in and around the Eaker AFB area average 8 mph in the winter, blowing predominantly from the north. During the spring and summer, winds are generally from the south blowing at an average speed of about 7 mph. Maximum wind conditions for the area usually occur during the winter and spring. In late summer and fall, winds blow from either the north or the south at an average of about 6 mph. Under low wind conditions, mixing is reduced and local pollutant concentrations can increase somewhat.

According to the U.S. EPA guidelines, an area with air quality better than the NAAQS is designated as being in attainment; areas with worse air quality are classified as nonattainment areas. A nonattainment designation is given to a region if the primary NAAQS for any criteria pollutant is exceeded at any point in the region for more than 3 days during a 3-year period. Pollutants in an area may be designated as unclassified when there is a lack of data for the U.S. EPA to form a basis of attainment status.

Mississippi County is designated as being in attainment of all NAAQS (Driskoll, 1992).

ADPCE also designates areas of the state as either in attainment or nonattainment of the AAQS. An area is in nonattainment for a pollutant if the AAQS has been exceeded more than once in 3 years. Currently Mississippi County is designated as being in attainment of the AAQS for all criteria pollutants (Caple, 1992). Estimates of background concentrations in the area of Eaker AFB were provided by the ADPCE and are contained in Table 3.4-3 (Porter, 1992).

Table 3.4-3. Maximum Allowable Pollutant Concentration Increases under PSD Regulations

Pollutant	Averaging Time	Maximum Allowable Increment ($\mu g/m^3$)		
		Class I	Class II	Class III
TSP	Annual	5	19	37
	24-Hour	10	37	75
SO_2	Annual	2	20	40
	24-Hour	5	91	182
	3-Hour	25	512	700
NO_2	Annual	2.5	25	50

Notes: Class I areas are regions in which the air quality is intended to be kept pristine, such as national parks and wilderness areas. All other lands are initially designated Class II. Individual states have the authority to redesignate Class II lands to Class III to allow for maximum industrial use.

Source: 40 CFR 52.21.

Preclosure Reference. Eaker AFB is located in the Northeast Arkansas Air Quality Control Region (AQCR) No. 020. Major new or modified stationary sources in the area of Eaker AFB are subject to Prevention of Significant Deterioration (PSD) review to ensure that these sources are constructed without significant adverse deterioration of the clean air in the area. Emissions from any new or modified source must be controlled using Best Available Control Technology (BACT). The air quality impacts in combination with other PSD sources in the area must not exceed the maximum allowable incremental increases identified in Table 3.4-3. National parks and wilderness areas are designated as Class I areas, where any appreciable deterioration in air quality is considered significant. Class II areas are those where moderate, well-controlled industrial growth could be permitted. Class III areas allow for greater industrial development. No PSD Class I areas have been identified within 50 miles of the base. All of the surrounding area is designated by the U.S. EPA as Class II. The area is in

attainment of all NAAQS and AAQS, with typical ambient background concentrations as indicated in Table 3.4-4.

Table 3.4-4. Ambient Background Air Quality Concentration in the Area of Eaker AFB

Pollutant	Averaging Time	Background* Concentration
CO	8-Hour	4.1 ppm (4,800 $\mu g/m^3$)
	1-Hour	5.2 ppm (6,000 $\mu g/m^3$)
NO_2	Annual	0.008 ppm (15 $\mu g/m^3$)
SO_2	Annual	0.001 ppm (3.3 $\mu g/m^3$)
	24-Hour	0.013 ppm (34 $\mu g/m^3$)
	3-Hour	0.030 ppm (80 $\mu g/m^3$)
PM_{10}	Annual	26.3 $\mu g/m^3$
	24-Hour	69 $\mu g/m^3$

* Estimates of background concentration provided by the ADPCE (Porter, 1992). Estimates of background concentration not available for ozone or lead.

Closure Baseline. It can be reasonably assumed that pollutant concentrations at base closure would be similar to, or somewhat lower than, concentrations experienced under preclosure conditions. This is because the major emission sources in the Eaker AFB area would be eliminated by closure of the base (i.e., aircraft operations and aerospace ground activities). The closure would also reduce the number of motor vehicles operating in the surrounding area. Emissions associated with vehicles assigned to the base, military and commuting civilian employees, retirees visiting Eaker AFB facilities, and truck traffic associated with base operations would all be eliminated with the exception of activities associated with the OL.

3.4.3.2 Air Pollutant Emission Sources

Preclosure Reference. The most recent emission inventories for Eaker AFB and Mississippi County are presented in Table 3.4-5. The emission inventory for Eaker AFB is representative of preclosure conditions in 1989. The inventory for Mississippi County represents 1987 data. The primary emission sources at the base include aircraft flying operations, aircraft ground operations, aerospace ground equipment, motor vehicles, fire training exercises, boilers, furnaces, and an incinerator. The largest air

Table 3.4-5. Preclosure Emission Inventory (tons per day)

Source	TSP[a]	SO_2	CO	ROG	NO_2
Eaker AFB[b]					
Aircraft flying operations	0.05	0.18	2.03	2.02	0.32
Aircraft ground operations	0.04	0.004	0.07	0.10	0.02
Aerospace ground equipment	0.004	0.003	0.04	0.005	0.06
Hospital incinerator	0.0003	0	0	0	0.0001
Heating and power production	0.0006	0.003	0.002	0.001	0.008
Motor vehicles (military and civilian)	0.01	0.005	0.38	0.06	0.06
Fire fighting practice pit	0.008	0.00003	0.04	0.02	0.0002
Surface coating	0	0	0	0.05	0
Fuel evaporation (gas station and JP-tank)	0	0	0	0.31	0
Subtotal	0.11	0.20	2.55	2.56	0.47
Mississippi County[c]	61.75	1.69	34.38	14.17	11.47

Notes: (a) PM_{10} data were not available at time of this inventory.
(b) Source: U.S. Air Force, 1990a.
(c) Source: U.S. Environmental Protection Agency, 1988.

pollutant source for the base is aircraft flying operations, which account for 41.4 percent of TSP emissions, 92.7 percent of sulfur oxide (as SO_2) emissions, 79.8 percent of CO emissions, 78.9 percent of ROG emissions, and 68.8 percent of NO_x (as NO_2) emissions. The PM_{10} data were not available at the time of the 1987 inventory.

Closure Baseline. The emission inventory for Eaker AFB at base closure was estimated by assuming that all emissions other than those associated with heating and power production, motor vehicles, and surface coating would be eliminated. Heating plants and power generators are assumed to operate at 20 percent of the preclosure capacity in order to fulfill minimum building heating and power requirements. Emissions from motor vehicles and surface coating are assumed to be negligible compared to preclosure levels. Emissions projections for Mississippi County were not available. However, emissions for Mississippi County are not expected to change significantly from 1987 inventory information (see Table 3.4-5). Closure baseline emissions resulting from OL activities as described in Chapter 2 are presented in Table 3.4-6.

Table 3.4-6. Closure Emission Inventory (tons per day)

Source	TSP	SO_2	CO	ROG	NO_2
Eaker AFB	0.0001	0.0006	0.0004	0.0002	0.0016

Source: Derived from Table 3.4-5.

3.4.4 Noise

The ROI for noise sources at Eaker AFB is defined using FAA-developed land use compatibility guidelines. The area most affected by noise due to the base disposal and reuse is limited to the base property itself and areas along major roadways leading to the base.

The characteristics of sound include parameters such as amplitude, frequency, and duration. Sound can vary over an extremely large range of amplitudes. The dB, a logarithmic unit that accounts for the large variations in amplitude, is the accepted standard unit measurement of sound. Table 3.4-7 presents examples of typical sound levels. Different sounds may have different frequency contents. When measuring sound to determine its effects on a human population, A-weighted sound levels are typically used to account for the response of the human ear. A-weighted sound levels represent the sound level according to a prescribed frequency response established by the American National Standards Institute (1983).

Noise is usually defined as sound that is undesirable because it interferes with speech communication and hearing, is intense enough to damage hearing, or is otherwise annoying. Noise levels often change with time; therefore, to compare levels over different time periods, several descriptors were developed that take into account this time-varying nature. These descriptors are used to assess and correlate the various effects of noise on man and animals, including land-use compatibility, sleep interference, annoyance, hearing loss, speech interference, and startle effects.

DNL was developed to evaluate the total community noise environment. DNL (sometimes abbreviated as L_{dn}) is the average A-weighted acoustical energy during a 24-hour period with a 10 dB adjustment added to the nighttime levels (between 10 p.m. and 7 a.m.). This adjustment is an effort to account for the increased sensitivity to nighttime noise events. DNL was endorsed by the U.S. EPA for use by federal agencies and has been adopted by HUD, FAA, and DOD.

DNL is an accepted unit for quantifying human annoyance to general environmental noise, which includes aircraft noise. The Federal Interagency Committee on Urban Noise developed land-use compatibility guidelines for noise in terms of DNL (U.S. Department of Transportation, 1980).

Table 3.4-7. Comparative Sound Levels

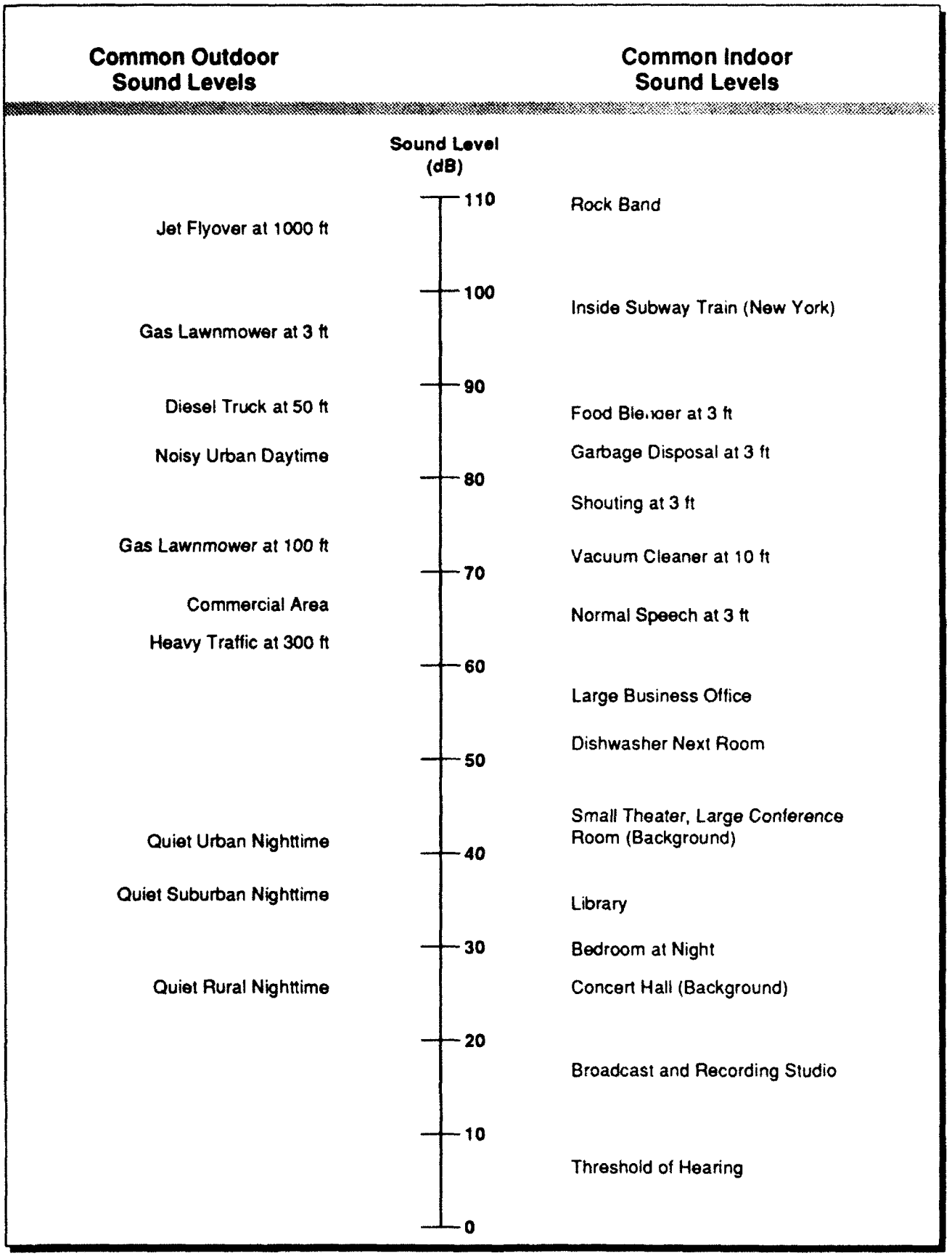


Table 3.4-8 provides FAA-recommended DNL ranges for various land use categories based upon the committee's guidelines. The FAA guidelines were used in this study to determine noise impacts.

DNL is used in this report because it is the noise descriptor recognized by the FAA and Air Force for airfield environments. DNL is sometimes supplemented with other metrics, primarily the equivalent sound level (L_{eq}). The L_{eq} is the equivalent, steady-state level that would contain the same acoustical energy as the time-varying level during the same time interval. Occasionally, the Sound Exposure Level (SEL) is used to supplement DNL, especially where sleep disturbance is a concern. The SEL value represents the A-weighted sound level integrated over the entire duration of the noise event and referenced to a duration of 1 second. When an event lasts longer than 1 second, the SEL value will be higher than the highest sound level during the event. SEL is used in this report when discussing sleep disturbance effects.

The city of Blytheville has adopted a noise ordinance (Blytheville, 1990), which is qualitative, i.e., not written in terms of specific sound levels or units of measure. It prohibits noise disturbances which are defined as "Any sound which (a) endangers or injures the safety or health of humans or animals, or (b) annoys or disturbs a reasonable person of normal sensitivities, or (c) endangers or injures personal and or real property." Furthermore, the ordinance states that it is considered a violation to (a) create any sound within a noise-sensitive zone, so as to disrupt the activities normally conducted within the zone or (b) interfere with the functions of hospitals, nursing homes, or similar activities or disturb or annoy the patients in the activity. Noise-sensitive zones and activities are defined as areas zoned for residential, schools, libraries, churches, hospitals, and nursing homes.

Appendix I provides additional information about the measurement and prediction of noise. This appendix also provides more information on the units used in describing noise, as well as information about the effects of noise such as annoyance, sleep interference, speech interference, health effects, and effects on animals.

3.4.4.1 Existing Noise Levels. Typical noise sources in and around airfields usually include aircraft, surface traffic, and other human activities. Military aircraft operations and surface traffic on local streets and highways are the existing primary sources of noise in the vicinity of Eaker AFB. In airport analyses, areas with DNL above 65 dB are often considered in land-use compatibility planning and impact assessment; therefore, the contours of DNL greater than 65 dB are of particular interest. Contours above DNL 65 dB are presented in 5 dB intervals.

Table 3.4-8. Land Use Compatibility with Yearly Day-Night Average Sound Levels
Page 1 of 2

Land Use	Yearly Day-Night Average Sound Level (DNL) in Decibels					
	Below 65	65-70	70-75	75-80	80-85	Over 85
Residential						
Residential, other than mobile homes and transient lodgings	Y	N[a]	N[a]	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N[a]	N[a]	N[a]	N	N
Public Use						
Schools	Y	N[a]	N[a]	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Governmental services	Y	Y	25	30	N	N
Transportation	Y	Y	Y[b]	Y[c]	Y[d]	Y[d]
Parking	Y	Y	Y[b]	Y[c]	Y[d]	N
Commercial Use						
Offices, business, and professional	Y	Y	25	30	N	N
Wholesale and retail--building materials, hardware, and farm equipment	Y	Y	Y[b]	Y[c]	Y[d]	N
Retail trade--general	Y	Y	25	30	N	N
Utilities	Y	Y	Y[b]	Y[c]	Y[d]	N
Communication	Y	Y	25	30	N	N
Manufacturing and Production						
Manufacturing, general	Y	Y	Y[b]	Y[c]	Y[d]	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y[f]	Y[g]	Y[h]	Y[h]	Y[h]
Livestock farming and breeding	Y	Y[f]	Y[g]	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
Recreational						
Outdoor sports arenas and spectator sports	Y	Y[e]	Y[e]	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts, and camps	Y	Y	Y	N	N	N
Golf courses, riding stables, and water recreation	Y	Y	25	30	N	N

Letters in parentheses refer to notes (see next page). The designations contained in this table do not constitute a federal determination that any use of land covered by the program is acceptable or unacceptable under federal, state, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.

Key

Y (Yes)	Land use and related structures compatible without restrictions.
N (No)	Land use and related structures are not compatible and should be prohibited.
25, 30, or 35	Land use and related structures generally compatible; measures to achieve Noise Level Reduction (NLR) of 25, 30, or 35 dB must be incorporated into design and construction of structure.

Table 3.4-8. Land Use Compatibility with Yearly Day-Night Average Sound Levels
Page 2 of 2

Notes

(a) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide an NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation and closed windowe year round. However, the use of NLR criteria will not eliminate outdoor noise problems.

(b) Measures to achieve an NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas or where the normal noise level is low.

(c) Measures to achieve an NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office, areas, noise-sensitive areas, or where the normal noise level is low.

(d) Measures to achieve an NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office area, noise-sensitive areas, or where the normal noise level is low.

(e) Land use compatible provided special sound reinforcement systems are installed.

(f) Residential buildings require an NLR of 25.

(g) Residential buildings require an NLR of 30.

(h) Residential buildings not permitted.

Source: Derived from Federal Aviation Regulation Part 150 Airport Noise Compatibility Planning (*FAA, 1989b*).

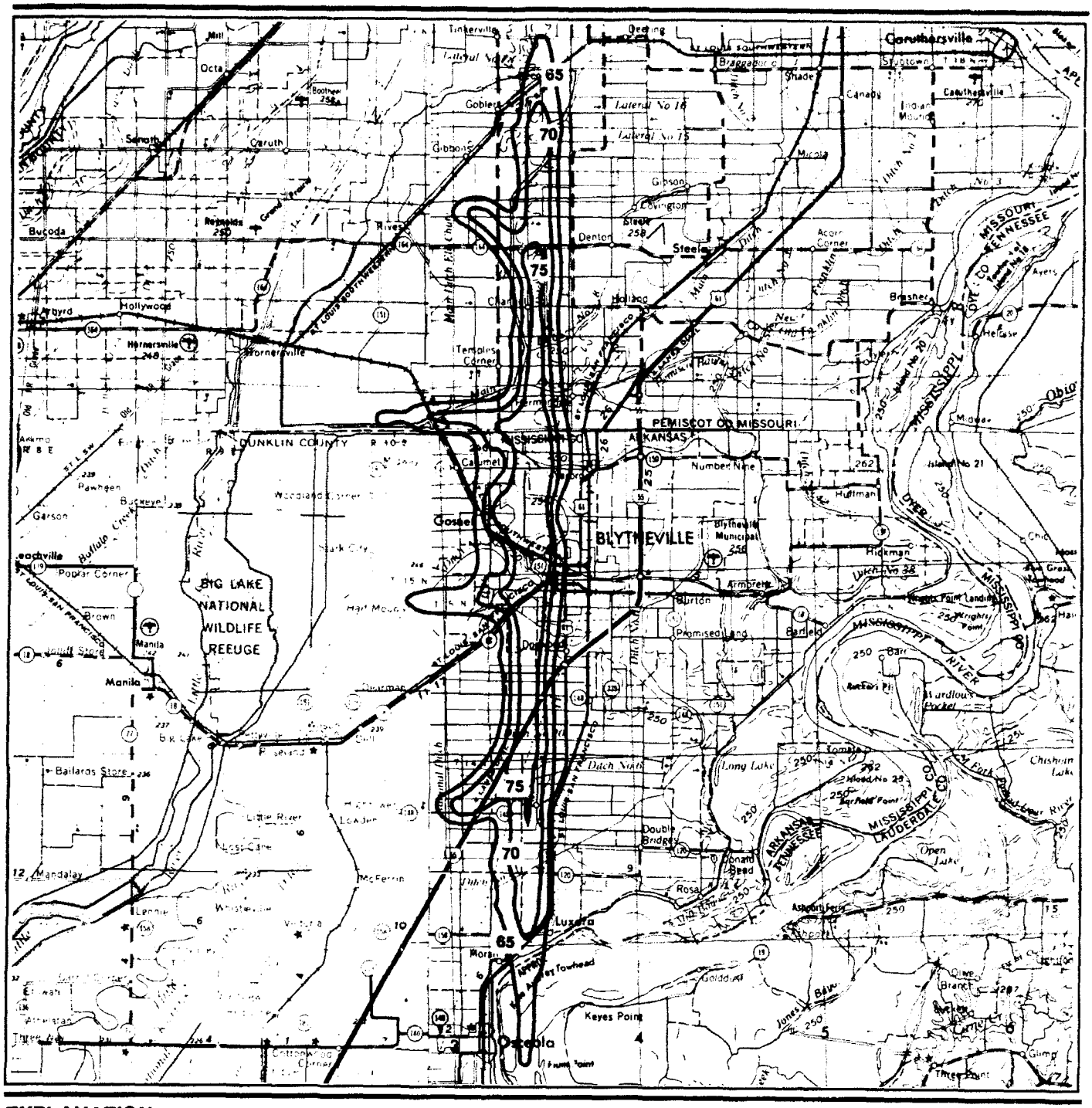
Preclosure Reference. Aircraft noise at Eaker AFB occurs during aircraft engine warm-up, maintenance and testing, taxiings, takeoffs, approaches, and landings. Noise contours for preclosure aircraft operations (see Table 3.2-3) were modeled using information on aircraft types; runway use; runup locations; takeoff and landing flight tracks; aircraft altitude, speeds, and engine power settings; and number of daytime (7 a.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.) operations. The noise contours for 1990 are taken from the *Draft Environmental Impact Statement, Proposed Closure of Eaker AFB, Arkansas* (U.S. Air Force, 1990c) and shown in Figure 3.4-3. Only those contours equal to or above DNL 65 are shown.
Surface vehicle traffic noise levels for roadways in the vicinity of Eaker AFB were estimated using the Federal Highway Administration's Highway Noise Model (Federal Highway Administration, 1978). This model incorporates vehicle mix, traffic volume projections, and speed to generate DNL. The noise levels are then presented as a function of distance from the centerline of the nearest road. The results of the modeling for surface traffic are presented in Table 3.4-9. The actual distances to the DNLs may be less than those presented in the table because the screening effects of intervening buildings, terrain, and walls were not accounted for in the modeling.

Appendix I contains the data used in the surface traffic analysis. These data include AADTs, traffic mix, and speeds.

Closure Baseline. The projected noise levels for the closure baseline were calculated using the surface traffic projections at base closure (Appendix I). The results of the modeling for the roadways analyzed are presented in Table 3.4-9. Again, the actual distances to the DNLs may be less than those presented in the table because the model does not account for screening effects of intervening buildings, terrain, and walls.

At closure it is assumed that there would be no aircraft operations and, therefore, there would be no areas impacted by aircraft noise.

3.4.4.2 Noise-Sensitive Areas. The preclosure ROI for Eaker AFB includes noise-sensitive receptors that include residences, schools, and churches that are within the DNL 65 dB contour. The contours (see Figure 3.4-3) indicate that there are 57,711 acres exposed to DNL 65 or greater in and around Eaker AFB. Approximately 2,000 dwelling units are exposed to DNL 65 or greater which includes the 928 on-base units, and approximately 800 dwelling units located adjacent to the base. Approximately 300 additional farm based dwelling units would also lie with DNL 65 or greater.
Section 3.2.2, Land Use and Aesthetics, describes land uses on and near the base.



EXPLANATION

——— DNL Noise Contours
(in 5 dB intervals)

Preclosure Aircraft Noise Contours

0 1.25 2.5 5 Miles

Map Sources: U.S. Air Force, 1990c; U.S. Geological Survey, 1965, 1970a, 1970b, 1978.

Figure 3.4-3

Table 3.4-9. Distance to DNL from Roadway Centerline for the Preclosure Reference and Closure Baseline

Roadway	Distance (feet)		
	DNL 65	DNL 70	DNL 75
Preclosure			
U.S. 61 Highland to SH 150	40	20	*
U.S. 61 Chickasawba to Highland	60	30	20
SH 181 SH 150 to Main Gate	50	20	*
SH 151 Main Gate to Gosnell City Limits South	60	40	30
SH 151 Gosnell South to Pemiscot Bayou	100	50	30
SH 151 Pemiscot Bayou to SH 18	100	50	30
SH 18 SH 151 to U.S. 61	40	30	*
SH 18 SH 151 to SH 239	40	20	*
Closure			
U.S. 61 Highland to SH 150	40	20	*
U.S. 61 Chickasawba to Highland	50	30	*
SH 181 SH 150 to Main Gate	40	20	*
SH 151 Main Gate to Gosnell City Limits South	60	30	*
SH 151 Gosnell South to Pemiscot Bayou	70	40	30
SH 151 Pemiscot Bayou to SH 18	80	40	30
SH 18 SH 151 to U.S. 61	30	*	*
SH 18 SH 151 to SH 239	30	20	*

*Contained within the roadway.

3.4.5 Biological Resources

Biological resources include the native and introduced plants and animals in the project area. For discussion purposes, these are divided into vegetation, wildlife (including aquatic fauna), threatened or endangered species, and sensitive habitats.

Human activities have altered the natural environment at Eaker AFB. These activities have resulted in development of 1,430 acres for housing, industrial facilities, the airfield, and aviation support areas, along with associated roads, sidewalks, and other infrastructure. Portions of this developed area are maintained as urban landscape. The on-base areas with most of the vegetation include agricultural areas (1,383 acres) and wetlands (54 acres), which include lakes, ponds, drainages, and Pemiscot Bayou. No native plant communities are known to exist at Eaker AFB.

The ROI used for discussion of biological resources is the base and the contiguous wetland areas. This includes the area within which potential impacts could occur and provides a basis for evaluating the level of impact. Information on the affected environment was obtained from a literature review, records search (including the use of 1985 aerial photographs of the base), and an April 1992 field survey at Eaker AFB.

3.4.5.1 Vegetation. With the exception of wetlands vegetation described in Section 3.4.5.4, the vegetation (Table 3.4-10) on base is managed for landscape, recreational, or agricultural values. The vegetated areas incorporate approximately 2,207 acres on the base (Figure 3.4-4).

Landscaped areas on Eaker AFB are comprised of grasses and scattered ornamental trees. In the residential, commercial, and industrial areas of the base this landscaping is managed more intensively than in the airfield area. Several common types of herbicides (Table 3.3-7) are used in these areas. The airfield consists of grasses, which are mowed intermittently by a local farmer, and otherwise are not intensively managed. The recreation areas on the base include several parks, sports fields, playgrounds, picnic areas, and the nine-hole golf course. All contain the previously mentioned grasses and ornamental trees. All are intensively managed, requiring frequent mowing and tree pruning. The landscaped areas have a relatively low biological value and diversity.

The agricultural area is managed primarily for the production of cotton, wheat, soybeans, and alfalfa. The areas (and crops) in production fluctuate from year to year. Pesticides are used in this area to maximize crop production. This area is also relatively low in biological diversity and value.

None of the above vegetated areas are afforded state or local protection or carry any restrictive uses mandated by law. The agricultural areas are monitored by the SCS. This topic is discussed further in Sections 3.4.1 and 4.4.1.

3.4.5.2 Wildlife. Wildlife in the vicinity of Eaker AFB (Table 3.4-10) includes species associated with wetland, agricultural, and urbanized areas. Most of the base is poor quality habitat (agricultural and urbanized land); thus, wildlife diversity is low.

Common mammals in the vicinity of Eaker AFB include the eastern cottontail rabbit, raccoon, Virginia opossum, and gray squirrel. These species occur in undisturbed habitat on base. The beaver and muskrat are occasionally found at Lake Pride and the Pemiscot Bayou.

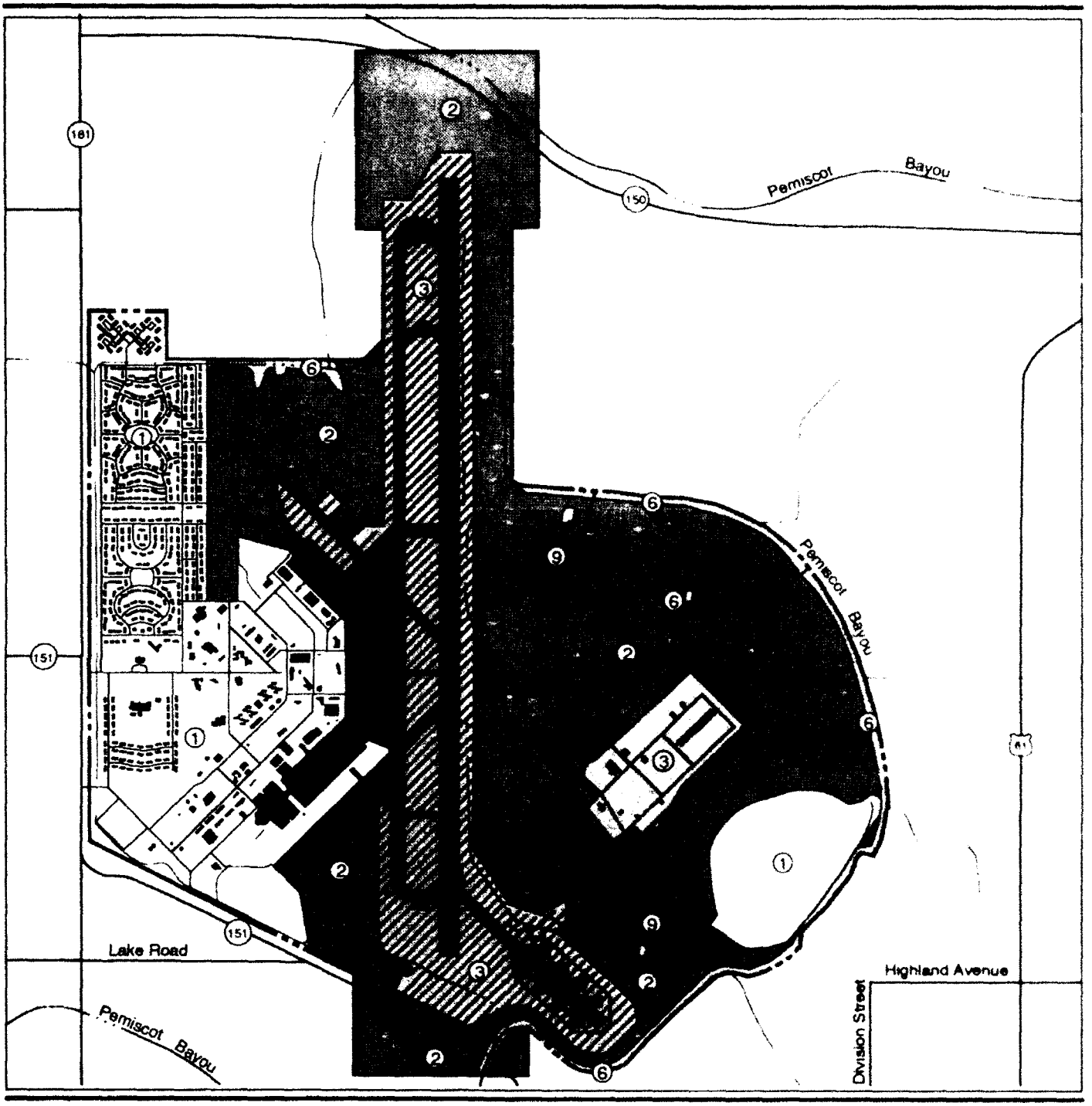
Birds present include the common crow, house sparrow, American robin, starling, mourning dove, blue jay, mockingbird, cardinal, common grackle, and the brown-headed cowbird. These birds frequent most habitat types,

Table 3.4-10. Vegetation and Wildlife Species of Eaker AFB
Page 1 of 2

	Common Name	Scientific Name
Vegetation		
• Agricultural crops	Cotton	*Gossypium* spp.
	Wheat	*Triticum aestium*
	Soybeans	*Glycine max*
	Alfalfa	*Medicago sativa*
• Herbaceous species	Bermuda grass	*Cynodon* spp.
	Rye grass	*Elymus* spp.
• Ornamental tree species	Oak	*Quercus* spp.
	Cypress	*Taxodium* spp.
	Honey locust	*Gleditsia* spp.
	Magnolia	*Magnolia* spp.
	Dogwood	*Cornus* spp.
	Maple	*Acer* spp.
	Sycamore	*Platanus* spp.
	Willow	*Salix* spp.
Wildlife		
• Mammals	Eastern cottontail	*Sylvilagus floridanus*
	Racoon	*Procyon lotor*
	Virginia opossum	*Didelphis marsupialis*
	Gray squirrel	*Sciurus carolinensis*
	Beaver	*Castor canadensis*
	Muskrat	*Ondatra zibethnica*
• Birds		
- General	Common crow	*Corvus brachyrhynchos*
	House sparrow	*Passer domesticus*
	American robin	*Turdus migratorius*
	Starling	*Sturnus vulgaris*
	Mourning dove	*Zenaida macroura*
	Blue jay	*Cyanocitta cristata*
	Mockingbird	*Mimus polyglottos*
	Cardinal	*Cardinalis cardinalis*
	Common grackle	*Quiscalus quiscula*
	Brown-headed cowbird	*Tangavius aenus*
	Red-winged black bird	*Agelains phoeniceus*
- Shorebirds	Spotted sandpiper	*Actitis macularia*
	Cattle egret	*Bubulcus ibis*
	American golden plover	*Pluvialis dominica*
	Killdeer	*Charadrius vociferus*
- Waterbirds	Wood duck	*Aix sponsa*
	Mallard	*Anas platyrhynchos*

Table 3.4-10. Vegetation and Wildlife Species of Eaker AFB
Page 2 of 2

	Common Name	Scientific Name
- Waterbirds (Continued)	Green-winged teal	*Anas crecca*
	Blue-winged teal	*Anas discors*
	Pied-billed grebe	*Podilymbus podiceps*
	Great blue heron	*Ardea herodias*
	Little blue heron	*Florida caerulea*
- Cropland/grassland habitat	Horned lark	*Eremophila alpestris*
	Eastern meadowlark	*Sturnella magna*
	Chirping sparrow	*Spizella passerina*
• Reptiles		
- Snakes	Diamond-backed water snake	*Nerodia rhombifera*
	Yellow bellied water snake	*Nerodia erythrogaster*
	Broad-banded water snake	*Nerodia sipedon*
	Eastern cottonmouth	*Agkistrodon piscivorns*
- Turtles	Snapping turtle	*Chelydra serpentina*
	Eastern box turtle	*Terrapene carolina*
	Red-eared turtle	*Chrysemys scripta*
	Slider turtle	*Chrysemys concinna*
	Southern pointed turtle	*Chrysemys picta*
- Lizards and skinks	Fence lizard	*Sceloporus undulatus*
	Six-lined racerunner	*Cnemidophorus sexlineatus*
	Ground skink	*Leiolopisma laterale*
	Five-lined skink	*Eumecus fasciaus*
	Broad-headed skink	*Eumecus laticeps*
	Slender grass lizard	*Ophisaurus attenuatus*
• Amphibians	Mudpuppy salamander	*Necturus maculosus*
	Lesser siren salamander	*Siren intermedia*
	Eastern spadefoot toad	*Scaphiopus holbrooki*
	Fowler's toad	*Bufo woodhousei*
	Bullfrog	*Rana catesbeiana*
	Green frog	*Rana clamitans*
	Southern leopard frog	*Rana utricularia*
• Fish	Bluegill	*Lepomis macrochinus*
	Channel catfish	*Ictalurus punctatus*
	Largemouth bass	*Micropterus salmoides*
	Sunfish	*Lepomis* spp.
• Invertebrates	Crawfish	*Astacidae* sp.



EXPLANATION

① Landscaped	⑤ Forest ★	⑨ Water
② Agriculture	⑥ Swamp/Marsh	Developed
③ Grassland	⑦ Tundra ★	Disturbed
④ Shrubland ★	⑧ Barren ★	Base Boundary

0 625 1250 2500 Feet

★ Not Applicable

Vegetation Map

Figure 3.4-4

particularly urban and landscaped areas. Shorebirds such as the spotted sandpiper, cattle egret, American golden plover, and killdeer can be found near open bodies of water. Waterbirds found on base include the wood duck, mallard, green-winged teal, blue-winged teal, pied-billed grebe, great blue heron, and the little blue heron. The horned lark, eastern meadowlark, and chirping sparrow are found in the croplands and open grassy areas. Red-winged blackbirds inhabit the wetlands, the surrounding farmlands, and open grassy areas on base.

Resident reptiles include the diamond-backed water snake, yellow-bellied water snake, broad-banded water snake, and eastern cottonmouth, which can be found in or near the larger marshes and wetlands. Several species of turtles are present on base in the vicinity of ponds, drainage ditches, and the Pemiscot Bayou. The snapping turtle, eastern box turtle, red-eared turtle, slider turtle, and southern pointed turtle are the more common species on base. Other reptiles found on base include the fence lizard, six-lined racerunner, ground skink, five-lined skink, broad-headed skink, and the slender glass lizard.

There are numerous species of amphibians in wetland areas on base, including the mudpuppy salamander, lesser siren salamander, eastern spadefoot toad, Fowler's toad, bullfrog, green frog, and the southern leopard frog.

Fish stocked in Razorback Lake include bluegill, channel catfish, largemouth bass, and sunfish.

Crawfish are among the invertebrates found on base.

3.4.5.3 Threatened and Endangered Species. One federal and state listed endangered species (Table 3.4-11) and six state special animal category species occur in the vicinity of Eaker AFB. The bald eagle can potentially forage for fish and rodents at Eaker AFB, but is known to be only a rare winter visitor to the region. The eagle prefers wetlands habitat for foraging.

Informal consultation with the U.S. Fish and Wildlife Service (USFWS), required under Section 7 of the Endangered Species Act, has been initiated to determine any potential impacts to this species.

The state-listed special animal species that occur in the region include the Cooper's hawk, glossy ibis, hooded merganser, midwest worm snake, red fox, and the spotted dusky salamander. However, suitable habitat for these species does not occur on base.

3.4.5.4 Sensitive Habitats. Sensitive habitats include wetlands, plant communities that are unusual or of limited distribution, and important

Table 3.4-11. Threatened, Endangered, and Special Animal Category Species Potentially Occurring in the Vicinity of Eaker AFB

Common Name	Species Name	Status	
		Federal[a]	State[b]
Bald eagle	*Haliaeetus leucocephalus*	E	E
Cooper's hawk	*Accipiter cooperi*	—	SA
Glossy ibis	*Plegadis falcinellus*	—	SA
Hooded merganser	*Lophodytes cucullatus*	—	SA
Red fox	*Vulpes vulpes*	—	SA
Midwest worm snake	*Carphophis amoenus helenae*	—	SA
Spotted dusky salamander	*Desmagnathus fuscus conanti*	—	SA

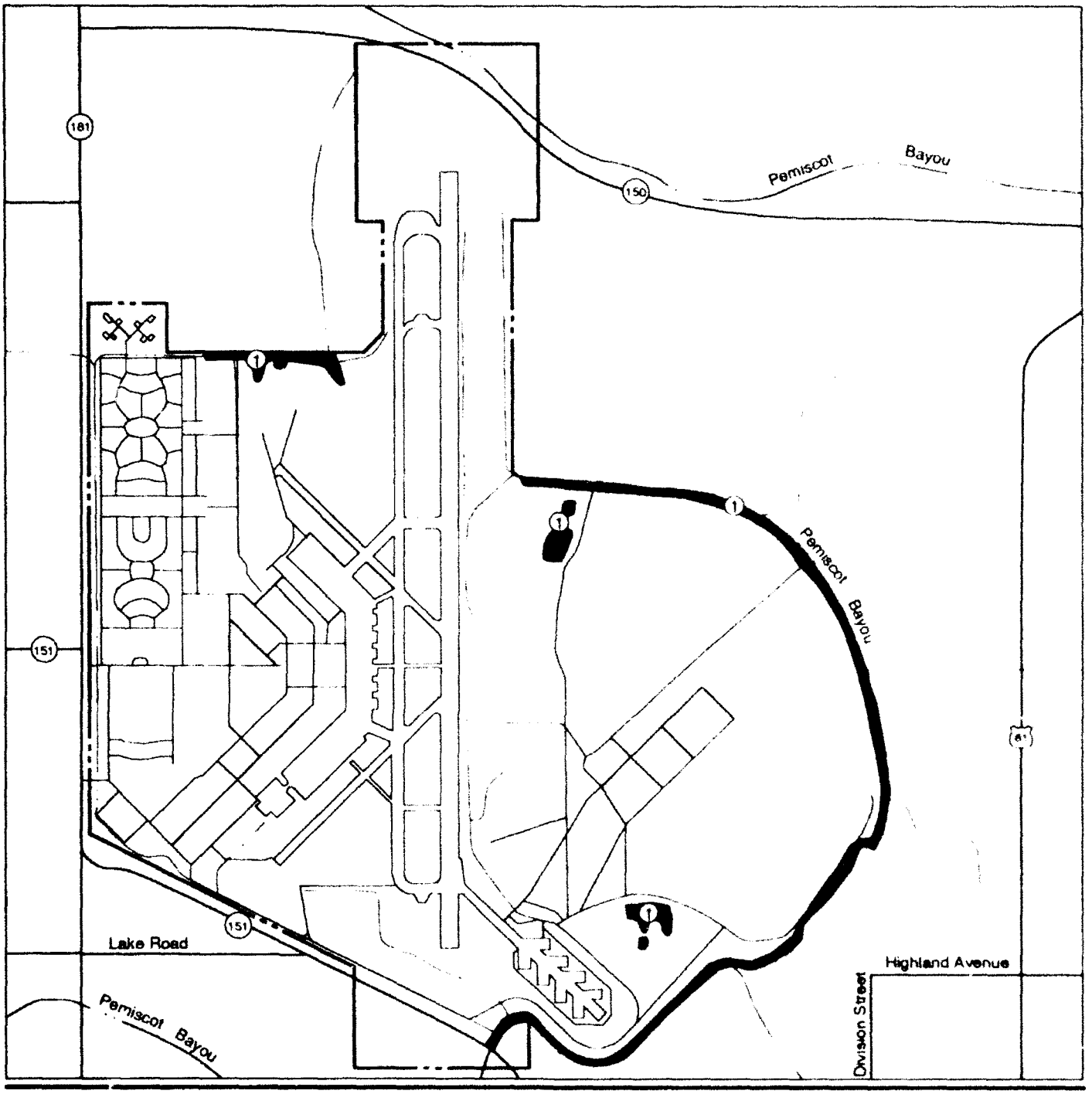
Notes: (a) A species is classified as federally endangered (E) when it is in danger of extinction throughout all or a significant portion of its range.
(b) E = in danger of extinction as a breeding species in Arkansas; SA = State Special Animal.
Source: Arkansas Game and Fish Commission, 1992.

seasonal use areas for wildlife (e.g., migration routes, breeding areas, or crucial summer/winter habitat).

The location and estimated extent of wetlands are based on aerial photographs prepared for Eaker AFB (Airborne Systems, Inc., 1988) and a field visit on April 12 through 17, 1992.

Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Federal Interagency Committee for Wetland Delineation, 1989). Areas that are periodically wet but do not meet all three criteria (hydrophytic vegetation, hydric soils, and wetland hydrology) are not jurisdictional wetlands subject to Section 404 of the federal Clean Water Act. Areas that have been disturbed or that are classified as problem area wetlands, however, may not meet all three criteria as a result of natural or man-induced reasons, yet are still considered wetlands.

The only sensitive habitats on the base are the wetlands. The plant community assessment method (U.S. Army, Corps of Engineers, 1987) was used to analyze potential wetlands on base. Although soil examinations were not conducted, the soils were noted to be hydric and well suited to sustain the hydrophytic vegetation criterion for wetlands delineation. Wetland areas are identified on Figure 3.4-5. Wetlands on or adjacent to the base include Pemiscot Bayou (44.7 acres), the south bank and central portion of Razorback Lake (2.6 acres), Lake Pride (1.5 acres), and the eastern extension of Ditch 25 (5.2 acres).



EXPLANATION

1 Wetlands

Base Boundary

Sensitive Habitats

0 625 1250 2500 Feet

Figure 3.4-5

Wildlife species inhabiting the wetlands include beaver, muskrat, shorebirds and waterbirds. The red-winged blackbird especially prefers wetlands habitat. Several snake, turtle, amphibian, and fish species inhabit these areas along with crawfish. Biological diversity and value in the wetlands is higher than elsewhere on base.

Wetlands receive runoff from several areas on the base. In general, all lands east of the runway drain to Pemiscot Bayou, whereas west of the runway the surface drainage flows into Ditch 25. Other wetlands receive runoff from nearby sources. The surface hydrology on the base is illustrated in Figure 3.4-2.

3.4.6 Cultural Resources

Cultural resources are prehistoric and historic sites, structures, districts, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious or any other reason. Cultural resources have been divided for ease of discussion into three main categories: prehistoric resources, historic structures and resources, and traditional resources. These types of resources are defined in Appendix E, Methods. For the purposes of this analysis, paleontological remains, the fossil evidence of past plant and animal life, have been included within the cultural resources category.

The ROI for the analysis of cultural resources includes, minimally, all areas within the Eaker AFB boundaries, whether or not certain parcels would be subject to ground disturbance. For this analysis, the ROI is synonymous with the Area of Potential Effect (APE) as defined by regulations implementing the National Historic Preservation Act (NHPA). The potential conveyance of federal property to a private party or non-federal agency constitutes an undertaking, or a project that falls under the requirements of cultural resource legislative mandates, because any historic properties located on that property would cease to be protected by federal law. However, impacts resulting from conveyance could be reduced to a nonadverse level by placing preservation covenants on the lease or oisposal document. Developments within designated parcels would, therefore, fall under the requirements of Section 106 of the NHPA.

Numerous laws and regulations require federal agencies to consider the effects of a proposed project on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the federal agency proposing the action, and prescribe the relationship among other involved agencies (e.g., State Office of Historic Preservation, the Advisory Council on Historic Preservation). Methods used to achieve compliance with these requirements are presented in Appendix E.

Only those potential historic properties determined to be significant under cultural resource legislation are subject to protection or consideration by a federal agency. The quality of significance, in terms of applicability to National Register of Historic Places (NRHP) criteria and of integrity, is discussed in Appendix E, Methods. Significant cultural resources, either prehistoric or historic in age, are referred to as "historic properties."

In compliance with the NHPA, the Air Force has initiated the Section 106 review process with the Arkansas State Historic Preservation Officer (SHPO). Record and literature searches were performed at the Arkansas Archaeological Survey, Arkansas Historic Preservation Program, and at Eaker AFB in March 1992. Results are discussed under the appropriate resource category.

3.4.6.1 Prehistoric Resources. During prehistoric times human settlement in the vicinity of Eaker AFB was focused toward the banks of the Mississippi River and the alluvial environs of the Pemiscot Bayou. The region's cultural resources represent a chronology which extends from 10,000 B.C., the Paleo-Indian period, to A.D. 1500, the Late Mississippian period. Prehistoric Native Americans in this region had reached their height of civilization by the Late Mississippian with their settlement in fortified villages. The density of cultural resources recorded on the alluvial environs of Eaker AFB represents a concentrated occupation over the last 2,000 years.

Several cultural resource survey investigations have been conducted on Eaker AFB. The three most recent investigations conducted within the confines of the base and its adjacent environs were performed under contract to the Air Force in 1988-1990 (Cande and Lafferty, 1991; Lafferty and Cande, 1989; and The Earth Technology Corporation, 1992).

In 1988-1989, approximately 700 acres were surveyed to determine if cultural resources could be adversely impacted by the proposed Peacekeeper Rail Garrison Program. The survey area included portions of the tract immediately adjacent to the northeastern base boundary and the railway corridor. As a result four new archaeological sites within the base were identified and boundaries were defined for two previously known sites. The investigation also included testing and evaluation of site 3MS105 for eligibility to the NRHP.

In 1990, approximately 865 acres of undeveloped lands within Eaker AFB and portions immediately adjacent were surveyed. Fifteen archaeological sites were recorded during the survey. The resulting report recommended that all untested cultural resources on base should be evaluated. They are considered potentially eligible as a district to the NRHP.

In 1992, The Earth Technology Corporation surveyed 150 acres, Area I of the 1988 Lafferty and Cande survey, which were under cultivation during

each of the previous field investigations. The area was recommended for resurvey due to lack of surface visibility. One new site was recorded during the survey (Figure 3.4-6). A second site, which was recorded during the 1988 survey was not relocated.

In addition, the EOD Range is currently undergoing remediation. Because nearly all of the range is located within the boundaries of archaeological site 3MS105 (an NRHP-nominated site), a cultural resources management plan has been enacted in conjunction with the remediation. The plan has been approved by the SHPO and the Advisory Council on Historic Preservation.

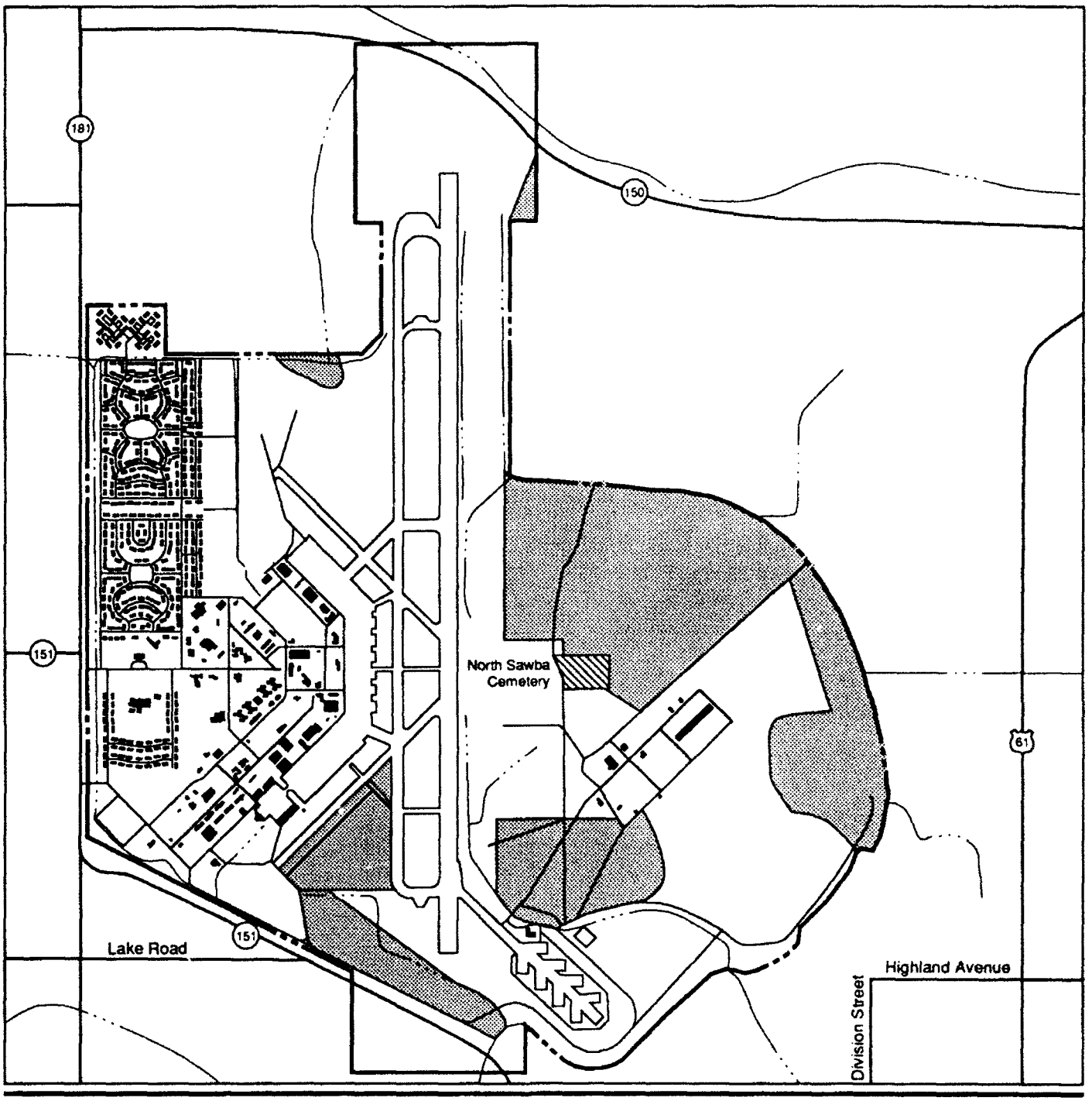
In summary, a total of 22 archaeological sites have been recorded as a result of these investigations (13 prehistoric; 4 multicomponent with both historic and prehistoric elements; and 5 historic sites). The 17 prehistoric and multicomponent sites are discussed in this section. Historic sites are described in Section 3.4.6.2. Of the 17 sites, only one, 3MS105, has been tested to determine its eligibility for inclusion in the NRHP. The 75-acre multicomponent prehistoric village was determined eligible and has been nominated to the NRHP. Site 3MS105 is located on a relatively flat alluvial surface adjacent to the Pemiscot Bayou. Exposed at the surface are ceramics, daub, lithics, and midden deposits. Testing has verified well-preserved buried features throughout most of the site. Subsurface features include hundreds of houses, storage pits, fortification ditches, burials, and the remnant of a large temple mound.

The majority of the unevaluated prehistoric sites recorded consist of light to moderate densities of ceramic and lithic artifacts. Four sites (3MS555, 3MS524, 3MS549, and 3MS105) contain heavy artifact densities. Analysis of the ceramic materials collected from the sites suggests sophisticated ceramic industries in the region. Lithic materials recovered were in some cases indicative of trade networks. There is a high probability of buried deposits for a large proportion (over 60 percent) of the prehistoric sites.

Table 3.4-12 cites the NRHP eligibility of all sites on base. The Air Force is pursuing further investigation of these sites in coordination with the Arkansas SHPO.

Disclosure of specific locations is prohibited in public documents by 32 CFR 229.18a. A non-site-specific map, Figure 3.4-6, shows areas of cultural sensitivity. A description of each site is provided in Appendix J.

The areas of known cultural resources are among those leased for agricultural production. The extent of cultivation practiced is limited in these areas of archaeological sensitivity to minimize the potential for disturbance of buried deposits. As a result of a cultural resource site investigation performed for this environmental impact analysis, all agricultural activities have been suspended on site 3MS105, which has been



EXPLANATION

Cultural Resource Sensitivity Areas

Cemetery

Base Boundary

0 625 1250 2500 Feet

Cultural Resources

Figure 3.4-6

Table 3.4-12. National Register of Historic Places Eligibility of Archaeological Sites

Site	Status	Temporal Designation
3MS105	Eligible and nominated	Multicomponent
3MS195	Potentially eligible	Historic
3MS524	Potentially eligible	Multicomponent
3MS525	Potentially eligible	Prehistoric
3MS526	Potentially eligible	Prehistoric
3MS531	Potentially eligible	Historic
3MS547	Not eligible	Historic
3MS548	Potentially eligible	Prehistoric
3MS549	Potentially eligible	Multicomponent
3MS550	Potentially eligible	Prehistoric
3MS551	Potentially eligible	Prehistoric
3MS552	Potentially eligible	Prehistoric
3MS553	Potentially eligible	Prehistoric
3MS554	Potentially eligible	Historic
3MS555	Potentially eligible	Prehistoric
3MS556	Potentially eligible	Prehistoric
3MS557	Potentially eligible	Prehistoric
3MS558	Potentially eligible	Multicomponent
3MS559	Potentially eligible	Prehistoric
3MS560	Potentially eligible	Prehistoric
3MS561	Potentially eligible	Prehistoric
Survey I - #1	Potentially eligible	Historic

nominated for listing on the NRHP. Specific procedures to be followed until the remaining sites are formally evaluated have been set forth in an agreement between the SHPO and the Army Corps of Engineers (COE), who manages the agricultural lease. Once eligibility is determined, terms of the agreement will be modified accordingly.

3.4.6.2 Historic Structures and Resources. By the mid-19th century the fertile environs of the base were supporting logging and agricultural settlements. Arkansas Archaeological Survey records and previous surveys have identified four historic sites on base that probably date to this period. The sites consist of disturbed trash and debris scatters representing former farmhouses that were destroyed when the base was built. A brief description and location of these sites can be found in Appendix J. Four of

the five sites have yet to be evaluated for NRHP. One site, 3MS547, has been determined not eligible for inclusion in the NRHP.

Blytheville Army Airfield was established in 1942 out of the need for an adequate air branch during World War II. Blytheville Army Airfield was redesignated Blytheville AFB in 1954 when it became part of the newly established U.S. Air Force. An examination of real property records revealed that there are no historically significant World War II buildings remaining on base.

A 1992 review for architecturally significant properties by the State Office of Historic Preservation yielded negative results; no standing pre-military historic structures remained on base. In addition, the NRHP listed no registered historic properties within Eaker AFB. There is a late 19th century cemetery on base located south of the EOD area (see Figure 3.4-6). Much controversy surrounds its history. The Chickasawba cemetery, part of the New Hope Church, was established prior to 1875. Currently, the base real property files list 119 head stones, 92 of which are legible. The Air Force, however, is presently working to resolve the issues concerning the actual number of graves, and the location and boundaries of the Chickasawba Cemetery to establish a factual history. The Air Force believes that the cemetery lies wholly within the zone identified on Figure 3.4-6. In accordance with 36 CFR 60.4, the cemetery is not eligible for inclusion in the NRHP.

As with *prehistoric resources, limited farming* is allowed to occur in the area of the known historic resources.

3.4.6.3 Traditional Resources. The Eaker AFB area was part of ancestral territory for groups of Quapaw Indians, who are recognized as the direct cultural descendants of the Late Mississippian occupants. Human skeletal remains at surface locations have been identified as well as possible buried remains. The reburial of human remains has occurred with the concurrence and cooperation of the Quapaw when such remains were recovered during the testing phase for 3MS105.

Consultation has been initiated and will continue with the Quapaw Tribe to ascertain whether or not there are any known sacred areas or other concerns within Eaker AFB.

3.4.6.4 Paleontological Resources. Remains of Pleistocene Megafauna have been discovered at several locations throughout the Central Mississippi Valley region. Extinct species include the mammoth, mastodon, bison, musk-ox, and ground sloth. The finds nearest Eaker AFB are along the St. Francis River to the west and across the Mississippi River to the southeast in Tennessee. No other rare or unusual fossils have been identified in the vicinity of Eaker AFB, a condition not unexpected in an area of alluvial valley fill.

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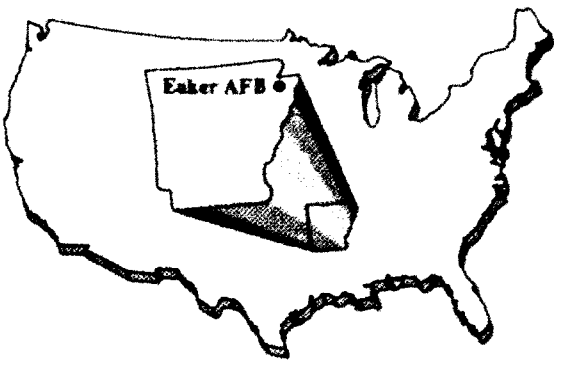


CHAPTER 4
ENVIRONMENTAL CONSEQUENCES

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter discusses the potential environmental consequences associated with the Proposed Action and alternatives. To provide the context in which potential environmental impacts may occur, discussions of potential changes to the local communities, including population, land use and aesthetics, transportation, and community and public utility services are included in this EIS. In addition, issues related to current and future management of hazardous materials and wastes are discussed. Impacts to the physical and natural environment are evaluated for soils and geology, water resources, air quality, noise, biological resources, and cultural resources. These impacts may occur as a direct result of disposal and reuse activities or as an indirect result caused by changes within the local communities. Possible mitigation measures to minimize or eliminate the adverse environmental impacts are also presented.

Cumulative impacts result from "the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (Council on Environmental Quality, 1978). No actions were identified that would contribute to a potential cumulative impact on the disposal and reuse of Eaker AFB.

Means of mitigating adverse environmental impacts that may result from implementation of the Proposed Action and alternatives are discussed as required by NEPA. Mitigation measures are suggested for those components likely to experience substantial and adverse changes under any or all of these alternatives. Potential mitigation measures depend upon the particular resource affected. In general, however, mitigation measures are defined in CEQ regulations as actions that include:

(a) Avoiding the impact altogether by not taking an action or certain aspect of the action

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation

(c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action

(e) Compensating for the impact by replacing or providing substitute resources or environments.

A discussion of the effectiveness of mitigation measures is included for those resource areas where it is applicable, as in the case of mitigation measures for impacts to biological resources. Where appropriate, a discussion regarding the probability of success associated with a particular mitigation is included.

Although reuse development would be decided by recipients and local zoning authorities, probable reuse scenarios were evaluated to analyze environmental impacts.

Alternatives are defined for this analysis on the basis of (1) plans of local communities and interested individuals, (2) general land use planning considerations, and (3) Air Force generated plans to provide a broad range of reuse options. Reuse scenarios considered in this EIS must be sufficiently detailed to permit environmental analysis. Initial concepts and plans are taken as starting points for scenarios to be analyzed. Available information on any reuse alternative is then supplemented with economic, demographic, transportation, and other planning data to provide a reuse scenario for analysis. Approximately 20 years would be required to fully develop the base under civilian reuse.

4.2 LOCAL COMMUNITY

This section discusses potential effects on local communities as a result of disposal and reuse of Eaker AFB.

4.2.1 Community Setting

Socioeconomic effects will be addressed only to the extent that they are interrelated with the biophysical environment. A complete assessment of socioeconomic effects is presented in the *Socioeconomic Impact Analysis Study*. A five-county area (Craighead, Greene, and Mississippi counties, Arkansas; and Dunklin and Pemiscot counties, Missouri) is considered the ROI for purposes of describing and analyzing employment and population effects. Employment and population generated by the implementation of the Proposed Action and each alternative are discussed herein. The closure baseline projects employment levels of 50 direct and 16 secondary jobs for the year 1993 to remain constant through 2013 for the No-Action Alternative. The ROI population estimates for the closure baseline and post-closure are 205,500 for 1993 and 211,700 for 2013. This represents an increase of approximately 6,200, or 3 percent.

This analysis recognizes the potential for community impacts arising from "announcement effects" stemming from information regarding the base's

closure or reuse. Such announcements may impact the affected communities' perceptions and, in turn, could have important local economic effects. An example would be the in-migration of people anticipating employment under one of the reuse options. If it were later announced that the No-Action Alternative was chosen, many of the newcomers would leave the area to seek employment elsewhere. Such an effect could, therefore, result in an initial, temporary increase in population followed by a decline in population as people leave the area.

4.2.1.1 Proposed Action. It is estimated that the redevelopment activities at Eaker AFB under the Proposed Action would generate approximately 9,700 (4,200 direct and 5,500 secondary) jobs by the year 2013. Direct jobs would be located on base property, whereas secondary jobs would be created throughout the five-county ROI. Figure 4.2-1 shows the effects of the Proposed Action and alternatives on employment in the ROI.

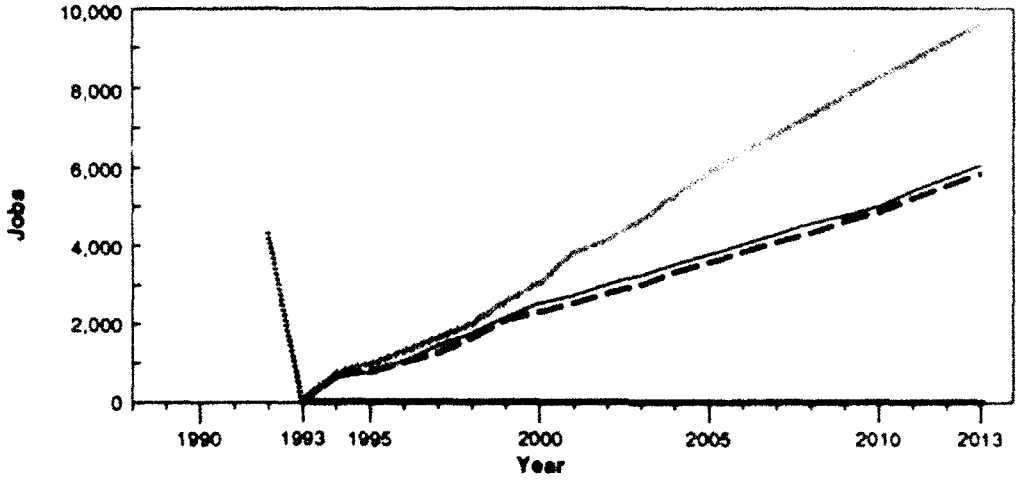
The population in the five-county ROI would increase by approximately 11,000 by 2013. This represents an increase of approximately 5 percent over the projected baseline population. Figure 4.2-2 shows the effects of the Proposed Action and alternatives on population in the ROI. The communities likely to experience the largest increase in population are Blytheville and Gosnell. The closure and relocation of the Blytheville Municipal Airport to Eaker AFB is not expected to affect the employment and population in the ROI. The Proposed Action would generate positive economic benefits by increasing employment and earnings in the region.

4.2.1.2 General Aviation Alternative. This alternative would generate approximately 5,900 (2,700 direct and 3,200 secondary) jobs by 2013 (Figure 4.2-1). The population of the five-county ROI under this alternative would increase by approximately 3,800 by 2013 (Figure 4.2-2), an approximate 2-percent increase over the projected baseline population. The communities of Blytheville and Gosnell are likely to experience the largest increase in population. The closure and relocation of Blytheville Municipal Airport to Eaker AFB is not expected to affect employment and population in the ROI. This alternative would also have positive economic benefits.

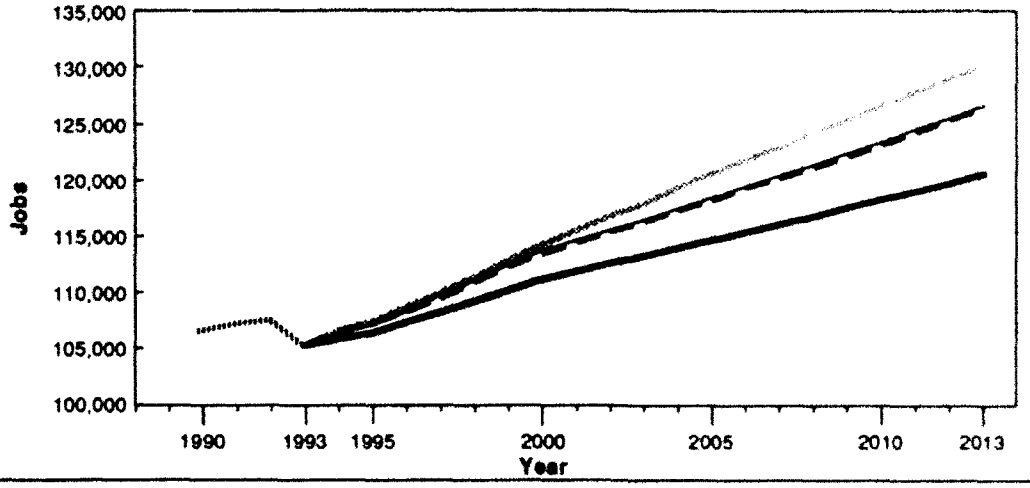
4.2.1.3 Non-Aviation Alternative. It is projected that this alternative would generate approximately 6,100 (2,800 direct and 3,300 secondary) jobs by the year 2013 (Figure 4.2-1). The five-county ROI population would increase by approximately 4,100 by 2013, representing an approximate 2-percent increase over the baseline population projected to 2013 (Figure 4.2-2). The communities of Blytheville and Gosnell are likely to experience the largest increase in population. Effects to employment and population as a result of closing and relocating the Blytheville Municipal Airport would be the same as described in the Proposed Action. This alternative would also have positive economic benefits.

ALTERNATIVE	1993	1998	2003	2013
Proposed Action	0 *	2,000	4,600	9,700
General Aviation	0 *	1,600	3,000	5,900
Non-Aviation	0	1,800	3,300	6,100
No-Action	66	66	66	66

Reuse-Related Employment Effects



Reuse-Related Employment Effects



Total Employment Including Reuse Effects

EXPLANATION

- No-Action/Post-Closure
- Proposed Action
- General Aviation
- Non-Aviation
- Preclosure

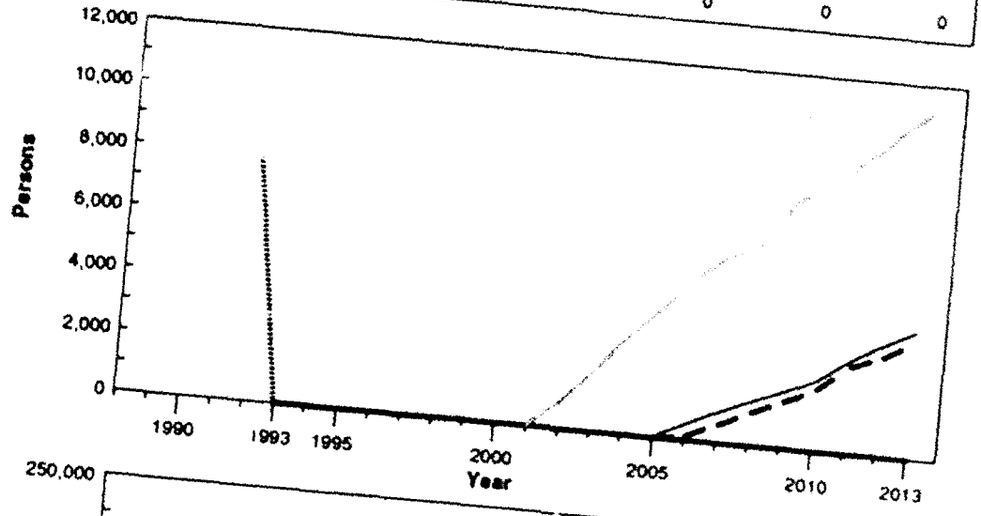
* Less than 10 direct and secondary jobs will be created during 1993 for the aviation alternatives.

Reuse-Related Employment Effects

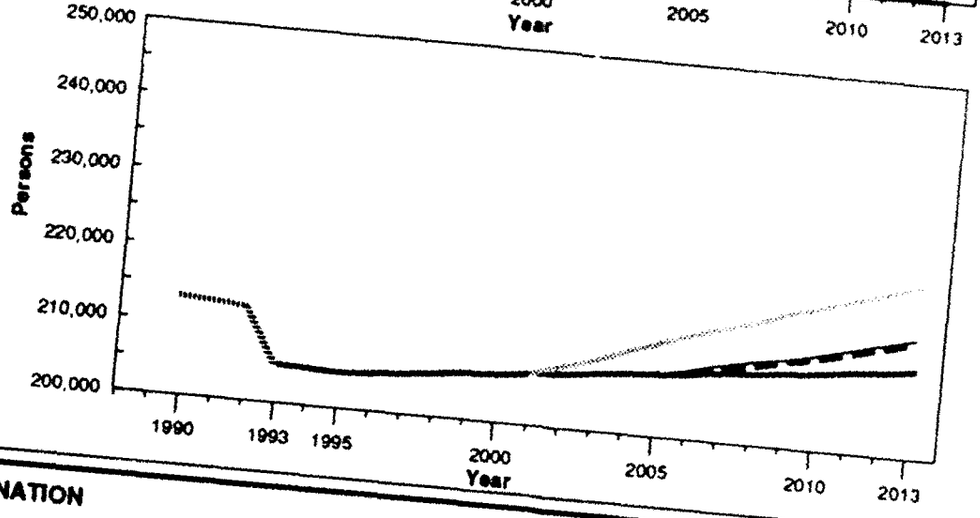
Figure 4.2-1

ALTERNATIVE	1993	1998	2003	2013
Proposed Action	0	0	1,900	11,000
General Aviation	0	0	0	3,800
Non-Aviation	0	0	0	4,100
No-Action	0	0	0	0

Reuse-Related Population Effects



Reuse-Related Population Effects



Total Population Including Reuse Effects

EXPLANATION

- No-Action/Post-Closure
- Proposed Action
- General Aviation
- Non-Aviation
- Preclosure

Reuse-Related Population Effects

Figure 4.2-2

4.2.1.4 Other Land Use Concepts. Other land use concepts would be initiated on an individual basis rather than as part of an integrated reuse alternative. The potential effects of these land use concepts are discussed in relation to their effects on the Proposed Action and reuse alternatives.

McKinney Act. The area in the northwest chosen for analysis under the McKinney Act has the potential to accommodate up to 260 people. If this proposal were enacted, up to three direct jobs would be generated. The housing area in the southwest has the potential to accommodate up to 185 people and would generate up to 3 direct jobs. No change in population would be associated with implementation of the McKinney Act scenarios since residents would already live within the ROI.

Interpretive Center/Museum. This proposal, which involves 330 acres and possible use of existing facilities for a cultural museum and interpretive center, is incorporated into the reuse plan of the Proposed Action. Five direct jobs would be generated by this proposal. Agricultural usage would be reduced by 120 acres, when implemented with the General Aviation and Non-Aviation alternatives. No net change in population or reduction in jobs would occur when implemented in association with any of the reuse alternatives.

4.2.1.5 No-Action Alternative. Under the No-Action Alternative, only caretaker status activities would occur at the base. It is estimated that the caretaker activities at Eaker AFB would maintain approximately 50 direct and 16 secondary jobs in the five-county ROI through the year 2013. There would be no net increase in population as a result of the No-Action Alternative. By the year 2013, total employment in the ROI is projected to reach 120,600 and total population in the ROI is expected to be 211,700.

4.2.2 Land Use and Aesthetics

This section discusses the Proposed Action and alternatives relative to land use and zoning to determine potential impacts in terms of general plans, zoning, and land use and aesthetics. Land use compatibility with aircraft noise is discussed in Section 4.4.4.

4.2.2.1 Proposed Action. The Proposed Action would result in some changes to the land use patterns within the ROI. The most substantial change would be the relocation of civilian aviation-related activity from the southeast side of Blytheville to the northwest side. This would allow 57 acres of existing aviation-related land use at Blytheville Municipal Airport to be converted to other uses. In addition, there would be noticeable changes in the land use patterns on base resulting from conversion of 1,108 acres of agricultural land for public recreation, industrial, and aviation support activities.

The Proposed Action would also result in an increase in the amount of developed areas to the north and south of the cantonment. Specific changes in major on-base land use categories associated with the Proposed Action are:

- The airfield land use would increase by 276 to 998 acres. This increased airfield area would be gained by converting 52 acres of aviation support, 186 acres of agricultural, and 38 acres of industrial.

- The aviation support zone would increase by 175 to 232 acres. The increase would be gained by converting 45 acres of industrial, 89 acres of agricultural, and 41 acres of vacant land.

- The industrial zone would increase by 216 to 501 acres. This increase would be gained by converting 15 acres of public/recreation, 191 acres of agricultural, and 10 acres of vacant land.

- The institutional (educational) land use zone (127 acres) would be created by converting 92 acres of airfield, 19 acres of commercial, and 16 acres of residential land use.

- The commercial land use zone would increase by 60 to 142 acres. The increase would be gained by converting all 21 acres of the existing medical land use, 28 acres of residential, and 11 acres of vacant land.

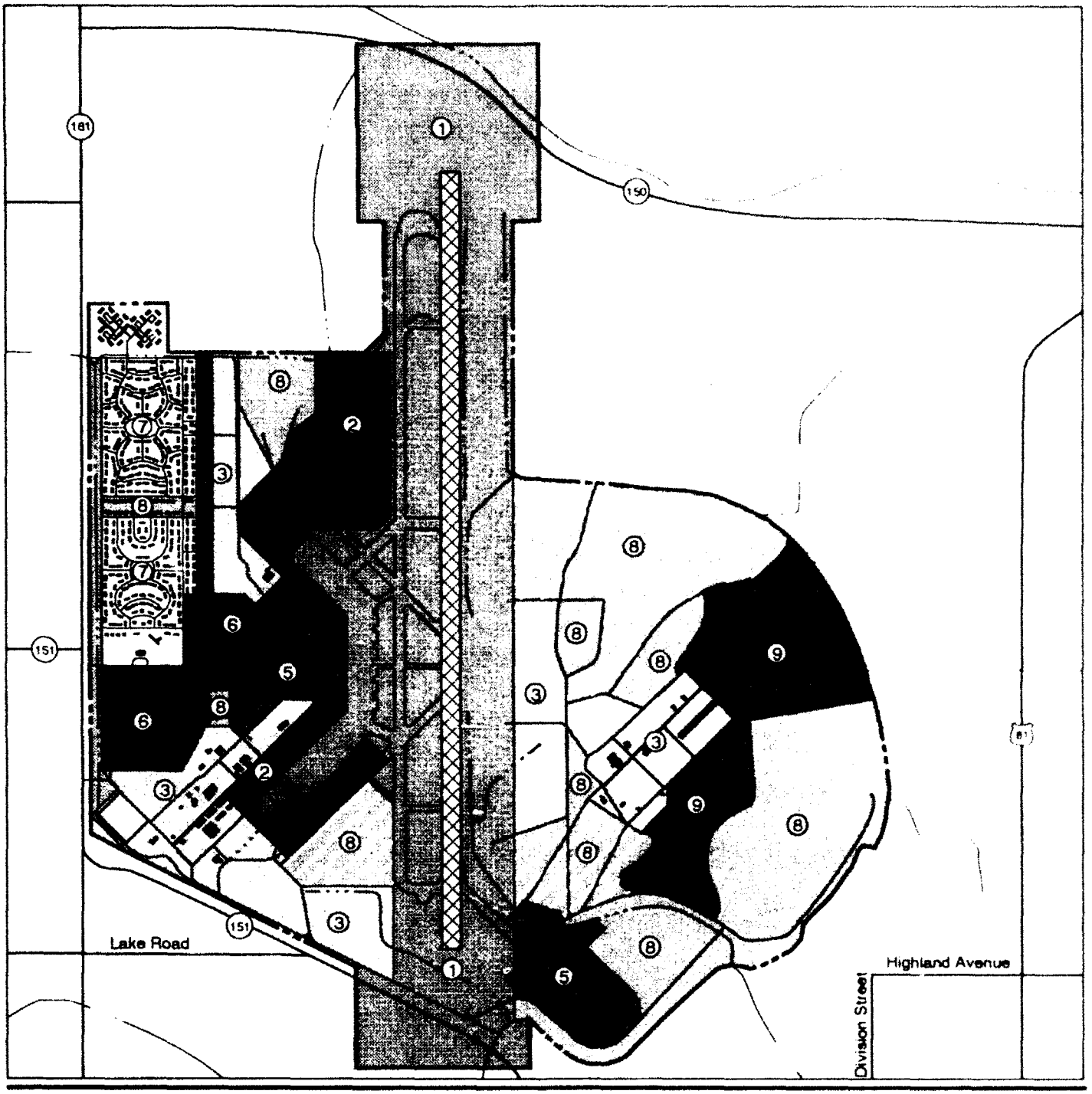
- The residential land use zone would decrease by 53 to 211 acres.

- The public/recreational land use zone would increase by 595 acres to 800 acres. This increase would occur through conversion of 73 acres of industrial, 510 acres of agricultural, and 12 acres of vacant land.

- The agricultural land use zone would decrease by 1,108 to 275 acres.

- The vacant land, as it exists in the closure baseline would disappear, with a net loss of 268 acres.

The proposed land uses would generally be compatible with one another, but two areas have been identified where adjacent land uses may lead to potential conflicts (Figure 4.2-3). In the northwest quadrant of the base, the presence of commercial and industrial uses may not be fully compatible with adjacent residential uses because of potential noise, safety, traffic, and air quality concerns. Also, the proposed institutional reuse (emergency



EXPLANATION

- Poor compatibility between existing land use and proposed adjacent land use
- ① Airfield
- ② Aviation Support
- ③ Industrial
- ④ Institutional (Medical) *
- ⑤ Institutional (Education)
- ⑥ Commercial
- ⑦ Residential
- ⑧ Public/Recreation
- ⑧ Archaeological/ Open Space
- ⑨ Agriculture
- ⑩ Vacant Land *
- Base Boundary
- Proposed Runway

0 625 1250 2500 Feet

* Not Applicable

Land Use Conflicts- Proposed Action

Figure 4.2-3

response training academy) in the southeast quadrant may not be fully compatible with use of the adjacent public/recreation area as a golf course.

The Farmland Protection Policy Act (FPPA), 7 USC § 4201 et seq , directs federal agencies to take into account the adverse effects of federal programs on the preservation of farmland; considers alternative actions, as appropriate, that could lessen such adverse effects; and assures that such federal programs, to the extent practicable, are compatible with state, unit of local government, and private programs and policies to protect farmland. In developing the guidelines to be used in this process, the implementing regulations (7 CFR Part 658) provide that where the state in which the project will occur has developed an approved Land Evaluation and Site Assessment (LESA) system, the federal agencies use that system to make their evaluation. The SCS reviewed the project to determine whether the proposed project was in compliance (Appendix H).

Under the Proposed Action, 787 acres of prime farmland would be converted to airfield, aviation support, industrial, and public/recreation land uses. The farmland to be converted was assigned a score of 113.8 using the method specified in Form AD-1006. Applying the criteria contained in the LESA results in a determination that the impacted lands have "a low rating for protection." Based on this score, it appears that utilization of this site would be consistent with the intent of the FPPA that federal agencies minimize adverse impacts to agriculture from their projects and programs.

In developing the ALP, which is an integral part of the Proposed Action, the impacts on farmland were considered. The areas proposed for conversion were kept to the minimum necessary to support the project.

Aesthetics. The industrial development under the Proposed Action would substantially alter the visual character of the southwest quadrant of the base by replacing open space areas with new facilities. The open view to the east from the existing residential area in the northwest quadrant of the base would be altered due to construction of industrial facilities. The open setting of the base as viewed from SH 151 on the south side of the base would be significantly altered. These areas would ultimately be urbanized, thus eliminating the open areas that provide vistas of the base from the highway.

Mitigation Measures. One mitigation to be considered for the potential land use/aesthetics impacts identified for the Proposed Action would be the use of buffer landscaping or screening (i.e., plant materials or walls) to separate residential uses from adjacent industrial development. This could also be considered for conflicting land uses along the west and southeast areas of the base. Such mitigation could be effective in eliminating visual impacts; however, depending on the size of initial plantings, the screening may not be completely effective until plants mature.

4.2.2.2 General Aviation Alternative. The General Aviation Alternative would result in some changes to the land use patterns within the ROI. The civilian aviation-related activities currently located on the southeast side of the city of Blytheville (Blytheville Municipal Airport) would relocate to Eaker AFB as part of the base development for general aviation. Specific land use changes within the General Aviation Alternative are as follows:

- The airfield land use would increase by 32 to 754 acres. This increased airfield area would be gained by converting 32 acres of agricultural land.

- The aviation support zone would increase by 18 to 75 acres. The increase would be gained by converting 6 acres of industrial land use zone, 10 acres of agricultural, and 2 acres of vacant land.

- The industrial zone would increase by 218 to 503 acres. This increase would be gained by converting 26 acres of aviation support zone, 55 acres of institutional (educational), 7 acres of public/recreation, 98 acres of agricultural, and 32 acres of vacant land.

- The institutional (educational) land use zone (55 acres) would be created by converting 9 acres of aviation support, 30 acres of industrial, and 16 acres of the residential land use zone.

- The commercial land use zone would decrease by 19 to 63 acres.

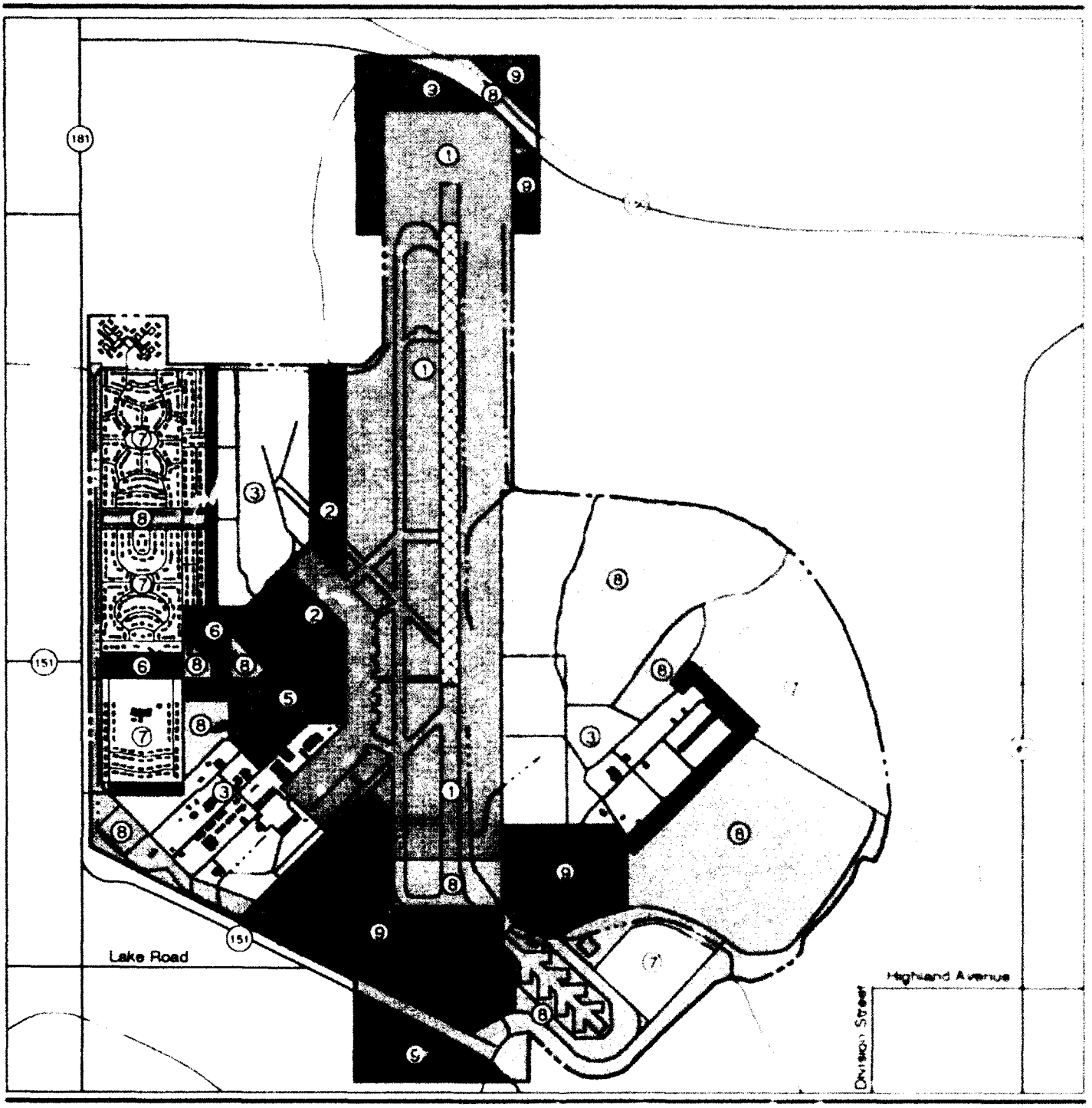
- The residential land use zone would increase by 253 to 517 acres. This would be gained by converting 232 acres of agricultural and 21 acres of institutional (educational) land.

- The public/recreational land use zone would increase by 638 to 843 acres. This increase would occur through conversion of 625 acres of agricultural, 3 acres of commercial, and 10 acres of the industrial land use zone.

- The agricultural land use zone would decrease by 907 to 476 acres.

- The vacant land area would be eliminated, as would the institutional (medical) land use zone.

As for the Proposed Action, the on-base land uses would be compatible except where the proposed industrial and commercial uses are adjacent to residential areas in both the southwest and northwest quadrants of the base (Figure 4.2-4). In the eastern portion of the base, the industrial use may not



EXPLANATION

- Poor compatibility between existing land use and proposed adjacent land use
- 1 Airfield
- 2 Aviation Support
- 3 Industrial
- 4 Institutional (Medical) *
- 5 Institutional (Education)
- 6 Commercial
- 7 Residential
- 8 Public/Recreation
- 8 Archaeological Open Space
- 9 Agriculture
- 10 Vacant Land *
- Base Boundary
- Proposed Runway

0 625 1250 2500 Feet

* Not Applicable

Land Use Conflicts - General Aviation Alternative

Figure 4.2-4

be fully compatible with the adjacent proposed residential area and public/recreation area (proposed golf course expansion).

As for the Proposed Action, the SCS evaluated potential impacts to prime farmland that would result from this alternative (Appendix H). Under the General Aviation Alternative, 827 acres of prime farmland would be converted to airfield, aviation support, industrial, residential, and public/recreation land uses.

The farmland was assigned a score of 112.8 using the method specified in Form AD-1006. Applying the criteria contained in the LESA results in a determination that the impacted lands have "a low rating for protection." Based on this score, it appears that utilization of this site would be consistent with the intent of the FPPA that federal agencies minimize adverse impacts to agriculture from their projects and programs.

In developing the airport plan, which is an integral part of the General Aviation Alternative, the impacts on farmland were considered. The areas proposed for conversion were kept to the minimum necessary to support the project.

Aesthetics. The industrial development under the General Aviation Alternative would alter the visual character in the northwest quadrant of the base by replacing open space areas with new industrial facilities. In addition, residential development would change the visual character in the southeast quadrant of the base by replacing agricultural areas with new residential development, thus eliminating large open areas.

Mitigation Measures. Mitigations to be considered for the potential land use/aesthetics impacts identified for the General Aviation Alternative would be the same as those discussed for the Proposed Action.

4.2.2.3 Non-Aviation Alternative. The Non-Aviation Alternative land uses within the ROI would remain essentially the same except there would no longer be land uses associated with aviation. Specific land use changes on Eaker AFB would be as follows:

- The airfield land use would be eliminated, as would the aviation support zone.

- The industrial zone would increase by 514 to 799 acres. This increase would be gained by converting 450 acres of airfield, 27 acres of public/recreation, and 37 acres of the agricultural land use zone.

- The institutional (educational) land use zone (98 acres) would be created by converting 35 acres of industrial, 37 acres of commercial, 16 acres of residential, and 10 acres of vacant land.

- The commercial land use zone would increase by 5 to 87 acres. The increase would be gained by converting 2 acres of the institutional (medical) zone and 3 acres of the residential zone.

- The residential land use zone would decrease by 42 to 222 acres.

- The public/recreational land use zone would increase by 505 to 710 acres. This increase would occur through conversion of 498 acres of agricultural and 7 acres of vacant land.

- The agricultural land use zone would decrease by 13 to 1,370 acres. This would be accomplished through conversion of public/recreation zone acreage.

- The vacant land area zone would be eliminated as would the institutional (medical) zone.

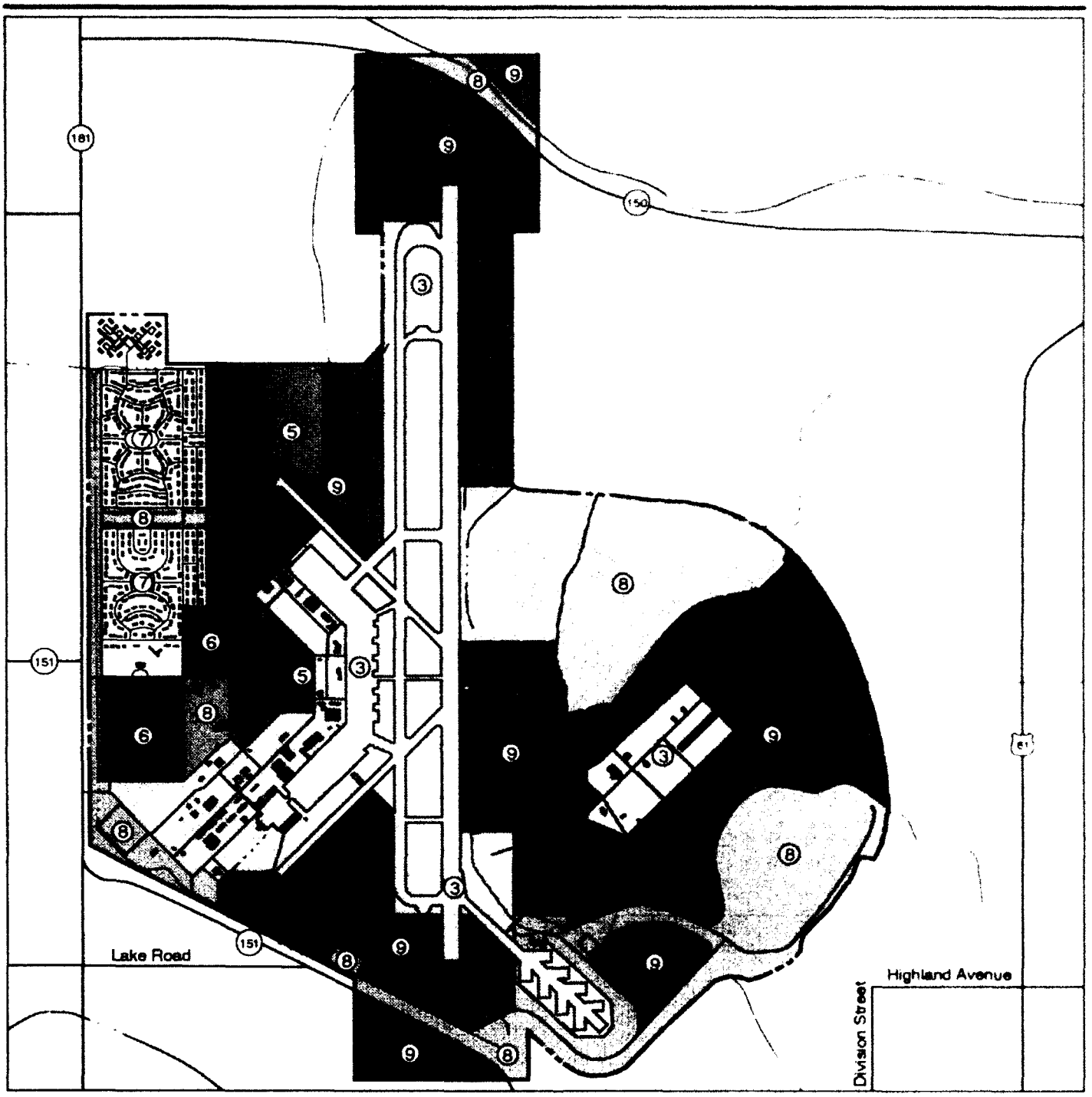
On-base land use relationships in the existing developed portions of the base would be similar to those under the Proposed Action. The major differences from the Proposed Action would be the conversion of aviation uses to industrial and the conversion of additional vacant lands to agricultural use.

The proposed on-base land uses would be generally compatible except where the residential areas would be adjacent to the commercial and agricultural uses proposed for the northwest quadrant of the base (Figure 4.2-5).

The SCS evaluated potential impacts to prime farmland that would result from this alternative (Appendix H). Under the Non-Aviation Alternative, 243 acres of prime farmland would be converted to industrial and public/recreation land uses.

The farmland to be converted was assigned a score of 106.7 using the method specified in Form AD-1006. Applying the criteria contained in the LESA results in a determination that the impacted lands have "a low rating for protection." Based on this score, it appears that utilization of this site would be consistent with the intent of the FPPA that federal agencies minimize adverse impacts to agriculture from their projects and programs.

Aesthetics. Proposed single-family residential uses and agricultural uses would be adjacent to each other and may result in alteration of the visual character of the northwest quadrant of the base. The open setting as



EXPLANATION

- Poor compatibility between existing land use and proposed adjacent land use
- ① Airfield ★
- ② Aviation Support ★
- ③ Industrial
- ④ Institutional (Medical) ★
- ⑤ Institutional (Education)
- ⑥ Commercial
- ⑦ Residential
- ⑧ Public/Recreation
- ⑧ Archaeological/ Open Space
- ⑨ Agriculture
- ⑩ Vacant Land ★
- Base Boundary

0 625 1250 2500 Feet

★ Not Applicable

Land Use Conflicts - Non-Aviation Alternative

Figure 4.2-5

viewed from the single-family residential community would be altered due to the increased activity associated with mechanized agricultural activities.

Mitigation Measures. Mitigation to be considered for the potential land use/aesthetics impacts identified for the Non-Aviation Alternative would be the same as those described for the Proposed Action.

4.2.2.4 Other Land Use Concepts. Impacts of each proposed federal transfer and other independent land use concepts are evaluated for compatibility with land use plans and regulations, impacts to on- and off-base land uses, and general land use trends in the region.

McKinney Act Housing

Land Use. The housing in the northwest area would be compatible with the Proposed Action and the General Aviation and Non-Aviation alternatives, since the northwest corner of the base is delineated for continued residential use. This proposal should have little effect on surrounding land uses. The duplex units in the southwest would be compatible with the General Aviation Alternative. Under the Proposed Action and the Non-Aviation Alternative this area is delineated for commercial use with demolition of all existing structures. No impacts are anticipated as the housing area is located in the southern end of the proposed commercial development.

Aesthetics. This use and these locations are visually compatible with adjacent development.

Interpretive Center/Museum

Land Use. This proposal would be compatible with the Proposed Action and General Aviation and Non-Aviation alternatives and should have little adverse effect on the surrounding land uses because this land will be retained as undeveloped open space.

Aesthetics. The Interpretive Center/Museum would be visually compatible with adjacent development.

4.2.2.5 No-Action Alternative

Land Use. Because the federal government would retain ownership of the property under the No-Action Alternative, it would remain outside the jurisdiction of the local communities. Keeping the base closed, however, would be inconsistent with local plans for reuse.

The No-Action Alternative would cause no physical changes in on-base land use from conditions at closure. Functionally, there would be no use of base

land or facilities. OL personnel would continue to maintain the buildings and grounds.

Aesthetics. The No-Action Alternative would not be expected to affect the visual and aesthetic quality of the base or the surrounding area. Some landscaped portions of the base would receive less intensive maintenance. The absence of human activity on the base would enhance and accelerate the return to natural conditions in some areas.

4.2.3 Transportation

The effects of the Proposed Action and alternatives on each component of the transportation system, including roadways, airspace and air traffic, and other transportation modes, are presented in this section. Possible mitigation measures are discussed for those components likely to experience substantial adverse impacts under the Proposed Action or any alternative.

Roadways. Reuse-related effects on roadway traffic were assessed by estimating the number of trips generated by each land use considering employees, visitors, residents, and service vehicles associated with construction and all other on-site activities for the Proposed Action and each alternative. Principal trip-generating land uses included industrial, commercial, residential, and airport uses. These trips were distributed to the roadway system based on proposed land uses and existing travel patterns. This analysis is based on daily trips as distributed, existing data on roadway capacities, traffic volumes, and established standards.

To determine reuse-related effects on local roadways, baseline closure traffic volumes were increased in direct proportion to the increase in population of Blytheville and Gosnell during the period 1993-2013. This increase represents the secondary growth in the local communities as a result of reuse-related activities and is distributed over the existing road network. The reuse-related traffic volumes were then added and traffic impacts were determined based on LOS changes for each of the key roads (see Table 3.2-2 for definitions of LOS).

The transportation analysis used the standard analytical techniques of trip generating, trip distribution, and traffic assignment. Trip generation was based on applying the trip rates from Trip Generation (Institute of Transportation Engineers, 1987) to the existing and proposed land uses to obtain total daily trips. Peak-hour analyses assumed that 15 percent of daily trips would occur during the peak hour.

The trip distribution analysis assumed that the reuse alternatives would, in general, take advantage of the five main access points to the base area: Main Gate via SH 151, Gate 3 via SH 151, and three new access points. These new access points include access from SH 150, an extension from

Highland Avenue, and an additional access from SH 151. Distribution of traffic to and from the base area for each reuse plan was based on existing traffic patterns as determined from the *Traffic Engineering Study* prepared by the Military Traffic Management Command, the type of proposed land use, and the distribution of places of residences of personnel working on Eaker AFB (Military Traffic Management Command Traffic Engineering Agency, 1988). It was assumed that the residential choices of the project-related employees would correspond closely to those of base personnel. Finally, the distributed trips were assigned to the surrounding road network.

Airspace/Air Traffic. The airspace analysis examines the type and level of aircraft operations projected for the Proposed Action and alternatives and compares them to how the airspace was configured and used under the preclosure reference. The impact analysis considers the relationship of the projected aircraft operations to the operational capacity of the airport, using criteria that have been established by the FAA for determining airport service volumes. Potential effects on airspace use were assessed, based on the extent to which the Proposed Action or alternatives could (1) require modifications to the airspace structure or ATC systems and/or facilities; (2) restrict, limit, or otherwise delay other air traffic in the region; or (3) encroach on other airspace areas and uses.

The FAA is ultimately responsible for evaluating the specific effects that the reuse of an airport will have on the safe and efficient use of navigable airspace by aircraft. Such a study is based on details from the airport proponent's Airport Plan and consists of an airspace analysis, a flight safety review, and a review of the potential effect of the proposal on ATC and air navigational facilities. Once this study is completed, the FAA can then determine the actual requirements for facilities, terminal and en route airspace, and instrument flight procedures.

Other Transportation Modes. Because neither the Proposed Action nor any of the alternatives assumes direct use of local railroads or waterways, direct effects on rail and waterway transport are expected to be minimal.

4.2.3.1 Proposed Action

Roadways. By 2013, the major traffic generators would be 9,700 projected employees and the approximately 3,120 annual airline passengers associated with the Proposed Action. At this time it is estimated that about 25,200 one-way trips (vehicle trip ends) would be generated by the Proposed Action on a typical weekday (a round trip comprises two vehicle trip ends). The numbers of estimated trips generated by on-site development at various phases of reuse are depicted in Table 4.2-1. The number of trips generated by the Proposed Action would increase steadily, exceeding the 1991 preclosure level by the year 2003. The greatest change in volume of trips would occur from 2003 to 2013.

Table 4.2-1. Summary of Total Daily Trips Generated by Various Reuse Alternatives

Reuse Alternative	1998	2003	2013
Proposed Action	2,010	9,310	25,200
General Aviation	610	4,100	16,600
Non-Aviation	2,730	9,650	20,100

Note: Daily trips generated are defined as one-way vehicle trips.

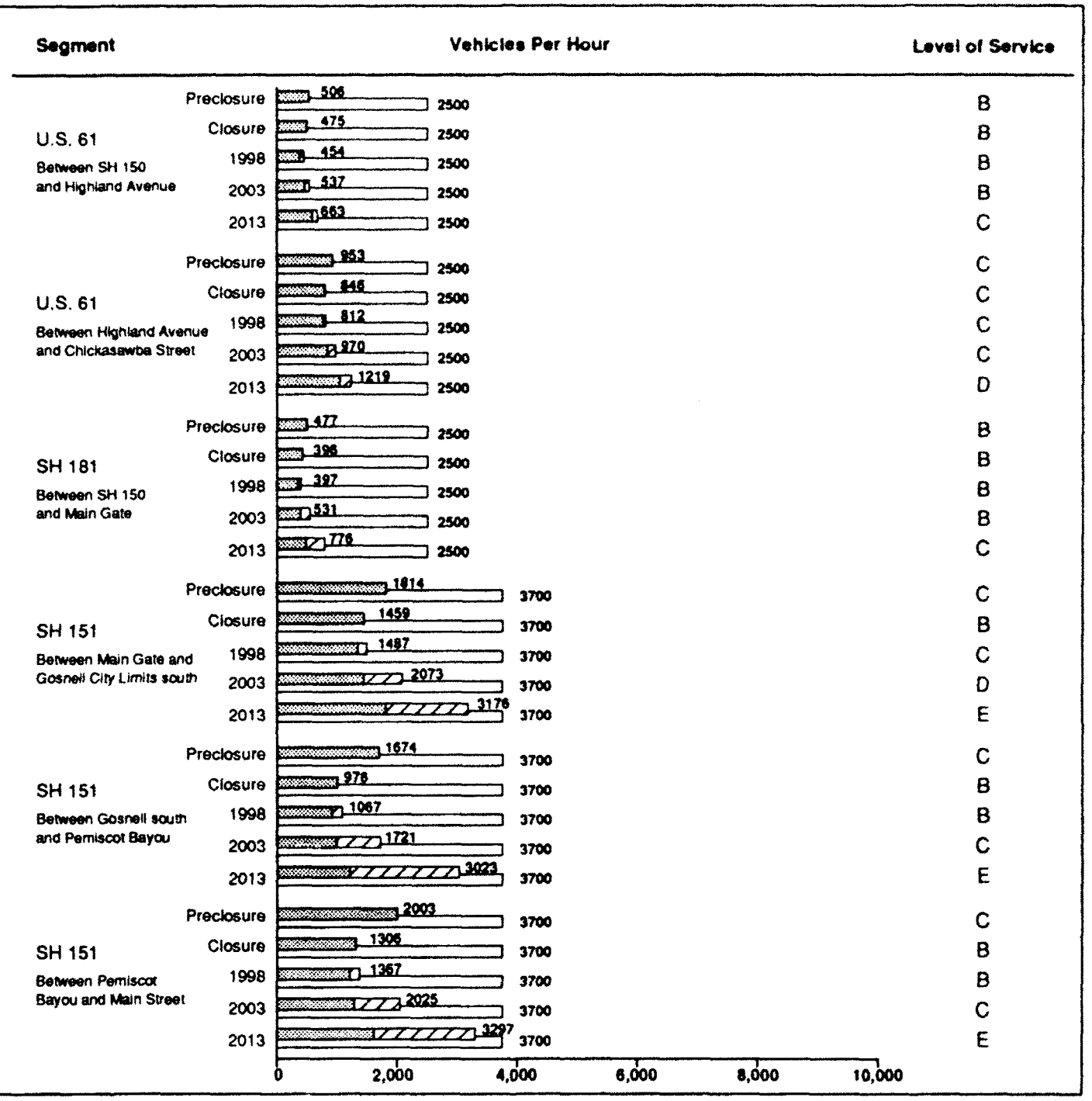
Regional. Project-generated and non-project-generated traffic would increase the daily traffic on Interstate 55 by approximately 15 percent by 2013. As a result, Interstate 55 would continue to operate at LOS A. The closure and relocation of the Blytheville Municipal Airport to Eaker AFB would result in a negligible decrease in traffic at Blytheville Municipal Airport, offset by a slight increase in traffic at Eaker AFB.

Local. Figure 4.2-6 shows the non-project and project-generated peak-hour traffic for the years 1991 (preclosure), 1993 (closure), 1998, 2003, and 2013 for each of the key local roads and the associated LOS that would result from the Proposed Action. Through 1998, all local roadways should function at LOS C or better. By 2003, one location (SH 151 between the Main Gate and Gosnell) would start to experience some level of impeded operation (LOS D). By 2013, the LOS of all three SH 151 locations on the west side of the base would be degraded to level E.

On-Base. The Proposed Action assumes that existing on-base roadways would be used in the short term during the construction period. As part of the eventual site development plan, internal circulation must accommodate the intensity of vehicular and pedestrian activities and provide acceptable LOS, including access from the local road network. Redevelopment plans are expected to incorporate internal circulation requirements which meet local planning objectives.

Airspace/Air Traffic. For this analysis, it is assumed that the same type of radar coverage and navigational aids that were in place at base closure would also be in place for the Proposed Action. This equipment would allow for an equivalent level of ATC services for reuse aviation activities. The existing ILS would need to be replaced or upgraded to be compatible with FAA specifications. VOR NPI approaches would be required to replace the existing TACAN military approaches. The FAA would be responsible for designing and flight-checking such procedures.

The airspace surrounding Eaker AFB is virtually unconstrained. Arrival and departure procedures under VFR weather conditions would remain similar to those under the preclosure reference. Under IFR conditions, aircraft could be routed to the updated ILS in a manner similar to preclosure procedures.

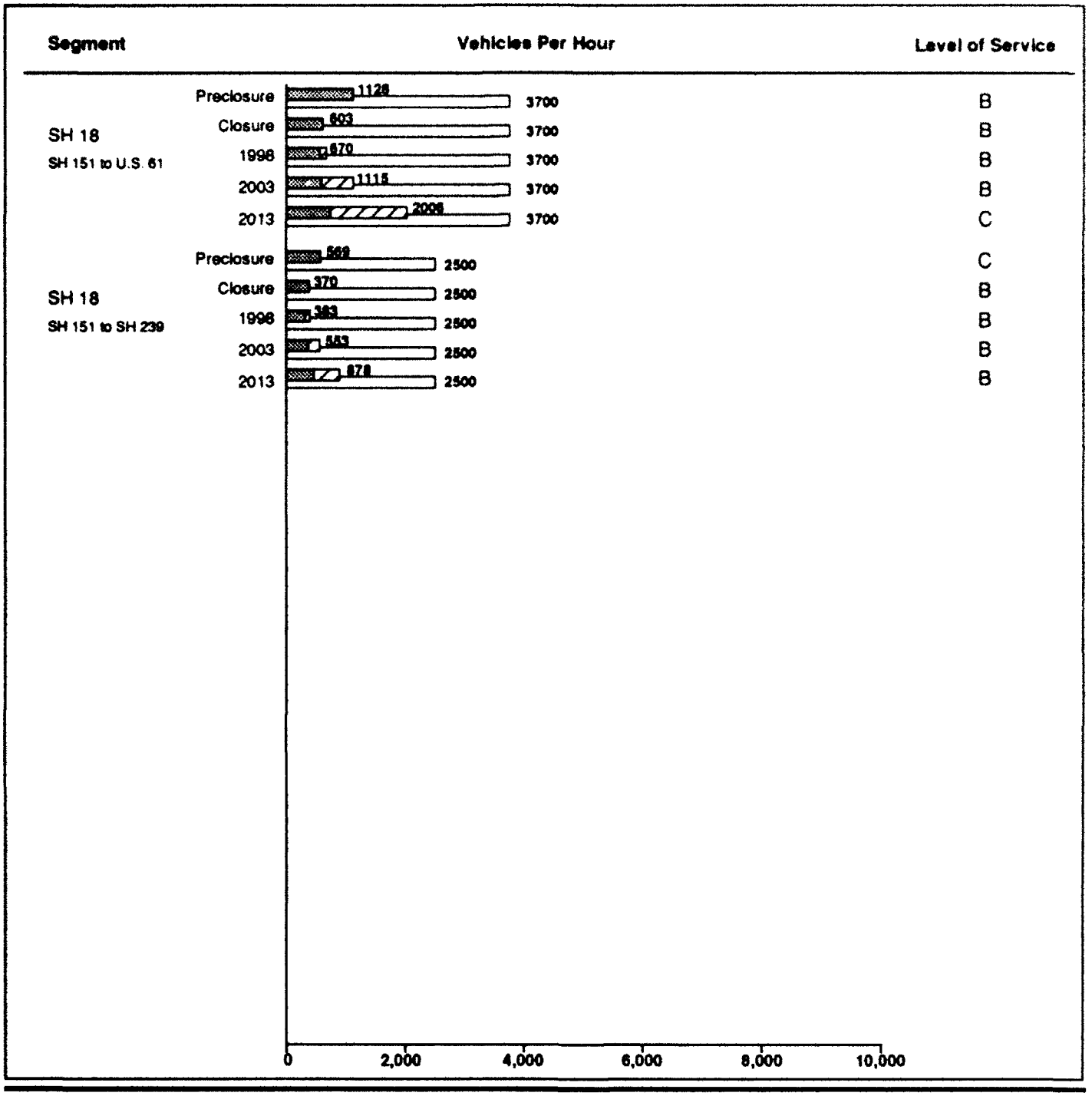


EXPLANATION

- Non-Project-Generated Traffic (Vehicles per Hour)
- Project-Generated Traffic (Vehicles per Hour)
- Existing Capacity

Peak-Hour Traffic Volume - Proposed Action

Figure 4.2-6



EXPLANATION

- Non-Project-Generated Traffic (Vehicles per Hour)
- Project-Generated Traffic (Vehicles per Hour)
- Existing Capacity

Peak-Hour Traffic Volume - Proposed Action

Figure 4.2-6 (continued)

be routed to the updated ILS in a manner similar to preclosure procedures. The number of operations projected in the Proposed Action baseline year (1993) is more than 120 percent greater than the number of annual operations under the preclosure reference. However, the majority of these operations would be by small general aviation aircraft, and the overall airspace and ATC requirements under the Proposed Action would therefore be slightly less than the requirements under the preclosure reference point. Because Eaker AFB is in a relatively remote area with only minimal airspace restrictions and has no large airports located within a 40-nautical mile radius, it is not likely that the Proposed Action would affect the area airspace. Although aircraft activity for the Proposed Action is expected to be greater than 32,000 operations in 1993, the single runway at Eaker AFB is capable of accommodating 230,000 annual operations under FAA guidelines. The Proposed Action is expected to produce substantially more operations than occurred under the preclosure reference, but the airfield and ATC system can easily accommodate the additional operations.

It is anticipated that the existing radar facility would not be replaced under any aviation alternative. The FAA has determined that there is insufficient traffic in the area to maintain or replace this facility. As such, the ATC capacity for handling instrument approach operations at Eaker AFB would be reduced. The FAA radar system at Memphis would provide service to aircraft approaching and departing Eaker AFB. Because of the distances between Eaker AFB and this radar system, complete radar coverage for instrument approaches to Eaker AFB would not be available. Therefore, a portion of any instrument approach would be in a non-radar environment, in which aircraft separation increases greatly. This would reduce the number of aircraft per hour that can land utilizing instrument approaches as compared to preclosure conditions. For the Proposed Action, this reduction in IFR capacity may impact aviation users by increasing arrival and departure delay.

Air Transportation. The Proposed Action assumes a minimal level of passenger activity through 2013, when approximately 3,120 passengers are projected to pass through Eaker AFB. Many of these passengers would be individuals who are currently driving to or from Memphis International Airport to obtain commercial air service. Under the Proposed Action, it is assumed that Memphis would realize a loss of passengers equal to the projected level of passengers under the Proposed Action. However, because Memphis is a hub airport (for Northwest Airlines), it is likely that Memphis would recognize only minimal losses of passenger traffic during the 20-year planning period. The loss in origin and destination traffic would be supplemented by a corresponding increase in the number of connecting passengers on a given aircraft.

Because the Proposed Action assumes the relocation of Blytheville Municipal Airport to Eaker AFB, it is unlikely that any significant impacts on general

assumes that the activity at Blytheville Municipal would be transferred to Eaker AFB. It is possible that some shifts in aircraft basings from one regional airport to another may occur, due to aircraft owner reluctance to use Eaker or increased driving time to their hangar. The probability of these occurrences is low.

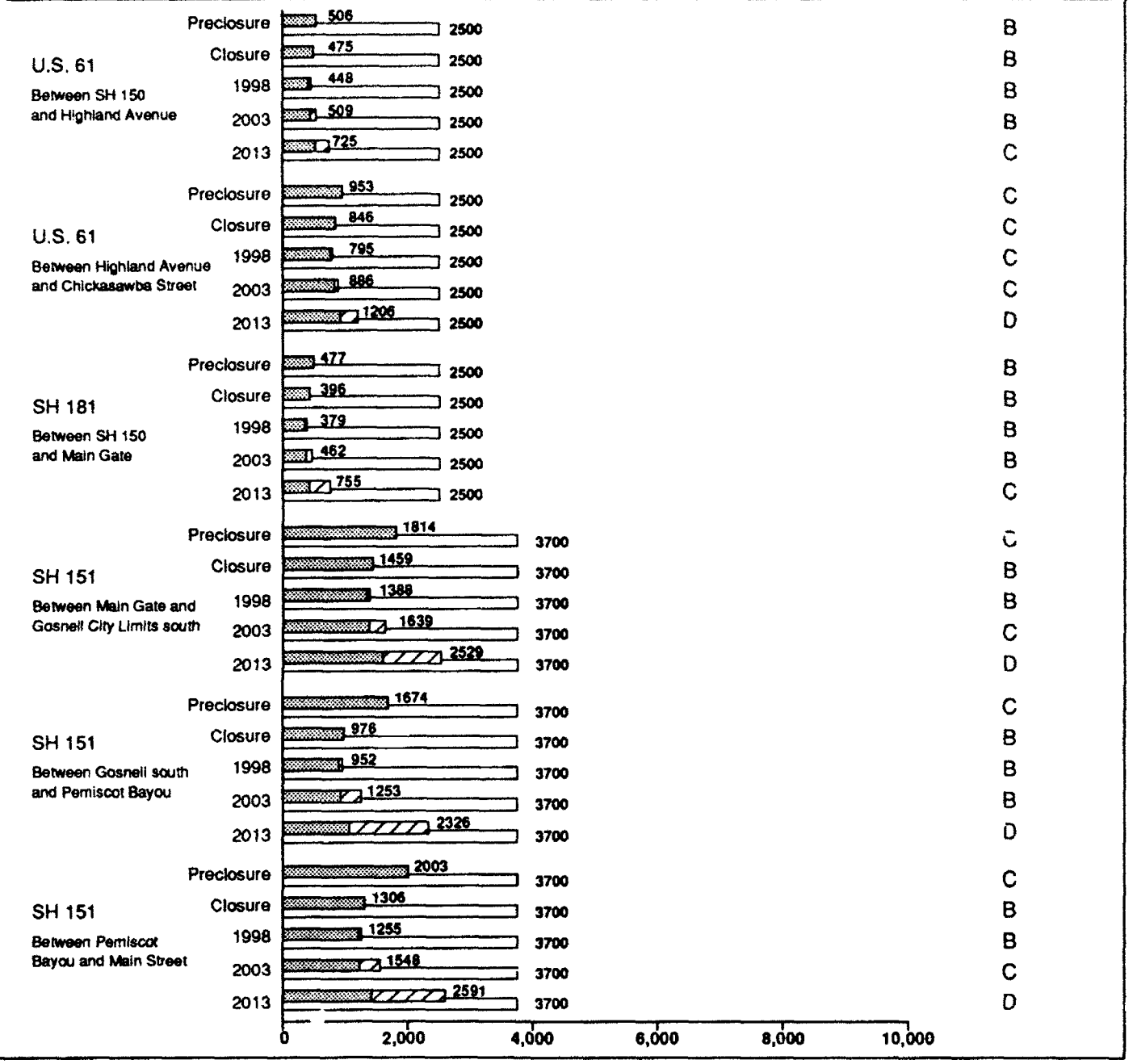
Mitigation Measures. Potential mitigation measures that improve the LOS on SH 151 include Transportation Demand Management (TDM) measures to encourage person- and vehicle-trip reductions and peak-period modification. These measures could include reduced work weeks to reduce person-trips, ridesharing, and flexible work schedules to modify peak traffic periods. Implementation of TDM could reduce vehicle trips by a maximum of 10 percent. Projected LOS E on SH 151 by the year 2013 would improve to LOS D with efficient use of TDM measures.

4.2.3.2 General Aviation Alternative

Roadways. By 2013, the major traffic generators would be 5,900 projected employees associated with the General Aviation Alternative. At this time, it is estimated that about 16,600 vehicle trip ends would be generated by the General Aviation Alternative on a typical weekday. The estimated number of trips generated by on-site development at various phases of reuse are depicted in Table 4.2-1. The number of trips generated by the General Aviation Alternative would increase steadily, exceeding the 1991 preclosure level by the year 2003. The greatest change in volume of trips would occur from 2003 to 2013.

Regional. Project-generated and non-project-generated traffic would increase the daily traffic on Interstate 55 by approximately 15 percent by 2013. Interstate 55 has the growth capacity to operate at LOS A. Effects to regional transportation as a result of closing and relocation of the Blytheville Municipal Airport would be the same as described in the Proposed Action.

Local. Figure 4.2-7 shows the non-project-generated and project-generated peak-hour traffic for the years 1991 (preclosure), 1993 (closure), 1998, 2003, and 2013 and the associated LOS on key local roads that would result from the General Aviation Alternative. Through 1998, all local roadways should function at LOS C or better. By 2013, one location (U.S. 61 near Chickasawba Street) would start to experience some level of impeded operation (LOS D). Also, the LOS of SH 151 locations on the west side of the site would be degraded to LOS D. Although LOS D implies that vehicle speeds and movements are restricted, it is still in the range of stable traffic flow. Thus, under the General Aviation Alternative, local roadways should not be severely affected.



EXPLANATION

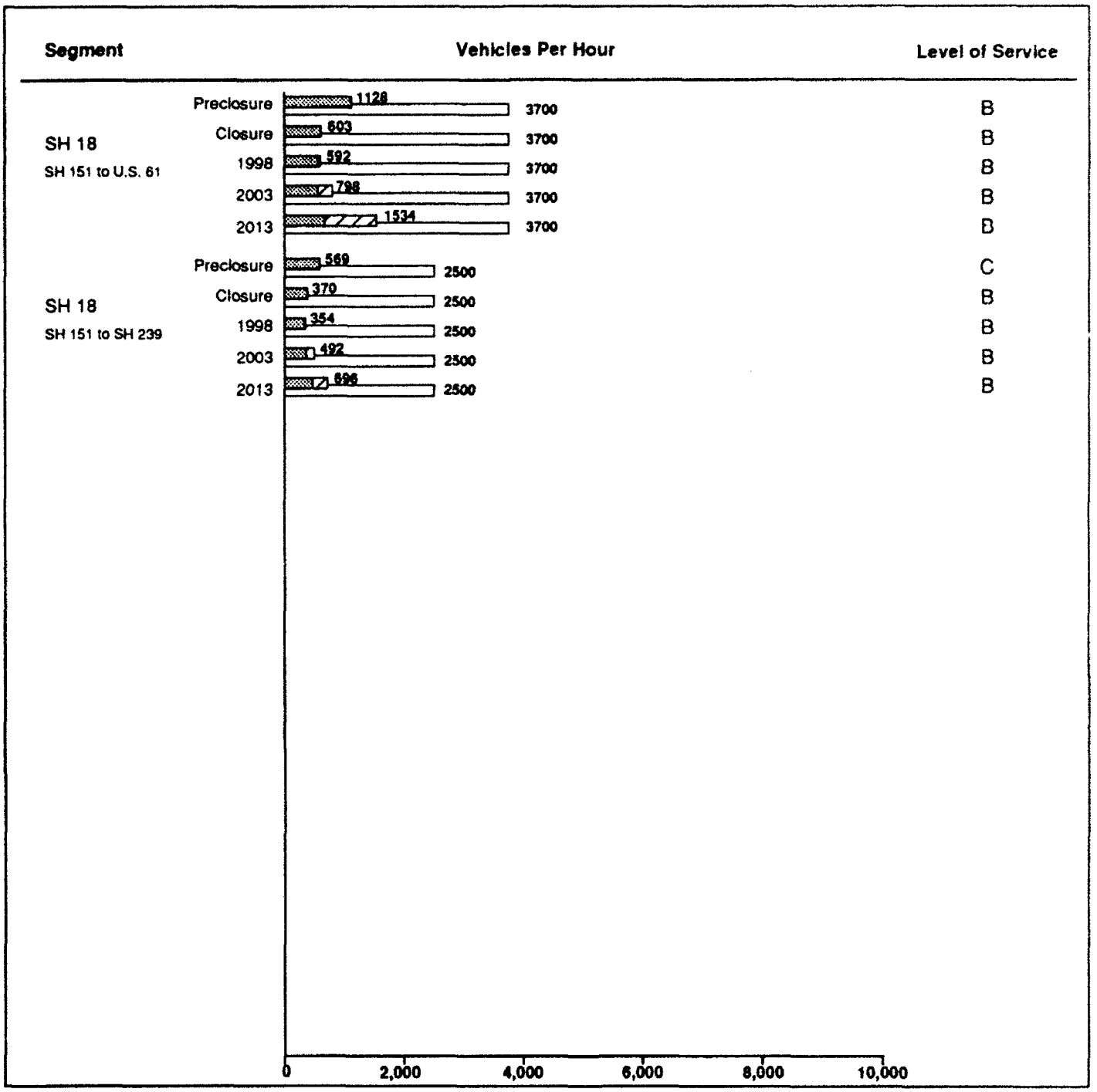
Non-Project-Generated Traffic (Vehicles per Hour)

Project-Generated Traffic (Vehicles per Hour)

Existing Capacity

Peak-Hour Traffic Volume - General Aviation Alternative

Figure 4.2-7



EXPLANATION

- Non-Project-Generated Traffic (Vehicles per Hour)
- Project-Generated Traffic (Vehicles per Hour)
- Existing Capacity

Peak-Hour Traffic Volume - General Aviation Alternative

Figure 4.2-7 (continued)

On-Base. The General Aviation Alternative assumes that existing on-base roadways would be used in the short term during the construction period. As part of the eventual site development plan, internal circulation must accommodate the intensity of vehicular and pedestrian activities and provide an acceptable LOS including access from the local road network. Redevelopment plans are expected to incorporate internal circulation requirements which meet local planning objectives.

Airspace/Air Traffic. The General Aviation Alternative assumes that only minimal ATC services and navigational aids would be retained under reuse. Because this alternative does not include air carrier, aircraft maintenance, air cargo activity, or use of the base as an air carrier weather alternate site, it is assumed that the control tower and ILS would be decommissioned. This alternative does include the establishment of a NPI approach to Runway 18/36 from the Gosnell VOR. Without the control tower, no airport traffic area or control zone would be required. A transition area would be required to segregate IFR from VFR traffic.

To provide for pilot communications with the airport, the air[illegible]ould be given a UNICOM (two-way radio) frequency to provide safe and orderly flow of traffic.

Preclosure operations at Eaker AFB constituted a large percentage of the region's overall traffic. With the transfer of general aviation from Blytheville Municipal Airport to Eaker AFB, the number of total operations at Eaker AFB and other airports in the region would decrease, as compared to the preclosure reference. Due to this decrease and the elimination of the majority of high performance aircraft from the area airspace, no impacts to the region's airspace would be realized. Although radar coverage would not be possible for Eaker AFB after closure, increased IFR arrival separation would not impact the low levels of traffic projected to require these services.

Air Transportation. Implementation of the General Aviation Alternative would not provide commercial passenger or air cargo service at Eaker AFB. Impacts on commercial passenger service at Memphis International Airport would be minimal, as compared to the preclosure reference.

The General Aviation Alternative provides improved facilities over the preclosure reference. Most impacts are similar to the Proposed Action.

4.2.3.3 Non-Aviation Alternative

Roadways. By 2013 the major traffic generators would be 6,100 projected employees associated with the Non-Aviation Alternative. At this time, it is estimated that about 20,100 vehicle trip ends would be generated by the Non-Aviation Alternative on a typical weekday. The estimated number of

trips generated by on-site development at various phases of reuse are depicted in Table 4.2-1. The number of trips generated by the Non-Aviation Alternative would increase steadily, exceeding the 1991 preclosure level by the year 2003. The greatest change in volume of trips would occur from 2003 to 2013.

Regional. Project-generated and non-project-generated traffic would increase the daily traffic on Interstate 55 by approximately 15 percent by 2013. Interstate 55 has the growth capacity to operate at LOS A.

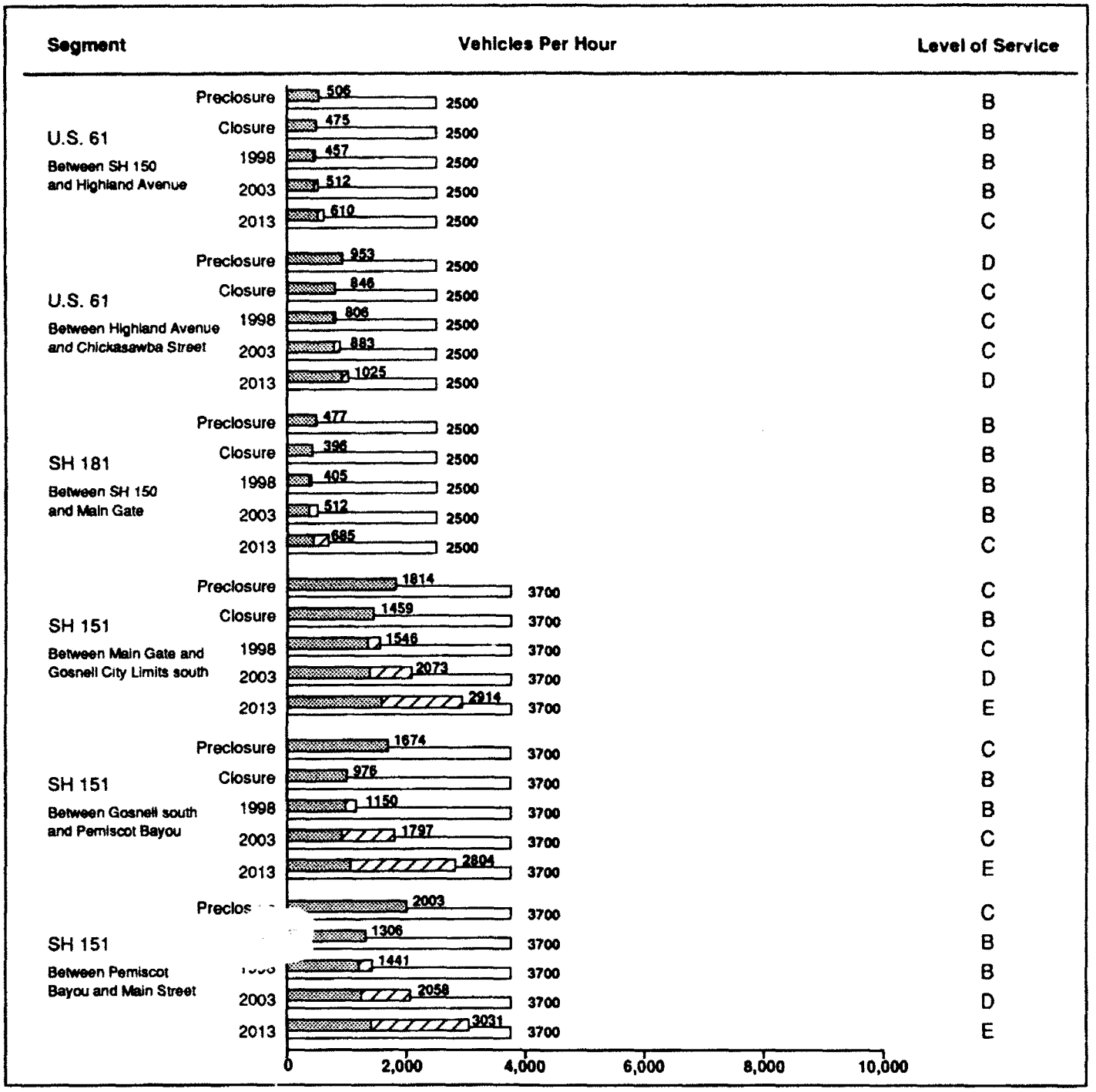
Local. Figure 4.2-8 shows the non-project and project-generated peak-hour traffic for the years 1991 (preclosure), 1993 (closure), 1998, 2003, and 2013 and the associated LOS on key local roads that would result from the Non-Aviation Alternative. Through 1998, all local roadways should function at LOS C or better. By 2003, two locations (SH 151 between the Main Gate and Gosnell and SH 151 between Pemiscot Bayou and Main Street) would start to experience some level of impeded operation (LOS D). By 2013, the LOS of all three SH 151 locations on the west side of the site would be degraded to LOS E.

On-Base. The Non-Aviation Alternative assumes that existing on-base roadways would be used in the short term during the construction period. As part of the eventual site development plan, internal circulation must accommodate the intensity of vehicular and pedestrian activities and provide an acceptable LOS including access from the local road network. Redevelopment plans are expected to incorporate internal circulation requirements which meet local planning objectives.

Airspace/Air Traffic. This alternative would replace the airfield with industrial/agricultural uses. Cessation of all air operations at Eaker would eliminate the need for all of the airspace/ATC associated with the VFR and IFR airfield traffic patterns, published instrument approach/ departure procedures, and the transitioning of aircraft between the airbase terminal and the en route airspace system. The elimination of Eaker AFB- related airspace requirements and air traffic operations would provide additional unconstrained airspace for the overall ATC environment in the ROI.

The TACAN is a navigational aid that can be used only by military aircraft. The Eaker ILS can only serve Eaker AFB. Because these navigational aids cannot play a role in the National Airspace System, the decommissioning of the equipment would not affect airspace management in the area.

Air Transportation. There would be no impact to air transportation under this alternative.

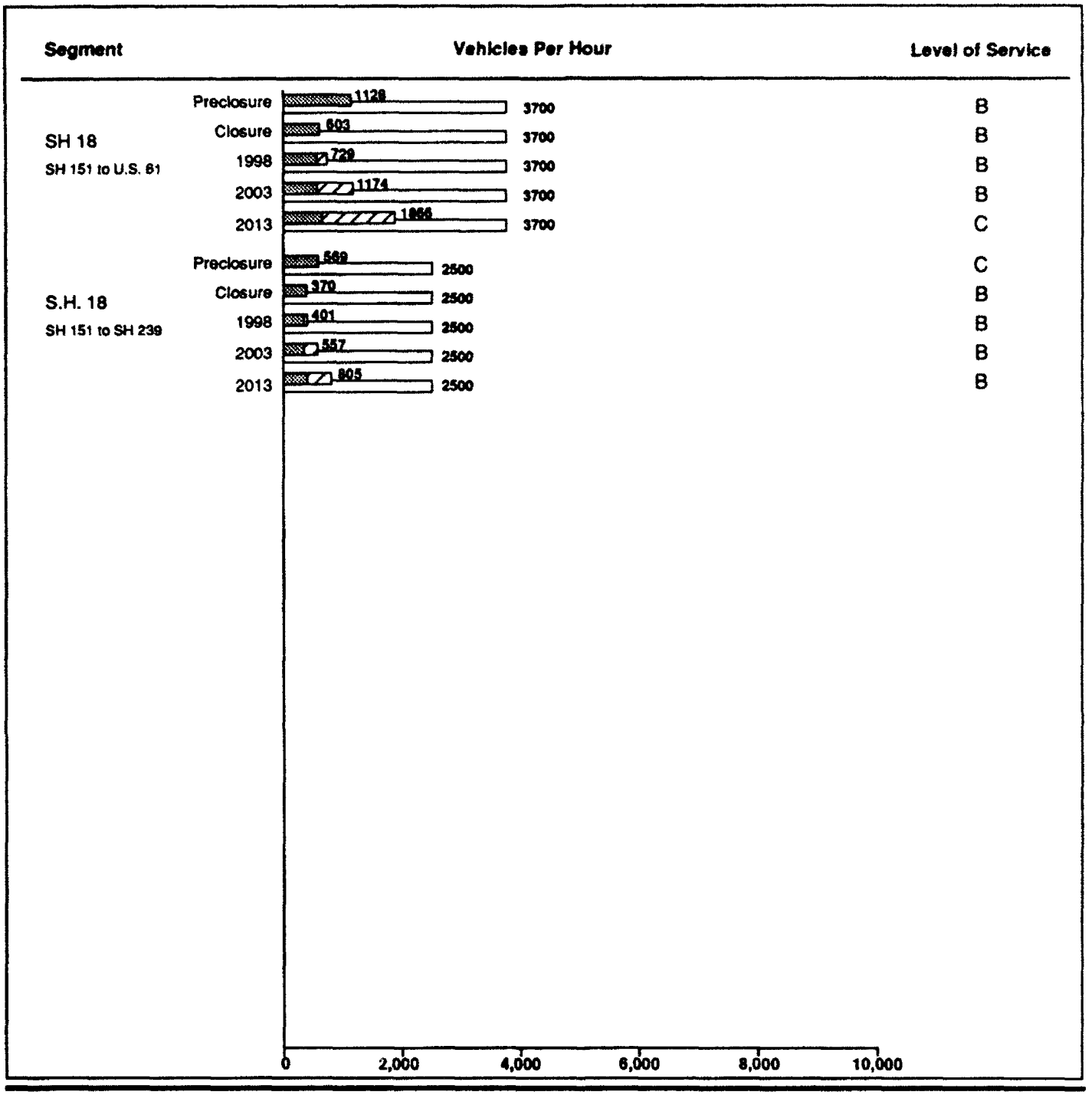


EXPLANATION

- Non-Project-Generated Traffic (Vehicles per Hour)
- Project-Generated Traffic (Vehicles per Hour)
- Existing Capacity

Peak-Hour Traffic Volume - Non-Aviation Alternative

Figure 4.2-8



EXPLANATION

- Non-Project-Generated Traffic (Vehicles per Hour)
- Project-Generated Traffic (Vehicles per Hour)
- Existing Capacity

Peak-Hour Traffic Volume - Non-Aviation Alternative

Figure 4.2-8 (continued)

Mitigation Measures. Mitigations to be considered for the potential transportation impacts on SH 151 identified for the Non-Aviation Alternative would remain the same as those discussed for the Proposed Action.

4.2.3.4 Other Land Use Concepts. Transportation effects are discussed in this section for each proposed land use concept. The analysis considers the net effect of each of these plans in relation to the Proposed Action and alternatives. This analysis concentrates on roadway transportation, assessed in terms of percent change in daily trips by the year 2013. These uses, in general, would not measurably affect airspace, air transportation, or rail transportation.

McKinney Act. In conjunction with the Proposed Action and any of the alternatives, this land use would result in no change in the total daily trips or LOS.

Interpretive Center/Museum. Impacts of this land use on roads would be minimal. It would result in small changes in the number of daily trips, insufficient to affect LOS on any road analyzed. Traffic to the site could enter the base from the new access at Highland Avenue.

4.2.3.5 No-Action Alternative

Roadways. Under the No-Action Alternative, traffic volumes on many of the local roadways would be expected to decline as the population in Mississippi County and Blytheville drops. The LOS on the road segments analyzed would improve correspondingly. However, with the population of Gosnell increasing to approximately 6,200 persons, the peak-hour volume on SH 151 is estimated to increase to 2,300 vehicles resulting in LOS D by 2013. On SH 181 the peak hour volume will be 545 vehicles resulting in LOS B.

On-base roads would no longer be used except by a 50-person OL using primarily the Main Gate and SH 151. All on-base roads would operate at LOS A.

Airspace/Air Traffic. Cessation of all air operations at Eaker AFB and the decommissioning of the navigational equipment would have the same effects on airspace in the ROI as discussed for the Non-Aviation Alternative.

Air Transportation. There would be no impact to air transportation under the No-Action Alternative.

Other Transportation Modes. There would be no impact to the rail system under the No-Action Alternative. There would be a reduction in barge traffic transporting petroleum products.

4.2.4 Utilities

Direct and indirect changes in future utility demand for each alternative were estimated based on historic, preclosure, and per-capita average daily use on Eaker AFB and in the cities of Blytheville and Gosnell. These factors were applied to projections of the number of future residents and employees associated with each of the alternatives. Table 4.2-2 shows the projected changes in utility demand expected to occur as a result of implementation of the Proposed Action and alternatives. The figures shown for the forecasted ROI demand also represent the No-Action Alternative and generally reflect the change expected in utility usage in the area without redevelopment of the base. The other alternatives reflect the growth anticipated due to base reuse.

The forecasted ROI demand was developed by reviewing past consumption levels with the individual utility purveyors, which did not have long-term projections available for incorporation into this EIS. Projections were developed by determining a per-capita rate for each utility system based on the information provided.

4.2.4.1 Proposed Action

Water Demand. The total projected water demand in the ROI would be 0.04, 0.28, and 1.20 MGD in the years 1998, 2003, and 2013, respectively. The Proposed Action would create an on-base water demand of 0.4 MGD by the year 2013. An additional 0.8 MGD would be required in the ROI by 2013 for indirect requirements. The Proposed Action water demand would be 0.66 MGD in the city of Blytheville in the year 2013, resulting in a total water demand of approximately 3.5 MGD. The current system capacity is 6 MGD. In the city of Gosnell the water demand associated with the Proposed Action would be 0.16 MGD in the year 2013. Gosnell's total water demand is projected to be 0.75 MGD, on a system with a capacity of 0.7 MGD. Additional pumping and treatment capacity would be needed to meet demand.

Reuse of the on-base water system may encounter some difficulties given the age of the system. A 1985 study of the conditions of the on-base wells noted that, although the wells are able to meet current demands, they could fail at any time given their age. If existing on-base wells were to fail, one option to supply the reuse development would be the existing interconnection with the Gosnell Water Association. The association will have an adequate water supply during the initial years of reuse and should be capable of meeting the reuse needs until the year 2003. After 2003, replacement wells or an interconnection with the city of Blytheville may be necessary. The closure and relocation of the Blytheville Municipal Airport to Eaker AFB would eliminate the need for water used for airport activities at

Table 4.2-2. Total Projected Utility Demand in the Region of Influence

	1998	(Percent Increase)	2003	(Percent Increase)	2013	(Percent Increase)
Water Demand (MGD)						
Forecasted ROI Demand*	3.42		3.43		3.49	
Proposed Action	0.04	1.0	0.28	8.2	1.20	34.4
General Aviation Alternative	0.02	0.6	0.11	3.2	0.75	21.5
Non-Aviation Alternative	0.03	0.9	0.12	3.5	0.53	15.2
Wastewater (MGD)						
Forecasted ROI Demand*	2.58		2.60		2.69	
Proposed Action	0.02	0.8	0.22	8.5	0.94	34.9
General Aviation Alternative	0.02	0.8	0.10	3.8	0.65	24.2
Non-Aviation Alternative	0.03	1.2	0.10	3.8	0.42	15.6
Solid Waste (tons/day)						
Forecasted ROI Demand*	98		97		97	
Proposed Action	19.0	19.4	22.8	23.5	43.3	44.6
General Aviation Alternative	11.5	11.7	14.2	14.6	38.0	39.2
Non-Aviation Alternative	21.6	22.0	27.4	28.2	43.1	44.4
Electricity (MWH/day)						
Forecasted ROI Demand*	5,776		6,376		7,771	
Proposed Action	5.62	0.1	37.1	0.58	134.6	1.73
General Aviation Alternative	3.68	0.06	26.69	0.42	124.1	1.60
Non-Aviation Alternative	19.0	0.33	67.2	1.05	162.1	2.1
Natural Gas (thousand therms/day)						
Forecasted ROI Demand*	15.4		17.0		20.7	
Proposed Action	0.23	1.5	1.88	11.1	7.61	36.7
General Aviation Alternative	0.17	1.1	1.11	6.5	6.26	30.2
Non-Aviation Alternative	0.75	4.9	2.64	15.5	7.11	34.3

* Represents total demand forecasted for the ROI for the years indicated. Also represents the total demand expected under the No-Action Alternative.

that site. The availability of groundwater and other water supply issues are analyzed in Section 4.4.2, Water Resources.

Wastewater. The total projected demand for wastewater treatment in the ROI associated with the Proposed Action activities would be 0.02, 0.22, and 0.94 MGD in the years 1998, 2003, and 2013, respectively. The Proposed Action would generate about 0.3 MGD of wastewater on base by the year 2013. New industrial users may have to provide pretreatment of industrial wastewaters before discharging into the wastewater system. The pretreatment requirements would be determined once the chemical and physical characteristics of the waste stream are identified. An additional 0.64 MGD would be generated in the ROI by indirect requirements. Wastewater generated by the Proposed Action activities would be 0.5 MGD in the city of Blytheville by the year 2013. Currently the city can treat 3.8 MGD; total wastewater flows in Blytheville would equal 2.6 MGD in the year 2013. In the city of Gosnell, the wastewater flows associated with the Proposed Action would be 0.15 MGD in the year 2013. Total wastewater generation is projected to be 0.7 MGD and current treatment capacity is estimated at 0.38 MGD. Additional treatment capacity would be needed after 2003 to process baseline flows. Plans to upgrade Gosnell's system have already been developed and would need to be implemented by 2003 to process the projected wastewater flows.

In the short term, on-base wastewater flows may not be sufficient to justify operating the existing 1.5-MGD treatment facility. Wastewater flows (averaging 0.02 MGD by 1998) would be treated either by an on-base facility or taken off-base to facilities in Gosnell or Blytheville. On-base treatment can be accomplished by redesigning the existing facility, or by installing a self-contained system (package plant) or a septic system. Until 2000, treatment capacity would also be available in the city of Blytheville's system, although the treatment plant is further from the base.

Solid Waste. The total projected demand for solid waste disposal in the ROI as a result of Proposed Action activities would be 19, 22.8, and 43.3 tons per day in the years 1998, 2003, and 2013, respectively. The Proposed Action would generate about 31 tons per day of solid waste on base by the year 2013. This amount includes 4 tons per day of nonrecyclable solid waste generated from the demolition of 1,027,000 square feet of on-base buildings. Additional indirect requirements in the ROI would equal 12.3 tons per day by the year 2013. In the short term, the 10-year lifespan of the existing Mississippi County landfill would be extended by the reduced flow of solid waste as disposal rates would not return to preclosure levels of 122 tons per day until the year 2003. The closure and relocation of the Blytheville Municipal Airport to Eaker AFB would eliminate the minor amounts of solid waste generated at the site. New landfill space may not be required for another year as a result of the reduced flows.

Currently, the East Arkansas Planning and Development Commission is conducting a study of all existing and potential landfill locations in a 12-county region including Mississippi County. The commission would be able to consider the waste flows from the reuse plans to determine future landfill needs.

Energy

Electricity. Table 4.2-2 presents the demands for electricity in the years 1998, 2003, and 2013. The total projected demand for electricity in the ROI resulting from Proposed Action activities would be 5.6, 37.1, and 134.6 MWH per day in the years 1998, 2003, and 2013, respectively. By the year 2013, the Proposed Action would consume 70 MWH per day on base. Additional demands for electricity in the ROI for indirect requirements would equal 77 MWH per day. The total project demand would represent a 1.73 percent increase over the expected demand in the ROI, which includes other known projects such as the opening of a steel mill in 1993. The closure and relocation of the Blytheville Municipal Airport to Eaker AFB would eliminate the need for electricity to support aviation activities at the site. Both Arkansas Power & Light and MCEC have indicated that adequate capacity will be available to meet the increased demand. The existing on-base substation and distribution would continue to support reuse activities.

Natural Gas. The total projected demand for natural gas in the ROI resulting from Proposed Action activities would be 0.23, 1.88, and 7.61 thousand therms per day in the years 1998, 2003, and 2013, respectively. The Proposed Action would generate an on-base demand of 2.9 thousand therms per day by the year 2013. Additional natural gas demands in the ROI for indirect requirements would equal 4.71 thousand therms per day by the year 2013. In the short term, overall demands for natural gas would decrease; with reuse of the base, demands would not return to preclosure conditions of 17.9 thousand therms per day until after 1998. By the year 2013, total demand for natural gas would increase to 28.3 thousand therms per day in the ROI. Currently, Associated Natural Gas has the capability to meet current and future demands in the ROI. The existing on-base natural gas distribution system has sufficient capacity to accommodate reuse requirements.

Mitigation Measures. Potential mitigation measures for reducing impacts are discussed below.

Wastewater. New users may have to make provisions for pretreatment of industrial wastewater including storm water. New users would also be required to obtain discharge permits in accordance with ADPCE.

Solid Waste. Recycling and/or reuse of inert demolition/construction wastes such as wood, metals, concrete, and asphalt would decrease the potential

impact on landfills. Efforts should be taken to direct all applicable yard wastes to the city of Blytheville's new composting facility to further reduce the volume of wastes entering the landfill.

4.2.4.2 General Aviation Alternative

Water Demand. The total projected water demand in the ROI associated with General Aviation Alternative activities would be 0.02, 0.11, and 0.75 MGD in the years 1998, 2003, and 2013, respectively. This alternative would create an on-base water demand of 0.45 MGD by the year 2013. Additional water demands for indirect requirements would equal 0.3 MGD in the ROI, 0.25 MGD in the city of Blytheville, and 0.06 MGD in the city of Gosnell. By the year 2013, the city of Blytheville's water system would have a demand of 3.1 MGD, which is 52 percent of capacity. Total water demand for the city of Gosnell would be 0.65 MGD, which is 90 percent of capacity.

Reuse of the on-base system may encounter the same difficulties identified in the Proposed Action. Effects to water demand as a result of closing and relocation of the Blytheville Municipal Airport would be the same as described in the Proposed Action. Under the General Aviation Alternative, Gosnell would be able to supply the base through the year 2003. Interconnection with an on-base system or the Blytheville system would be required to supply potable water to the new residential areas proposed in the eastern part of the base.

Wastewater. The total projected demand for wastewater treatment in the ROI resulting from General Aviation Alternative activities would be 0.02, 0.1, and 0.65 MGD in the years 1998, 2003, and 2013, respectively. The General Aviation Alternative would generate about 0.4 MGD of wastewater on base by the year 2013. New industrial users may have to provide pretreatment of industrial wastewaters before discharging into the wastewater system. Additional wastewater flows in the ROI for indirect requirements would equal 0.4 MGD by the year 2013. Wastewater generated by this alternative's activities in the city of Blytheville would be 0.2 MGD by the year 2013. Currently the city can treat 3.8 MGD. Total wastewater flows would equal 2.3 MGD in the year 2013. In the city of Gosnell, the wastewater flows associated with this alternative would be less than 0.1 MGD in the year 2013, leading to a projected total wastewater generation of 0.6 MGD. Current treatment capacity is estimated at 0.38 MGD. Additional treatment capacity would be needed after the year 2003 to process flows from the baseline population.

Under this alternative, a new sewer collection system would have to be provided as part of the development of the single-family homes near the existing golf course. Other project-related wastewater concerns would be the same as those discussed for the Proposed Action.

Solid Waste. The total projected demand for solid waste disposal in the ROI resulting from General Aviation Alternative activities would be 11.5, 14.2, and 38 tons per day in the years 1998, 2003, and 2013, respectively. This alternative would generate about 33 tons per day of solid waste on base by the year 2013. This amount includes 2 tons per day of nonrecyclable solid waste generated from the demolition of 633,000 square feet of on-base buildings. Additional solid waste generated by this alternative for indirect requirements in the ROI would equal 5 tons per day by the year 2013.

In the short term, the 10-year lifespan of the existing Mississippi County landfill would be extended by less than 1 year as a result of the reduced flow of solid waste. Disposal rates would not return to preclosure levels of 122 tons per day until the year 2003. Effects to solid waste generation as a result of the closure and relocation of the Blytheville Municipal Airport would be the same as described in the Proposed Action. New landfill space would be needed by 2003. As noted under the Proposed Action, current planning efforts would identify expansions or new landfill locations to serve Mississippi County.

Energy

Electricity. Table 4.2-2 presents the demands for electricity in the years 1998, 2003, and 2013. The total projected demand for electricity in the ROI associated with General Aviation Alternative activities would be 3.7, 26.7, and 124.1 MWH per day in the years 1998, 2003, and 2013, respectively. By the year 2013, the General Aviation Alternative would consume 100 MWH per day on base. Additional demands for electricity in the ROI for indirect requirements would equal 24 MWH per day. The total demand would represent a 1.6-percent increase over the forecasted demand in the ROI. Both Arkansas Power & Light and MCEC have indicated that adequate capacity will be available to meet the increased demand. Effects to electrical demand as a result of the closure and relocation of the Blytheville Municipal Airport would be the same as described in the Proposed Action.

The existing on-base substation and distribution would continue to support the reuse activities. A new distribution system would need to be established for the proposed residential areas in the eastern portion of the base.

Natural Gas. The total projected demand for natural gas in the ROI resulting from General Aviation Alternative activities would be 0.17, 1.11, and 6.26 thousand therms per day in the years 1998, 2003, and 2013, respectively. This alternative would generate an on-base demand of 4.5 thousand therms per day by the year 2013. Additional natural gas demands in the ROI for indirect requirements would equal 1.76 thousand therms per day by the year 2013. In the short term, overall demands for

natural gas under this alternative would decrease and not return to preclosure conditions of 17.9 thousand therms per day until after 1998. By the year 2013, total demand for natural gas would increase to 27 thousand therms per day. Currently, Associated Natural Gas has the capability to meet current and future demands in the ROI.

Under this alternative, the existing on-base natural gas distribution system would require some changes. A new distribution system would have to be installed to provide service to the proposed residential areas in the eastern portion of the base and to accommodate industrial development proposed under this alternative.

Mitigation Measures. Measures identified to mitigate utility impacts from this alternative are the same as those discussed for the Proposed Action (Section 4.2.4.1).

4.2.4.3 Non-Aviation Alternative

Water Demand. The total projected water demand in the ROI resulting from Non-Aviation Alternative activities would be 0.03, 0.12, and 0.53 MGD in the years 1998, 2003, and 2013, respectively. This alternative would create an on-base water demand of 0.25 MGD by the year 2013. Additional water demands in the ROI for indirect requirements would equal 0.3 MGD by the year 2013. The reuse-related water demand would be 0.25 MGD in the city of Blytheville in the year 2013, resulting in a total water demand of approximately 3.1 MGD. The current treatment capacity is 6 MGD. In the city of Gosnell, the water demand associated with this alternative would be 0.05 MGD in the year 2013. Total water demand is projected to be 0.64 MGD, and the current pumping capacity of the Gosnell Water Association's system is estimated at 0.7 MGD.

Reuse of the on-base system may encounter the same difficulties identified in the Proposed Action. Water distribution lines may have to be provided to accommodate the construction of 3,127,000 square feet of industrial space along the old flightline.

Wastewater. The total projected demand for wastewater treatment in the ROI associated with Non-Aviation Alternative activities would be 0.03, 0.1, 0.42 MGD in the years 1998, 2003, and 2013, respectively. The Non-Aviation Alternative would generate about 0.2 MGD of wastewater on base by the year 2013. New industrial users may have to provide pretreatment of industrial wastewaters before discharging into the wastewater system. Additional wastewater flows in the ROI for indirect requirements would equal 0.22 MGD by the year 2013. Wastewater generated by this reuse-related activities would be 0.17 MGD in the city of Blytheville by the year 2013. Currently the city can treat 3.8 MGD and total wastewater flows would equal 2.3 MGD in the year 2013. In the city of Gosnell, the

wastewater flows associated with this alternative would be 0.05 MGD in the year 2013. Total wastewater generation is projected to be 0.6 MGD, but current treatment capacity is estimated at 0.38 MGD. Additional treatment capacity will be needed after the year 2003, to process flows from the baseline population.

The construction of a new sewer collection system would be necessary with the development of the additional industrial space. The project-related wastewater concerns would be the same as those expressed under the Proposed Action.

Solid Waste. The total projected demand for solid waste disposal in the ROI as a result of Non-Aviation Alternative activities would be 21.6, 27.4, and 43.1 tons per day in the years 1998, 2003, and 2013, respectively. This alternative would generate about 38.9 tons per day of solid waste on base by the year 2013. This amount includes 6.4 tons per day of nonrecyclable solid waste generated from the demolition of 1,024,000 square feet of on-base buildings. Additional solid waste generated by this alternative for indirect requirements in the ROI would equal 4 tons per day by the year 2013.

In the short term, the 10-year lifespan of the existing Mississippi County landfill would be extended by less than 1 year due to the reduced solid waste flow from the base. Solid waste disposal rates would not return to preclosure levels of 122 tons per day until the year 2000. Impacts under this alternative would be similar to those discussed for the Proposed Action. Current planning efforts would identify expansions or new landfill locations to serve Mississippi County.

Energy

Electricity. Table 4.2-2 presents the demands for electricity in the years 1998, 2003, and 2013. The total projected demand for electricity in the ROI associated with Non-Aviation Alternative activities would be 19, 67.2, and 162.1 MWH per day in the years 1998, 2003, and 2013, respectively. By the year 2013, the Non-Aviation Alternative would consume 140 MWH per day on base. Additional demands for electricity in the ROI for indirect requirements would equal 22 MWH per day. The total demand would represent a 2.1 percent increase over the forecasted demand in the ROI. Both Arkansas Power & Light and MCEC have indicated that adequate capacity will be available to meet the increased demand.

The existing on-base substation and distribution system would be adequate to support the reuse activities. A new distribution system may need to be established for the new industrial space. Once specific proposals are identified, specific improvements can be negotiated with the local utility purveyor.

Natural Gas. The total projected demand for natural gas in the ROI as a result of Non-Aviation Alternative activities would be 0.75, 2.64, and 7.11 thousand therms per day in the years 1998, 2003, and 2013, respectively. This alternative would generate an on-base demand of 5.5 thousand therms per day by the year 2013. Additional natural gas demands in the ROI for indirect requirements would equal 1.6 thousand therms per day by the year 2013. In the short term, overall demands for natural gas would decrease; with reuse of the base, demands would not return to preclosure conditions of 17.9 thousand therms per day until after 1998. By the year 2013, the total demand for natural gas would increase to 27.8 thousand therms per day. Currently, Associated Natural Gas has the capability to meet current and future demands in the ROI.

The existing on-base natural gas distribution system would require some changes to accommodate the reuse of the base. A new distribution system would have to be installed to provide service to the industrial development along the entire flightline/runway area proposed under this alternative.

Mitigation Measures. Measures identified to mitigate utility impacts from this alternative would be the same as those discussed for the Proposed Action (Section 4.2.4.1).

4.2.4.4 Other Land Use Concepts. Changes in utility demand are measured by population projection associated with a given plan. Impacts from federal transfers and independent land use concepts are discussed below.

McKinney Act Housing. This land use would result in no increase in utility demand in addition to that described in individual reuse alternatives.

Interpretive Center/Museum. This proposal involves the use of an existing building in conjunction with the archaeological sites on base. The use of approximately 4,000 square feet would result in an increase of less than 0.1 percent in utility demands for the Proposed Action or either of the other reuse alternatives.

4.2.4.5 No-Action Alternative. Utility usage on site would be minimal in comparison to the Proposed Action and other reuse action alternatives. The disuse of utility systems, however, could result in their degradation over the long term. The following utility usage is forecast using per-capita demand factors developed from data provided by the utility purveyors in the study area:

- Water consumption in the ROI is projected to decrease from 4.64 MGD in 1992 to 3.49 MGD in the year 2013.
- Wastewater generation in the ROI is projected to decrease from 3.47 MGD in 1992 to 2.69 MGD in the year 2013.

- Solid waste generated in Mississippi County is expected to decrease from approximately 114 tons per day in 1992 to 97 tons per day in the year 2013.

- Electricity consumption in the ROI is projected to increase from 3,096 MWH/day in 1992 to 7,771 MWH/day in the year 2013.

- Natural gas use in Associated Natural Gas's Blytheville District is projected to increase from 19.75 thousand therms per day in 1992 to 20.72 thousand therms per day in the year 2013.

4.3 HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

This section addresses the potential impacts of existing contaminated sites on the various reuse options, and the potential for environmental impacts caused by hazardous materials/waste management practices associated with the reuse options. Hazardous materials/wastes, IRP sites, storage tanks, asbestos, pesticides, PCBs, radon, medical/biohazardous wastes, and ordnance will be discussed within this section.

The U.S. Air Force is committed to the remediation of all contamination at Eaker AFB due to past Air Force activities. The OL will remain after base closure to coordinate remediation activities. Delays or restrictions in disposal and reuse of property may occur due to the extent of contamination and the results of both the risk assessment and remedial designs determined for contaminated sites. Examples of conditions resulting in land use restrictions would be the capping of landfills and the constraints from methane generation and cap integrity, as well as the location of long-term monitoring wells. These conditions would have to be considered in the layout of future development. Options to recipients include creation of parks, greenbelts, or open spaces over these areas.

Regulatory standards and guidelines have been applied in determining the impacts caused by hazardous materials/waste. The following criteria were used to identify potential impacts:

- Accidental release of friable asbestos during the demolition or modification of a structure

- Generation of 100 kilograms (or more) of hazardous waste in a calendar month, resulting in increased regulatory requirements

- New operational requirements or service for all UST and tank systems

- Any spill or release of a reportable quantity of a hazardous material

- Manufacturing of any compound that requires notifying the pertinent regulatory agency

- Exposure of the environment or public to any hazardous material through release or disposal practices.

4.3.1 Proposed Action

4.3.1.1 Hazardous Materials. The hazardous materials likely to be utilized for activities within the proposed land use zones are identified in Table 4.3-1. The types of hazardous materials used would be similar to those used by the base prior to closure. The quantity of hazardous materials utilized under the Proposed Action would increase over the baseline conditions at closure. The specific chemical compositions and exact use rates are not known, with the exception of the proposed emergency response training area. The requirement to use hazardous materials at Blytheville Municipal Airport would be eliminated.

Currently, handling of hazardous materials on the base is managed by the Air Force. If the Proposed Action were implemented, each separate organization would be responsible for the management of hazardous materials according to applicable regulations. Additionally, each organization would have to comply with SARA, Section 311, Title III, which requires that local communities be informed of the use of hazardous materials. The state has adopted these federal right-to-know regulations.

The emergency response training area, proposed under this alternative, would require the use of approximately 52,800 gallons of #2 diesel fuel per year. Management of this material would be the responsibility of the operator/owner of the training center. The management of this material would occur in compliance with all applicable federal and state regulations. The impact of management of this fuel is not expected to affect reuse under this alternative.

4.3.1.2 Hazardous Wastes. Hazardous wastes would be generated under the Proposed Action from the hazardous materials and processes utilized, and would consist of waste oils, solvents, paints, thinners, and heavy metals. Quantities of waste would be greater than those produced at closure. Hazardous waste generated in support of aviation activities at Blytheville Municipal Airport would be eliminated.

Upon disposal of parcels, hazardous wastes would fall under the control of the recipients. Once the responsibilities of hazardous waste management are allocated to individual organizations, proficiency with those materials and spill responses is required by OSHA regulations (29 CFR). Mutual aid agreements with surrounding communities may require additional scrutiny and training of emergency staff.

Table 4.3-1. Hazardous Materials Usage - Proposed Action

Land Use	Operation Process	Hazardous Materials
Airfield	Aircraft refueling; de-icing; utilization of clear zones, runways, taxiways, airport terminal parking, administration offices, corporate and private aviation facilities, aircraft parking	Aviation fuels, propylene glycol, ethylene glycol, heating oils
Aviation support	Operations associated with aircraft maintenance and manufacturing, aeronautics research and development, air transportation-related industry and warehousing, law enforcement, airline maintenance, other governmental administrative services	Fuels, solvents, paints, POL, hydraulic fluids, degreasers, corrosives, heavy metals, reactives, thinners, paints, glycols, ignitables, heating oils, plating waste, cyanides, laboratory waste
Industrial	Activities associated with light industry, research and development, specialized warehousing, and manufacturing	Solvents, heavy metals, POL, corrosives, catalysts, aerosols, fuels, heating oils, ignitables, pesticides
Institutional (education)	Public education, higher education, training facilities, vocational schools, emergency response training	Corrosives, ignitables, solvents, heating oils, solvents, lubricants, cleaners, pesticides, paints, thinners, diesel fuel
Commercial	Activities associated with offices, retail, service industries, restaurants, community facilities	Fuels, solvents, corrosives, POL ignitibles, heating oils, pesticides, dry cleaning wastes
Residential	Utilization/maintenance of single-family and multi-family units, landscaping	Pesticides, fertilizers, fuels, waste oils, and household wastes
Public/recreation and archaeological/open space	Maintenance of existing recreational facilities including golf course, sports complex, swimming pools, and other recreational facilities	Pesticides, fertilizers, chlorine, heating oils, paints, thinners, cleaners, solvents, aerosols, POL
Agricultural	Equipment maintenance, weed and pest control	Pesticides, fertilizers, fuels, waste oils, solvents, paints and thinners

POL = petroleum, oils, and lubricants.

The presence of numerous independent owners/operators on the base would change the regulatory requirements and probably increase the regulatory burden relative to hazardous waste management. Activities associated with the Proposed Action would lead to an increase in the amount of hazardous waste generated compared to the closure baseline. The proposed emergency response training area, located at the existing alert pad, would generate approximately 1.3 million gallons per year (0.003 MGD) of water contaminated with #2 diesel fuel wastes. Management of these wastes would be the responsibility of the operator/owner of the training center. Management of the wastes would occur in compliance with all applicable federal and state regulations. The impact of management of these wastes would not impact reuse under this alternative.

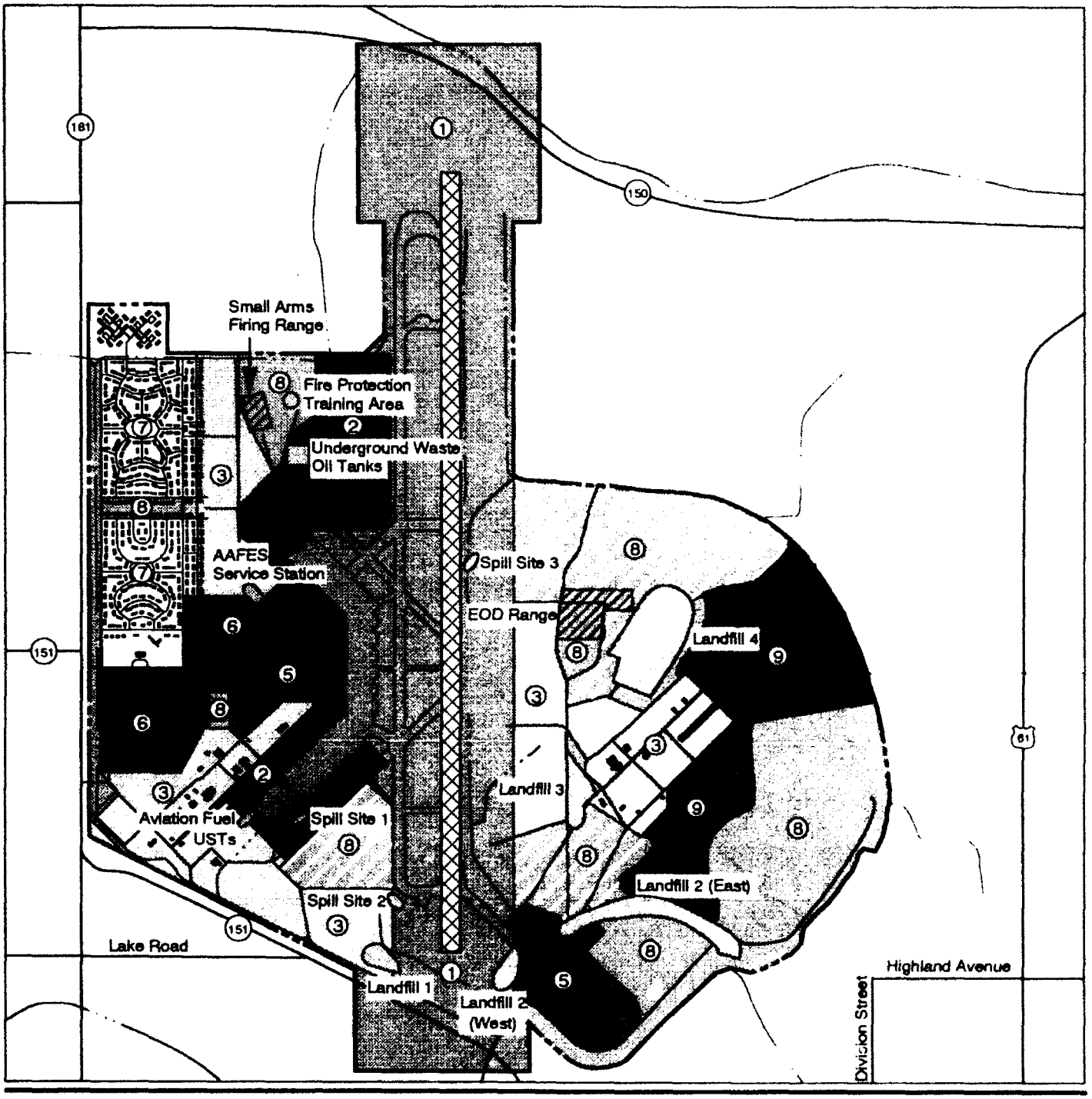
4.3.1.3 Installation Restoration Program Sites. The U.S. Air Force is committed to continue IRP activities under DERP and CERCLA. IRP activities would be coordinated by the OL team.

The type of development that is appropriate for property adjacent to or over an IRP site may be limited by the risk to human health and the environment posed by contaminants at the site. For example, residential development over an IRP landfill is generally not appropriate. The risk posed by IRP sites is measured by a risk assessment that analyzes the types of substances present at a site and the potential means by which the public and the environment may be exposed to them. The RD, or blueprint for remediating the IRP site, is based on the results of the risk assessment and the geographical extent of the contamination.

Disposal and reuse of some Eaker AFB properties may be delayed or limited by the extent and type of contamination at IRP sites and by current and future IRP remediation activities (Figure 4.3-1). Based on the results of IRP investigations, the Air Force may, where appropriate, place limits on land reuse through deed restrictions on conveyances and use restrictions on leases. The Air Force may also retain right of access to other properties to inspect monitoring wells or conduct other remedial activities.

The IRP sites within each land use area for the Proposed Action are discussed below and summarized in Table 4.3-2. Some IRP sites fall into two or more land use zones.

Airfield. All or portions of Spill Site 2, Landfill 1, and the western portion of Landfill 2 are active IRP sites within the airfield land use zone under the Proposed Action. All are located at the south end of Runway 18. The sites are covered by grass and are partially located within the proposed airfield's building restriction zone, as identified in Figure 2.2-2. Remediation activities associated with these sites could cause a delay in property disposal and possibly impact flight operations. The installation of additional monitoring wells should not affect airfield operations, but could delay property disposal.



EXPLANATION

- 1 Airfield
- 2 Aviation Support
- 3 Industrial
- 4 Institutional (Medical) ★
- 5 Institutional (Education)
- 6 Commercial
- 7 Residential
- 8 Public/Recreation
- 8 Archaeological/ Open Space
- 9 Agriculture
- 10 Vacant Land ★
- IRP Site
- EOD/Firing Ranges
- Base Boundary

0 625 1250 2500 Feet

★ Not Applicable

IRP Sites, EOD Range, and Small Arms Firing Range - Proposed Action

Figure 4.3-1

Table 4.3-2. IRP Sites within Land Use Areas - Proposed Action

Proposed Land Use	IRP Sites
Airfield	Landfill 1, Landfill 2 (west), Spill Site 2
Aviation support	Aviation fuel USTs, Spill Site 1, underground heating oil tanks, underground waste oil tanks
Industrial	AAFES service station, aviation fuel USTs, Landfill 1, Spill Site 2, underground heating oil tanks
Institutional (education)	Landfill 2 (east and west), underground heating oil tanks
Commercial	AAFES Service Station, underground heating oil tanks
Residential	None
Public/recreation	FPTA, Landfill 2 (east), Landfill 3, Landfill 4
Archaeological/open space	Landfill 2 (east), Landfill 3, Landfill 4
Agricultural	Landfill 2 (east)

Spill Site 3 is also located within this land use area; since it is no longer considered an active IRP site, it would not impact proposed airfield activities.

Aviation Support. All or portions of four IRP sites are located within the aviation support land use zone. Underground waste oil tanks are located in the northern portion of this zone. If removal of these tanks becomes necessary, the remediation activities including the installation of additional monitoring wells, could cause some land use restrictions and property disposal delays.

Spill Site 1 is located at the southern end of the flightline. Remediation of this site may cause some delays in the disposal of the property. Land use restrictions could be incurred by the installation of additional monitoring wells. The aforementioned activities should not preclude any aviation support operations.

Remediation of the aviation fuel tanks, which are located in the southern portion of the main base area, could cause a delay in property disposal. In addition this could impose some land use restrictions due to monitoring well installation. Proposed industrial construction may be delayed depending on the reuse development schedule.

The removal of numerous underground heating oil tanks associated with IRP Site 12 could possibly delay future construction and reuse within this land use zone.

Industrial. All or portions of five IRP sites fall within the proposed industrial land use zone. Remedial activities associated with Landfill 1 and Spill Site 2, located in the south-central section of the base, and with the

aviation fuel tanks located in the southern portion of the main base, could cause a delay in property disposal. Land use restrictions due to installation of monitoring wells may also be incurred.

Remediation activities of numerous underground heating oil tanks located throughout this land use zone could cause a delay in property disposal by delaying construction activities.

Remediation and monitoring well installation activities associated with the AAFES service station IRP site could delay reuse.

Institutional. Portions of two IRP sites are located within this land use zone. Remediation activities associated with Landfill 2 (east and west) probably would not impact the reuse of the alert facility in the southeast corner of the base. The removal of underground heating oil tanks could cause some delays in property disposal and reuse development.

Commercial. Portions of two IRP sites are located within this land use zone. Remediation and long-term monitoring well activities associated with the AAFES service station IRP site could delay reuse. Delays in property disposal and construction activities could occur due to the removal of the many underground heating oil tanks.

Residential. No IRP sites are associated with the residential reuse under the *Proposed Action*.

Public/Recreation. All or portions of four IRP sites are located within this land use zone. Reuse and disposal of these parcels could be delayed by the remediation activities associated with the base FPTA located near the northwestern boundary. However, should remediation activities for Landfills 2 (eastern section), 3, and 4 include removal, longer delays in property disposal could occur. Installation of monitoring wells may create some land use restrictions.

Archaeological/Open Space. Portions of three IRP sites (Landfills 2 [east], 3, and 4) are within this land use zone. Although cultural resources have already been disturbed from activities that occurred when the landfills were active, remediation could further impact these sites. Proposed remediation plans will be coordinated with SHPO prior to initiation to ensure impacts to cultural resources are eliminated or reduced to a nonadverse level.

Agricultural. Landfill 2 (east) remediation activities could delay disposal of some proposed agricultural land adjacent to the landfill. No other IRP sites have been identified in this zone.

Determination of future base land uses would be somewhat dependent upon a regulatory review of the remedial design of the IRP sites. This review

would identify current monitoring well locations and future land use limitations as a result of their presence. The regulatory review process will include notifying the FAA concerning the construction and locations of any monitoring wells.

4.3.1.4 Storage Tanks. Flight and maintenance operations under the Proposed Action would require both aboveground tanks and USTs. New USTs and aboveground storage tanks required by the new owner/operators would be subject to all applicable federal, state, and local regulations. These regulations include acceptable leak detection methodologies, spill and overfill protection, cathodic protection, secondary containment for the tank systems including the piping, and liability insurance. USTs that would not support reuse activities will be closed in conformance with the appropriate federal, state, and local regulations. Storage tanks at the Blythville Municipal Airport would no longer be required for aviation support activities.

Aboveground fuel storage tanks that would not be utilized to support the reuse activities will be purged of fumes to preclude fire hazards. The Uniform Fire Code requires that:

- Tanks out of service for 90 days be safeguarded
- Tanks out of service for 1 year be removed from the property.

The closure of these tanks will be subject to the requirements of the ADPCE.

4.3.1.5 Asbestos. Renovation and demolition of existing structures with ACM may occur with reuse development. Such activities would be subject to all applicable federal, state, and local regulations.

4.3.1.6 Pesticide Usage. Pesticide usage associated with the Proposed Action would increase from amounts used under baseline conditions (caretaker status) as a result of the increase in public/recreation and commercial land uses. Pesticides would also be used in the institutional, residential, and agricultural land use zones. Pesticides utilized under the Proposed Action would be different than under closure conditions due to the conversion of agricultural land to public/recreation. Management practices would be subject to FIFRA and state guidelines.

4.3.1.7 Polychlorinated Biphenyls. Only the three regulators that contain PCBs, owned by Arkansas Power & Light, would be left at Eaker AFB after closure. These have been labeled and would continue to be managed by Arkansas Power & Light during reuse activities in accordance with applicable federal and state regulations.

4.3.1.8 Radon. Since all radon screening survey results were below the U.S. EPA-recommended mitigation level of 4 pCi/l of air, there would be no impact on reuse activities.

4.3.1.9 Medical/Biohazardous Waste. All remaining materials will be removed prior to base closure. Under this alternative there would be no hospital use, so no medical/biohazardous waste would be generated.

4.3.1.10 Ordnance. The EOD Range and Small Arms Firing Range will be cleared of live ordnance and debris by the U.S. Air Force prior to disposal of this property. The EOD Range will undergo an RCRA Facility Investigation (RFI), a Corrective Measures Investigation (CMI), and remediation in FY 1993. The Small Arms Firing Range will also undergo an RFI and CMI during FY 1993. Disposal and reuse may be delayed or limited based on the results of the RFI, CMI, or subsequent remediation.

4.3.1.11 Mitigation Measures. A cooperative planning body for hazardous materials and waste management could be established with the support of the new individual operators on the base. Establishment of such a body could reduce the costs of environmental compliance training, health and safety training, and waste management, and increase recycling, minimize waste, and assist in mutual spill responses.

The scheduling of household collection days for hazardous residential wastes, such as paints, pesticides, and cleaners, could mitigate publicly owned treatment works and storm water discharge concerns. Articles in the local papers and classes offered by community educational programs could increase public awareness on recycling, appropriate use of pesticides, waste minimization, and waste disposal.

All of the IRP sites may not require remediation. However, all of them must be addressed and properly closed out. Active coordination between the OL and new construction planning agencies could mitigate potential problems. The presence of IRP sites may limit certain land uses within overlying areas; options could include reuse as open space, greenbelts, or parks. Remediation activities associated with Landfills 2 (east), 3, and 4 will be coordinated with SHPO to reduce or eliminate potential impacts to cultural resources prior to implementation.

Use of USTs that would remain in service would have to be coordinated with planning agencies to preclude construction of facilities that would endanger the integrity of the tanks or piping systems.

Potential impacts from PCBs could be mitigated with routine inspections of equipment, by retrofilling PCB containing oils and confirmatory testing or removal.

Coordination of asbestos removal or management in conjunction with construction or renovation activities could mitigate potential impacts. Compliance with NESHAP would mitigate and preclude asbestos exposures.

4.3.2 General Aviation Alternative

4.3.2.1 Hazardous Materials. The types of hazardous materials utilized under the General Aviation Alternative (Table 4.3.3) would be similar to those utilized under the Proposed Action. The quantities utilized would be greater than those generated at closure due to the greater number of flight operations.

4.3.2.2 Hazardous Wastes. Hazardous wastes would be generated under the General Aviation Alternative from the hazardous materials and processes utilized, and would consist of waste oils, solvents, paints, thinners, and heavy metals. Quantities of waste would be greater than those produced at closure. The number of independent owners/operators associated with this alternative could increase the burden on hazardous waste management.

4.3.2.3 Installation Restoration Program Sites. The IRP sites within each land use area for the General Aviation Alternative are identified in Figure 4.3-2 and summarized in Table 4.3-4.

Airfield. No active IRP site occupies the airfield land use zone under this alternative. Spill Site 3 lies within this zone, but is considered inactive.

Aviation Support. Remediation activities associated with numerous underground heating oil tanks could cause some delays in property disposal. No other IRP site is associated with this land use zone.

Industrial. All or portions of seven IRP sites are within this land use zone. Remediation activities and installation of long-term monitoring wells associated with Landfill 3, Spill Site 1, the FPTA, underground waste oil tanks, aviation fuel tanks, and numerous underground heating oil tanks as well as portions of the AAFES service station site could delay property disposal and proposed construction.

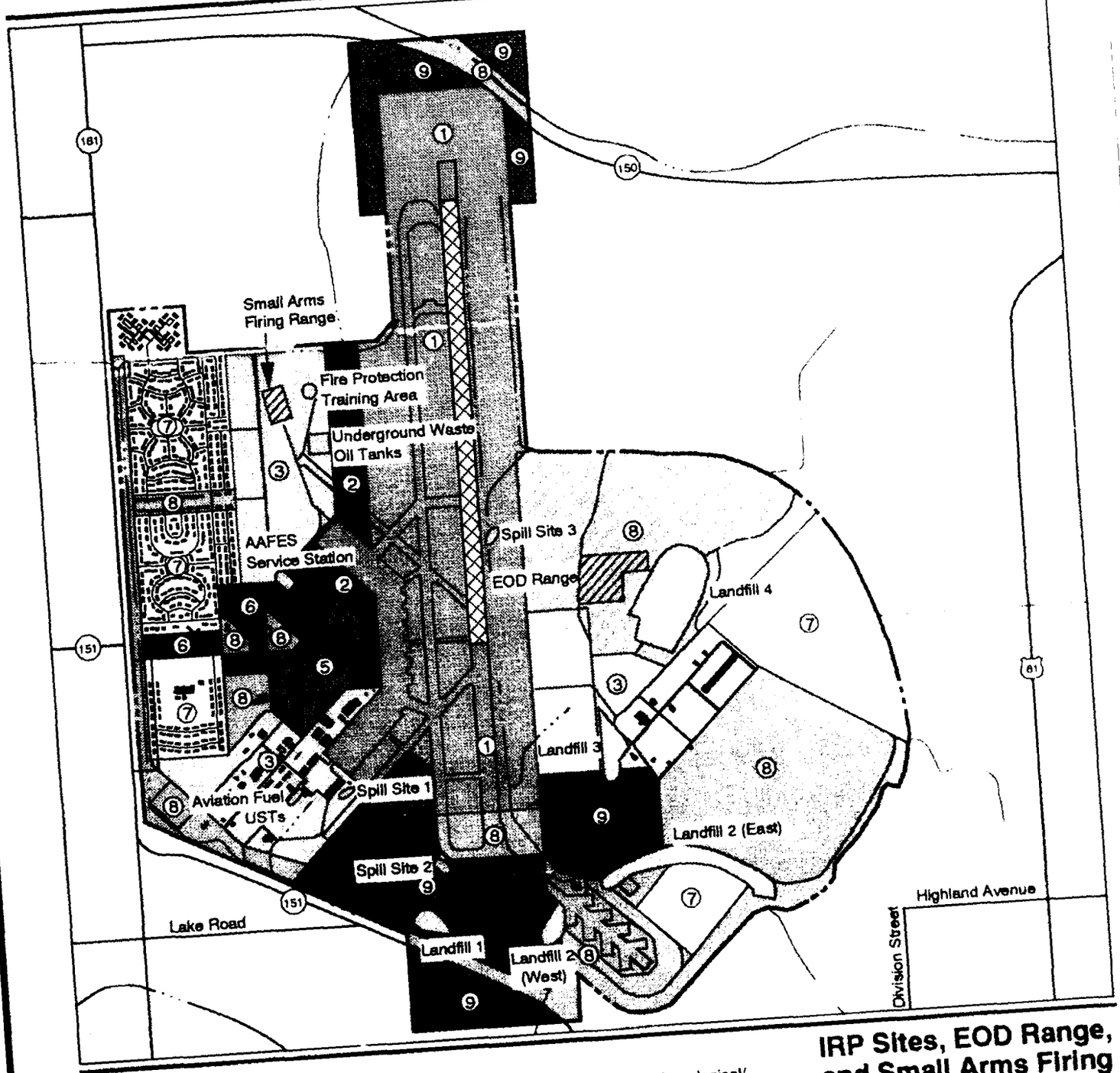
Institutional. Remediation activities associated with the underground heating oil tanks could delay reuse under this alternative. No other IRP site is associated with the institutional land use zones.

Commercial. Two IRP sites are associated with this land use zone. Remediation of the AAFES service station and installation of long-term monitoring wells could delay property disposal. Remediation of the many underground heating oil tanks within this land use zone may delay property disposal.

Table 4.3-3. Hazardous Materials Usage - General Aviation Alternative

Land Use	Operation Process	Hazardous Materials
Airfield	Aircraft refueling; utilization of clear zones, runways, taxiways, airport terminal parking, administration offices, corporate and private aviation facilities aircraft parking	Aviation fuels, heating oils
Aviation support	Operations associated with aircraft maintenance, air transportation-related industry and warehousing, law enforcement, airline maintenance, other governmental administrative services	Fuels, solvents, paints, POL, hydraulic fluids, degreasers, corrosives, heavy metals, reactives, thinners, paints, glycols, ignitables, heating oils, plating waste, cyanides
Industrial	Activities associated with light industry, research and development, warehousing, and manufacturing	Solvents, heavy metals, POL, corrosives, catalysts, aerosols, fuels, heating oils, ignitables, pesticides
Institutional (education)	Public education, higher education, training facilities, vocational schools	Corrosives, ignitables, solvents, heating oils, solvents, lubricants, cleaners, pesticides, paints, thinners
Commercial	Activities associated with offices, retail, service industries, restaurants, community facilities	Fuels, solvents, corrosives, POL, ignitibles, heating oils, pesticides, dry cleaning wastes
Residential	Utilization/maintenance of single-family and multi-family units, landscaping, clinic, rehabilitation facility, x-ray unit	Pesticides, fertilizers, fuels, waste oils, household wastes, pharmaceuticals, medical and biohazardous waste, chemotherapeutic drugs, radiological resources, heavy metals
Public/recreation and archaeological/open space	Maintenance of existing recreational facilities including golf course, sports complex, swimming pools, and other recreational facilities	Pesticides, fertilizers, chlorine, heating oils, paints, thinners, cleaners, solvents, aerosols, POL
Agricultural	Equipment maintenance, weed and pest control	Pesticides, fertilizers, fuels, waste oils, solvents, paints and thinners

POL = petroleum, oils, and lubricants.



EXPLANATION

- 1 Airfield
- 2 Aviation Support
- 3 Industrial
- 4 Institutional (Medical) *
- 5 Institutional (Education)
- 6 Commercial
- 7 Residential
- 8 Public/Recreation
- 8 Archaeological/ Open Space
- 9 Agriculture
- 10 Vacant Land *
- IRP Site
- EOD/Firing Ranges
- Base Boundary

0 625 1250 2500 Feet

* Not Applicable

IRP Sites, EOD Range, and Small Arms Firing Range - General Aviation Alternative

Figure 4.3-2

Table 4.3-4. IRP Sites within Land Use Areas - General Aviation Alternative

Proposed Land Use	IRP Sites
Airfield	None
Aviation support	Underground heating oil tanks
Industrial	AAFES service station, aviation fuel USTs, FPTA, Landfill 3, Spill Site 1, underground heating oil tanks, underground waste oil tanks
Institutional (education)	Underground heating oil tanks
Commercial	AAFES service station, underground heating oil tanks
Residential	Landfill 2 (east)
Public/recreation	Landfill 2 (east and west), Landfill 4
Archaeological/open space	Landfill 4
Agricultural	Landfill 1, Landfill 2 (east and west) Landfill 3, Spill Site 2

Residential. Remediation activities and the installation of long-term monitoring wells associated with the eastern portion of Landfill 2 could delay the proposed construction under this alternative.

Public/Recreation. Remediation of Landfill 2 (east and west) and Landfill 4 could delay reuse under this alternative.

Archaeological/Open Space. Landfill 4 is located within this land use zone. Although cultural resources have already been disturbed from activities that occurred when the landfill was active, remediation could further impact this site. Proposed remediation plans will be coordinated with SHPO prior to initiation to ensure impacts to cultural resources are eliminated or reduced to a nonadverse level.

Agricultural. Remediation of Landfills 1, 2 (east and west), and 3 and Spill Site 2 could delay property disposal and reuse under this alternative.

4.3.2.4 Storage Tanks. Air flight and maintenance operations under the General Aviation Alternative would require both aboveground tanks and USTs. Reused and new tanks required by the new owners/operators would be subject to the same federal and state regulations discussed under the Proposed Action. These include acceptable leak detection methodologies, spill and overfill protection, cathodic protection, secondary containment for the tank systems including the piping, and liability insurance. USTs that would not support reuse activities would be expected to be closed in conformance with the appropriate federal, state, and local regulations.

Aboveground fuel storage tanks not utilized to support the reuse activities would be purged of fumes to preclude fire hazards. Under this alternative,

the Uniform Fire Code requirements are similar to those stated under the Proposed Action.

The closure of these tanks would be subject to the requirements of the ADPCE.

4.3.2.5 Asbestos. Renovation and demolition of existing structures with ACM may occur with reuse development. Such activities would be subject to all applicable federal, state, and local regulations.

4.3.2.6 Pesticide Usage. Pesticide usage associated with the General Aviation Alternative would increase from amounts used under baseline conditions (caretaker status) as a result of the increase in public/recreation and commercial land uses. Pesticides are also used in the industrial, residential, archaeological/open space and agricultural land use zones. Pesticides utilized under the General Aviation Alternative would be different than under closure conditions due to the conversion of agricultural land to public/recreation. Management practices would be subject to FIFRA and state guidelines.

4.3.2.7 Polychlorinated Biphenyls. Only the three regulators that contain PCBs, owned by Arkansas Power & Light, would be left at Eaker AFB after closure. These have been labeled and would continue to be managed by Arkansas Power & Light during reuse activities in accordance with applicable federal and state regulations.

4.3.2.8 Radon. Since all radon-screening survey results were below EPA's recommended mitigation level of 4 pCi/l of air, there would be no impact on reuse activities.

4.3.2.9 Medical/Biohazardous Waste. Medical/biohazardous materials generated with the reuse of the hospital as a life care facility or convalescent home would be subject to conformance with state regulations. The generation rates for waste products and disposal requirements would be appreciably less than that under preclosure conditions as a result of the change in the charter of this facility. The generation and management of materials would not cause impacts on this reuse option.

4.3.2.10 Ordnance. The impacts from ordnance would be the same as for the Proposed Action.

4.3.2.11 Mitigation Measures. Mitigation measures for this alternative are similar to those under the Proposed Action.

4.3.3 Non-Aviation Alternative

4.3.3.1 Hazardous Materials. The types of hazardous materials utilized under this alternative are listed in Table 4.3-5. Materials could include petroleum products, fuels, solvents, corrosives, paints, thinners, and others associated with industrial and agricultural pursuits. Not all are similar to hazardous materials used during preclosure conditions. The quantity of material would increase over that used at closure.

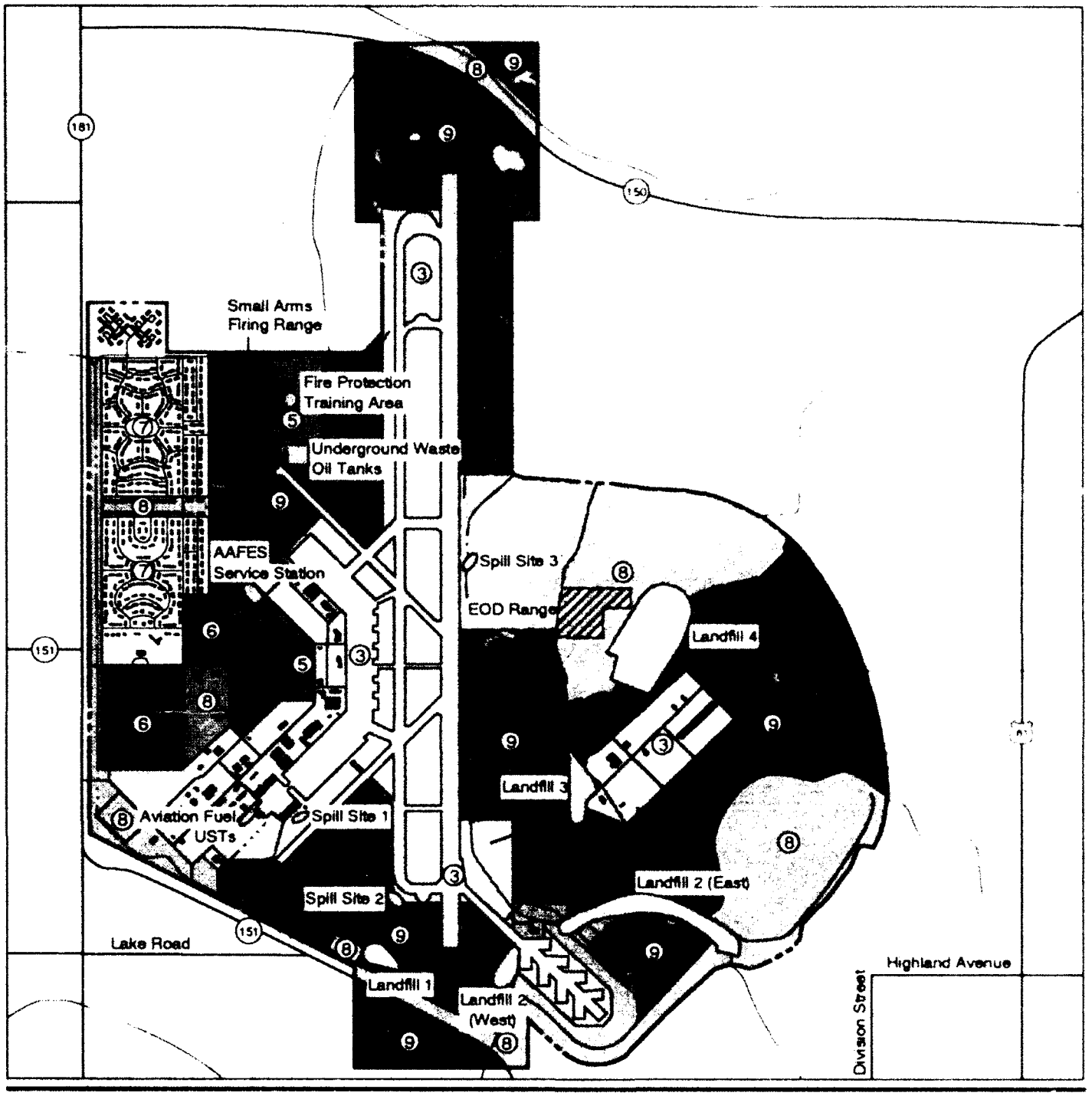
Table 4.3-5. Hazardous Materials Usage - Non-Aviation Alternative

Land Use	Operation Process	Hazardous Materials
Industrial	Activities associated with light industry, research and development, warehousing	Solvents, heavy metals, POL, corrosives, catalysts, aerosols, fuels, heating oils, ignitables, pesticides
Institutional (education)	Public education, higher education, corporate training facilities, vocational schools	Corrosives, ignitables, solvents, heating oils, solvents, lubricants, cleaners, pesticides, paints, thinners
Commercial	Activities associated with offices, retail, service industries, restaurants, community facilities	Fuels, solvents, corrosives, POL ignitibles, heating oils, pesticides, dry cleaning wastes
Residential	Utilization/maintenance of single-family and multi-family units, landscaping	Pesticides, fertilizers, fuels, waste oils, and household wastes
Public/recreation and archaeological/ open space	Maintenance of existing recreational facilities including golf course, sports complex, swimming pools, and other recreational facilities	Pesticides, fertilizers, chlorine, heating oils, paints, thinners, cleaners, solvents, aerosols, POL
Agricultural	Equipment maintenance, weed and pest control	Pesticides, fertilizers, fuels, waste oils, solvents, paints and thinners

POL = petroleum, oils, and lubricants.

4.3.3.2 Hazardous Wastes. Hazardous wastes would be generated under the Non-Aviation Alternative from the hazardous materials and processes utilized, and would consist of waste oils, solvents, paints, thinners, and heavy metals. Quantities of waste would be greater than those produced at closure.

4.3.3.3 Installation Restoration Program Sites. The IRP sites within each land use area for the Non-Aviation Alternative are identified in Figure 4.3-3 and summarized in Table 4.3-6.



EXPLANATION

- ① Airfield *
- ② Aviation Support *
- ③ Industrial
- ④ Institutional (Medical) *
- ⑤ Institutional (Education)
- ⑥ Commercial
- ⑦ Residential
- ⑧ Public/Recreation
- ⑧ Archaeological/ Open Space
- ⑨ Agriculture
- ⑩ Vacant Land *
- IRP Site
- EOD/Firing Ranges
- Base Boundary

0 625 1250 2500 Feet

* Not Applicable

IRP Sites, EOD Range, and Small Arms Firing Range - Non-Aviation Alternative

Figure 4.3-3

Table 4.3-6. IRP Sites within Land Use Areas - Non-Aviation Alternative

Proposed Land Use	IRP Sites
Industrial	Aviation fuel USTs, Landfill 2 (west), Landfill 3, Spill Site 1, Spill Site 2, underground heating oil tanks
Institutional (education)	AAFES service station, FPTA, underground heating oil tanks, underground waste oil tanks
Commercial	Underground heating oil tanks
Residential	None
Public/recreation	Landfill 2 (east)
Archaeological/open space	Landfill 4
Agricultural	Landfill 1, Landfill 2 (east and west), Landfill 3, Landfill 4, Spill Site 2

Industrial. Six IRP sites have been associated with this land use zone. Remediation activities and installation of long-term monitoring wells associated with Landfill 3, Spill Site 1, aviation fuel tanks, and numerous underground heating oil tanks could delay property disposal and proposed construction. Remediation of Landfill 2 (west) and Spill Site 2 should not impact the proposed reuse under this alternative.

Institutional. Four IRP sites have been associated with this land use zone. Remediation activities associated with the AAFES service station and underground heating oil tanks could delay reuse of numerous facilities within the main base. Remediation of the FPTA and underground waste oil tanks could delay property disposal and reuse in the northern part of the base.

Commercial. Removal of the underground heating oil tanks within the proposed commercial land use area could delay reuse.

Residential. There are no IRP sites associated with residential land use under this alternative.

Public/Recreation. Remediation of Landfill 2 (east) could delay property disposal and reuse under this alternative.

Archaeological/Open Space. Landfill 4 is located within this land use zone. Although cultural resources have already been disturbed from activities that occurred when the landfill was active, remediation could further impact this site. Proposed remediation plans will be coordinated with SHPO prior to initiation to ensure impacts to cultural resources are eliminated or reduced to a nonadverse level.

Agricultural. Five IRP sites have been associated with this land use zone. Delays could occur in property disposal of some proposed agricultural parcels adjacent to Landfill 1, Landfill 2 (east and west), Landfill 3, Landfill 4, and Spill Site 2. Further delays could occur if long-term monitoring wells are installed.

4.3.3.4 Storage Tanks. Reuse of existing storage tanks and the installation of aboveground storage tanks required by the new owner/operators would be subject to all applicable federal and state regulations. These regulations include acceptable leak detection methodologies, spill and overfill protection, cathodic protection, secondary containment for the tank systems including the piping, and liability insurance. USTs and aboveground fuel storage tanks that would not support reuse activities would be expected to be closed in conformance with all appropriate regulations.

Aboveground fuel storage tanks that would not be utilized to support the reuse activities would be purged of fumes to preclude fire hazards. Under this alternative, the Uniform Fire Code requirements are similar to those stated under the Proposed Action.

4.3.3.5 Asbestos. Renovation and demolition of existing structures with ACM may occur with reuse development. Such activities would be subject to all applicable federal, state, and local regulations.

4.3.3.6 Pesticide Usage. Pesticide usage associated with the Non-Aviation Alternative would increase from amounts used under baseline conditions (caretaker status) as a result of the increase in agricultural land uses. The types and quantities of pesticides utilized under the Non-Aviation Alternative would be different than those under closure conditions due to the conversion of additional land to agricultural use. Pesticide management practices would be subject to FIFRA and state guidelines.

4.3.3.7 Polychlorinated Biphenyls. Only the three regulators that contain PCBs, owned by Arkansas Power & Light, would be left at Eaker AFB after closure. These have been labeled and would continue to be managed by Arkansas Power & Light during reuse activities in accordance with applicable federal and state regulations.

4.3.3.8 Radon. Since all radon screening survey results were below U.S. EPA's recommended mitigation level of 4 pCi/l of air, there would be no impact on reuse activities.

4.3.3.9 Medical/Biohazardous Waste. All existing materials would be removed prior to base closure. Under this alternative there would be no hospital use, so medical/biohazardous waste would not be generated.

4.3.3.10 Ordnance. The impacts from ordnance would be the same as for the Proposed Action.

4.3.3.11 Mitigation Measures. Mitigation measures for this alternative are similar to those under the Proposed Action.

4.3.4 Other Land Use Concepts

This section will discuss transfers/conveyances within the framework of the IRP and within the context of the hazardous materials typically associated with their proposed reuses.

McKinney Act. No IRP site exists within the on-base housing area; therefore, remediation of any IRP site would not impact conveyance of any units for housing of the homeless. Pesticides, paints, thinners, and some petroleum products and fuels would be utilized for housing unit maintenance purposes. Upon completion of the asbestos survey, management of ACM would be accomplished to ensure a safe site environment.

No impact would result from implementation of this land use concept when combined with any of the reuse alternatives.

Interpretive Center/Museum. Hazardous materials would be utilized for facility and ground maintenance, and could include paints; thinners; cleaners; pesticides; fuels; and petroleum, oils, and lubricants. Remediation activities associated with Landfills 2 (east), 3, and 4 could occur in areas proposed for the interpretive center/museum. Interagency coordination could mitigate potential impacts to cultural resources during landfill remediation.

However, no impact would result from implementation of this land use concept when combined with any of the reuse alternatives, since the proposed land use would be the same as projected for the reuse scenarios.

4.3.5 No-Action Alternative

Under the No-Action Alternative, painting and maintenance would be the primary activities that would involve hazardous materials. The OL would manage all waste generated under the applicable regulations. The final phases of IRP activities are also discussed below.

4.3.5.1 Hazardous Materials. Hazardous materials would be utilized in preventive and regular maintenance activities, grounds maintenance, and water treatment. The materials used for these activities would include pesticides, fuels, paints, and corrosives. The OL would be responsible for hazardous materials handling training, as well as hazardous materials

communication requirements of OSHA regulations. Quantities of hazardous materials would be similar to those used at closure.

4.3.5.2 Hazardous Wastes. With the exception of facilities utilized by OL personnel, all satellite accumulation points would be closed and the DRMO would dispose of all hazardous wastes prior to base closure. The small amount of hazardous waste that would be generated under the No-Action Alternative may enable the OL to become an exempt, small-quantity generator. The OL must comply with all RCRA and state regulations.

4.3.5.3 Installation Restoration Program Sites. Ongoing sampling and remedial design activities would be continued by the individual IRP contractors. The OL would support the utility requirements for these contractors and provide security for the IRP areas.

4.3.5.4 Storage Tanks. USTs remaining at Eaker AFB would be managed by the OL. Maintenance of the cathodic protection and leak detection systems would be the responsibility of the OL. Federal regulations require the closure of USTs out of service for 1 year or longer.

The large aboveground storage tanks would be purged of fuel fumes to preclude fire hazards. The ADPCE may order the removal of tanks that are out of service. The OL would provide cathodic protection, repair, and general maintenance for the aboveground storage tanks and piping.

4.3.5.5 Asbestos. The impacts from the No-Action Alternative would be minimal. Vacated buildings would be secured to prevent contact with ACM if the No-Action Alternative were implemented. Upon completion of the asbestos survey, management of ACM would be accomplished to ensure a safe site environment.

4.3.5.6 Pesticide Usage. Under the No-Action Alternative, the grounds and golf course would be maintained in such a manner as to facilitate economic resumption of use. There should not be an appreciable increase in the use of pesticides from the closure baseline. Application of pesticides would be conducted in accordance with FIFRA and state regulations to assure the proper and safe handling and application of all chemicals.

4.3.5.7 Polychlorinated Biphenyls. Only the three regulators that contain PCBs, owned by Arkansas Power & Light, would be left at Eaker AFB after closure. These have been labeled and would continue to be managed by Arkansas Power & Light in accordance with applicable federal and state regulations.

4.3.5.8 Radon. Since all radon screening survey results were below U.S. EPA's recommended mitigation level of 4 pCi/l of air, there would be no impacts from implementation of the No-Action Alternative.

4.3.5.9 Medical/Biohazardous Waste. All existing materials will be removed prior to closure; therefore, these materials would not create an impact under the No-Action Alternative.

4.3.5.10 Ordnance. The impacts from ordnance would be the same as for the Proposed Action.

4.3.5.11 Mitigation Measures. Under the No-Action Alternative, the OL would be responsible for the basewide management of hazardous materials/wastes. Contingency plans developed to address spill response would be less extensive than those required for the Proposed Action or the other reuse alternatives. Implementation of such procedures could effectively mitigate any potential impact associated with the No-Action Alternative.

4.4 NATURAL ENVIRONMENT

This section describes the potential effects of the Proposed Action and alternatives on the natural resources of soils and geology, water resources, air quality, noise, biological resources, and cultural resources in the base area and surrounding region.

4.4.1 Soils and Geology

The potential effects of the Proposed Action and reuse alternatives on the local soils and geology, as well as the potential effects from the conversion of farmland to other land uses, have been analyzed based on review of published literature. Soils and geology would be affected primarily during any construction, when local soil profiles are altered. After construction, soils would remain relatively stable because they would be overlain by facilities or pavements, or will be managed following SCS recommendations to minimize erosion.

4.4.1.1 Proposed Action. Effects of the Proposed Action on the regional soils and geology would be minimal. Effects on local soils and geology would result primarily from the construction activities associated with the Proposed Action, such as grading, excavating, and recontouring the soils. These activities could alter the soil profiles and local topography. Acreages to be disturbed under the Proposed Action between closure and at 5, 10, and 20 years of redevelopment are presented in Chapter 2 (see Table 2.2-3).

Use of sand and gravel resources (e.g., for construction material and concrete) for new facilities and roadways would not be expected to reduce availability of these materials from local suppliers. No mineral deposits of economic interest are known or expected to be discovered in Mississippi County (Arkansas Geological and Conservation Commission, 1985).

Local soils are highly susceptible to wind erosion and are slightly to moderately susceptible to water erosion; therefore, preventive measures would be necessary to minimize erosion. During construction of new facilities, removal of vegetative cover and grading activities would increase the potential for erosion by wind and water. Renovation of existing facilities could create some impacts.

Under this alternative 479 acres of land would be disturbed. Soils in the various land use areas, with the exception of recreational/open space areas, would be affected by construction operations. The largest affected soil area would be in the nonirrigated agricultural land use area. A total of 787 acres of prime farmland would be converted to nonagricultural land uses (see Section 4.2.2.1).

Table 4.4-1 lists the acreage of each soil type to be converted to another land use and its farmland status. U.S. Department of Agriculture Form AD-1006, Farmland Conversion Impact Rating, can be found in Appendix H.

Most of the soils on base are not well suited for the construction of buildings because of the shrinking and swelling properties of the clays.

Some existing facilities may not meet the 1991 SBC design standards for Seismic Hazard Zone III. The potential for liquefaction is substantial because of the nature of the ground and proximity of the groundwater to the surface. Major construction additions or alterations must meet current seismic codes; upgrades to an existing structure would be required only if the modifications would cause it to be in violation of the SBC provisions. Buildings that had legal use or occupancy at the time the SBC was adopted may continue to be used or occupied.

Mitigation Measures. Mitigation measures are available to minimize erosion problems associated with wind and water, especially during construction when trenches and cut slopes are exposed. During construction, the length of time that vegetation and other cover are absent should be minimized. When cut slopes are exposed, any or all of the following measures may be useful in limiting erosion:

- Add protective covering such as mulch, straw, or other material (tacking will be required).
- Limit the amount of area disturbed and the length of time slopes and barren ground are left exposed.
- Construct diversion dikes and interceptor ditches to divert water away from construction areas.

Table 4.4-1. Soil Type, Acreage, and Status of Farmland to be Converted under the Proposed Action

Soil Type	Acreage to be Converted	Farmland Status
Amagon sandy loam	48	Prime Farmland, where drained
Bruno-Crevasse complex	4	Prime Farmland
Crevasse loamy sand	13	Prime Farmland, where drained
Dundee silt loam	64	Prime Farmland
Forestdale-Routon complex	46	Prime Farmland, where drained
Hayti fine sandy loam	46	Prime Farmland, where drained
Jeanerette silt loam	4	Prime Farmland, where drained
Routon-Dundee - Crevasse complex	160	Prime Farmland, where drained
Sharkey-Steele complex	36	Prime Farmland, where drained
Steele loamy sand	32	Prime Farmland, where drained
Steele silty clay loam	11	Prime Farmland, where drained
Steele and Tunica soils	134	Prime Farmland, where drained
Tiptonville and Dubbs silt loams	4	Prime Farmland
Tunica silty clay	185	Prime Farmland, where drained
Total	787	

- Install slope drains (conduits) and/or water velocity-control devices to prevent concentrated, high-velocity streams from developing.

Although mitigation measures would help reduce the amount of erosion that could occur as a result of construction-related activities, erosion by wind and water cannot be completely eliminated. Application of mulch, straw, or synthetic material has proven very effective over the short term for controlling erosion. After construction, long-term erosion control can be accomplished by keeping soils under vegetative cover and planting windbreaks. The type of vegetation used as windbreaks must comply with

FAA standards in areas intended for aircraft runways. After construction, soils underlying facilities and pavements would not be subject to erosion.

Mitigation measures are available to minimize the problems associated with soil properties and seismic activity. The use of appropriate engineering practices, such as stronger foundations and deeper pilings, would reduce the effect of the shrinking and swelling of soils. Compliance with the SBC design standards for Seismic Zone III will diminish the effects of seismic activities and liquefaction on structures.

4.4.1.2 General Aviation Alternative. Types of impacts associated with soils and geology under this alternative would be similar to those under the Proposed Action, except that more land (779 acres) would be potentially disturbed. A total of 827 acres of prime farmland would be converted to nonagricultural land uses (see Section 4.2.2.2). Table 4.4-2 lists the acreage of each soil type to be converted to other land uses and its farmland status.

Mitigation Measures. Potential mitigation measures for this alternative would be similar to those discussed for the Proposed Action.

4.4.1.3 Non-Aviation Alternative. Types of impacts associated with soils and geology under this alternative would be similar to those under the Proposed Action, except that less land (339 acres) would be disturbed. A total of 243 acres of prime farmland would be converted to nonagricultural land uses (see Section 4.2.2.3). Table 4.4-3 lists the acreage of each soil type to be converted and its farmland status.

Mitigation Measures. Potential mitigation measures under this alternative would be similar to those discussed for the Proposed Action.

4.4.1.4 Other Land Use Concepts. Effects on soils and geology as a result of independent land use concepts that may be implemented in addition to one of the integrated reuse alternatives are discussed below.

McKinney Act. This conveyance would not create any impacts to soils or geology because no new construction would be required.

Interpretive Center/Museum. This land use concept would not create any impacts to soils or geology because no construction would be required.

4.4.1.5 No-Action Alternative. The No-Action Alternative would result in no major new impacts to the soils and geology of the base area and the surrounding region. The construction operations associated with this alternative would be minimal or nonexistent and restricted to maintenance-type activities. No mitigation measures would be required.

Table 4.4-2. Soil Type, Acreage, and Status of Farmland to be Converted under the General Aviation Alternative

Soil Type	Acreage to be Converted	Farmland Status
Amagon sandy loam	19	Prime Farmland, where drained
Bruno-Crevasse complex	1	Prime Farmland
Crevasse loamy sand	19	Prime Farmland, where drained
Dundee silt loam	23	Prime Farmland
Forestdale-Routon complex	108	Prime Farmland, where drained
Hayti fine sandy loam	87	Prime Farmland, where drained
Jeanerette silt loam	4	Prime Farmland, where drained
Routon-Dundee-Crevasse complex	150	Prime Farmland, where drained
Sharkey-Steele complex	13	Prime Farmland, where drained
Steele loamy sand	32	Prime Farmland, where drained
Steele silty clay loam	12	Prime Farmland, where drained
Steele and Tunica soils	206	Prime Farmland, where drained
Tiptonville and Dubbs silt loams	3	Prime Farmland
Tunica silty clay	150	Prime Farmland, where drained
Total	827	

4.4.2 Water Resources

The following section describes the potential impacts on water resources as a result of the Proposed Action and reuse alternatives. Construction activities could alter soil profiles and natural drainages, which, in turn, may alter water flow patterns temporarily. Impacts on water quality from hazardous waste contamination are addressed in Section 4.3, Hazardous Materials and Hazardous Waste Management.

Table 4.4-3. Soil Type, Acreage, and Status of Farmland to be Converted under the Non-Aviation Alternative

Soil Type	Acreage to be Converted	Farmland Status
Bruno-Crevasse complex	1	Prime Farmland
Dundee silt loam	11	Prime Farmland
Forestdale-Routon complex	3	Prime Farmland, where drained
Hayti fine sandy loam	39	Prime Farmland, where drained
Jeanerette silt loam	4	Prime Farmland, where drained
Routon-Dundee-Crevasse complex	73	Prime Farmland, where drained
Sharkey-Steele complex	4	Prime Farmland, where drained
Sharkey and Steele soils	9	Prime Farmland, where drained
Steele loamy sand	6	Prime Farmland, where drained
Steele and Tunica soils	58	Prime Farmland, where drained
Tiptonville and Dubbs silt loams	3	Prime Farmland
Tunica silty clay	32	Prime Farmland, where drained
Total	243	

4.4.2.1 Proposed Action

Surface Water. Under the Proposed Action, soils could be compacted during new construction and overlain by asphalt, asphaltic concrete, or buildings, creating impervious surfaces that could cause increased storm water runoff to local storm sewers and sewage systems. As a result, drainage patterns would be altered to divert water away from facilities and airfield pavements. Storm water discharge (non-point source) from the airfield, airfield support areas, and other heavy industrial areas may contain fuels, oils, and other residual contaminants, which could degrade surface water resources in Pemiscot Bayou and Ditch 25. In addition, the non-point source runoff could cause high sediment loads in the drainage systems.

The unnamed tributary to Ditch 25 at the north end of the base is subject to inundation by the 100-year flood as discussed in Section 3.4.2.1. Under

the Proposed Action, aviation support facilities would be constructed in the vicinity of the tributary which could be affected by the 100-year flood.

Groundwater. Under the Proposed Action, there would not be impacts to groundwater resources. Projected water production and consumption for the years 1998, 2003, and 2013 are shown in Table 4.4-4. Groundwater production is defined as the actual amount of water pumped from the wells. Consumption is the quantity of water pumped out of the wells minus the approximately 30 percent that is returned to the aquifer system via irrigation, effluent discharge, leach fields, etc.

Table 4.4-4. Projected Water Demand - Proposed Action

Year	Production (MGD)	Consumption (MGD)	% Change from Current Base Operations
1998	0.06	0.03	96 less
2003	0.23	0.14	82 less
2013	0.59	0.38	50 less

In the year 2013, water consumption is expected to be 0.38 MGD (426 acre-feet per year [af/yr]), which is approximately 50 percent of the current base demand. It is assumed the water will be supplied by the two deep on-base wells drilled into the Wilcox formation. The projected water demand for the Proposed Action can be met by the existing on-base wells. The production capacity of the two wells is 2.02 MGD (2,258 af/yr). Therefore, the base water supply is adequate to meet the anticipated needs. However, the wells were drilled in 1942 and must be considered cautiously as a reliable water source for future years (Allen & Hoshall Engineers Architects Consultants, 1985). Although groundwater is abundant, if existing on-base wells fail, it would be necessary to employ one of the options discussed in Section 4.2.4, Utilities.

Increased water demand associated with the regional growth has been taken into account in the analysis of the Proposed Action. The closure and relocation of the Blytheville Municipal Airport to Eaker AFB are not expected to effect water resources in the area.

Mitigation Measures. To minimize ponding and potential impacts to surface water runoff, construction designs should incorporate provisions to reduce storm water runoff. The following measures could be implemented to reduce the impacts to surface water quality during construction:

- Create landscaped areas that are pervious to surface water.
- Minimize areas of surface disturbance.
- Control site runoff.
- Minimize the time that disturbed areas are exposed to erosion.
- Provide regular street sweeping.

The project may also be subject to NPDES permit requirements for storm water discharges during the construction period and for the duration of airport operations. This provision is contained in the NPDES Permit Application Regulations for Storm Water Discharges issued by the U.S. EPA as a final rule on November 16, 1990. Oil-water separators could be installed to improve water quality prior to discharge to storm water drainage systems.

To minimize the impacts of the 100-year flood on the aviation support facilities at the north end of the base, construction designs should incorporate provisions, such as sloped parking areas, to divert water away from structures.

4.4.2.2 General Aviation Alternative

Surface Water. The types of impacts to surface water resources under this alternative would be identical to those under the Proposed Action.

Groundwater. In the first 10 years after closure, the quantity of groundwater extracted under this alternative would be less than that required for the Proposed Action and, thus, would not create any adverse effects. Projected water production and consumption for the years 1998, 2003, and 2013 are shown in Table 4.4-5. By the year 2013, water demand is expected to be 0.45 MGD (504 af/yr), which is approximately 60 percent of the current base demand, and slightly more than the demand in 2013 under the Proposed Action. However, this projected demand can be met by the capacities of the existing on-base wells. Effects are expected to be identical to those for the Proposed Action.

Table 4.4-5. Projected Water Demand - General Aviation Alternative

Year	Production (MGD)	Consumption (MGD)	% Change from Current Base Operations
1998	0.05	0.02	97 less
2003	0.18	0.11	86 less
2013	0.69	0.45	40 less

Mitigation Measures. Potential mitigation measures would be similar to those discussed for the Proposed Action.

4.4.2.3 Non-Aviation Alternative

Surface Water. The types of impacts to surface water resources under this alternative would be identical to those under the Proposed Action.

Groundwater. The quantity of groundwater extracted under this alternative would be slightly less than that required for the Proposed Action. Projected water production and consumption for the years 1998, 2003, and 2013 are shown in Table 4.4-6. In the year 2013, water demand is expected to be 0.25 MGD (280 af/yr), which is approximately 33 percent of the current base demand. Effects are expected to be identical to those for the Proposed Action.

Table 4.4-6. Projected Water Demand - Non-Aviation Alternative

Year	Production (MGD)	Consumption (MGD)	% Change from Current Base Operations
1998	0.06	0.03	96 less
2003	0.20	0.12	88 less
2013	0.39	0.25	67 less

Mitigation Measures. Potential mitigation measures would be similar to those discussed for the Proposed Action.

4.4.2.4 Other Land Use Concepts. As described in Section 2.3.3, two potential land use concepts have been developed for purposes of analysis. These actions may take place in addition to one of the integrated reuse alternatives.

McKinney Act. This conveyance would not create any impacts to water resources because there would be no change in water production demand.

Interpretive Center/Museum. This land use concept would not create any impacts to water resources because there would be no change in water production demand.

4.4.2.5 No-Action Alternative. The No-Action Alternative would have positive effects on surface and groundwater quality. With very limited operations and no increase to population, water demands from the OL

personnel would be minimal and could be accommodated from existing supply systems. No mitigation measures would be required.

4.4.3 Air Quality

Air quality impacts could occur during construction and operations associated with the Proposed Action and alternatives for the reuse of Eaker AFB. Intermittent construction-related impacts could result from fugitive dust (particulate matter) and construction equipment emissions. Operational impacts could occur from: (1) mobile sources such as aircraft, aircraft operation support equipment, commercial transport vehicles, and personal vehicles; (2) point sources such as heating/power plants, generators, incinerators, and storage tanks; and (3) secondary emission sources associated with a general population increase, such as residential heating.

The methods selected to analyze impacts depend upon the type of air emission source being examined. Air quality analytical methods are summarized here and presented in detail in Appendix E, Methods. The primary emission source categories associated with the Proposed Action and the alternatives include construction, aircraft, vehicles, point sources, and indirect source emissions related to population increase. Analysis during the construction phase consists of estimating the amount of uncontrolled fugitive dust that may be emitted from disturbed areas and the amount of combustion emissions that may be emitted from construction equipment. Analysis for point source and indirect source emissions during the operations phase consists of quantifying the emissions and evaluating how those emissions would affect maintenance of the NAAQS and AAQS. The ambient effects of aircraft emissions are analyzed by modeling. The Emissions and Dispersion Modeling System (EDMS) is used to simulate the dispersion of emissions from aircraft operations (Segal, 1988). EDMS was developed jointly by the FAA and the U.S. Air Force specifically for the purpose of generating airport and airbase emission inventories and to calculate the concentrations caused by these emissions as they disperse downwind. The model is run in a screening mode utilizing an array of 1-hour worst-case meteorological conditions.

The process by which a regulatory agency permits major new sources or modifications of existing sources depends on the attainment status of the source location. In an area meeting the NAAQS, or attainment area, the process is called PSD. The PSD process requires that BACT be installed and it limits the allowable ambient impact of emissions to specific increments as previously shown in Table 3.4-4. The increments are designed to prevent significant degradation of the area's acceptable air quality.

The following assumption was made in estimating the effects of the Proposed Action and alternatives: with the exception of construction, aircraft, and FPTA emissions, emission inventory amounts of ROG, NO_2,

PM_{10}, SO_2, and CO are based on the ratio of emissions to population, as defined by available preclosure emissions and population for Mississippi County.

4.4.3.1 Proposed Action. Total estimated emissions of the Proposed Action are presented in Table 4.4-7 for the years 1993, 1998, 2003, and 2013. Fugitive dust and equipment combustive emissions during the construction phase are calculated as described in the construction section below. Aircraft emissions during operations are calculated utilizing the EDMS model. The EDMS model uses U.S. EPA aircraft emission factors and information on peak and annual landing and takeoff cycles to produce an emissions inventory report for the aircraft operations. Emissions from the FPTA are calculated as described in the operations section. The closure and relocation of the Blytheville Municipal Airport would transfer existing aircraft emissions from that site to Eaker AFB. Emissions for all other categories of emissions were calculated as described in Appendix K.

Table 4.4-7. Pollutant Emissions Associated with the Proposed Action (tons/day)

	Preclosure Emissions Inventory Amount[a]		Base Reuse[b]			
Pollutant	County	Eaker AFB	1993	1998	2003	2013
NO_2	11.5	0.47	0.40	0.67	1.45	2.19
ROG	14.2	2.56	0.24	0.75	1.48	2.77
PM_{10}	61.8	0.11	0.20	2.46	5.57	11.24
SO_2	1.7	0.20	0.01	0.07	0.16	0.31
CO	34.4	2.55	0.88	2.18	4.00	7.14

Notes: (a) Refer to Table 3.4-5.
(b) See Appendix K for emission calculations.

Construction. Fugitive dust and combustive emissions would be generated during construction activities associated with aviation support, industrial, institutional, commercial, residential, and public/recreation land uses. These emissions would be greatest during site clearing and grading activities. Uncontrolled fugitive dust (particulate matter) emissions from ground-disturbing activities would be emitted at a rate of 110 pounds per acre per day or 1.2 tons per acre per month (U.S. Environmental Protection Agency, 1985). The PM_{10} fraction of the total fugitive dust emissions is assumed to be 50 percent, or 0.6 ton per acre per month (55 pounds per acre per working day).

It is estimated that construction on base would disturb a total of approximately 479 acres over the 20-year period of project development.

Approximately 131 acres would be disturbed during the time period 1993-1998, approximately 69 acres would be disturbed during the next 5-year period from 1998 to 2003, and approximately 279 acres would be disturbed in the final 10 years of reuse activity. Assuming that the disturbance is spread evenly throughout these periods, the maximum area of disturbance in any one year is estimated to be approximately 26, 14, and 28 acres for each of the three time periods, respectively. Assuming that there are an average of 230 working days per year (accounting for weekends, weather, and holidays), that half of these days (115) would be used for site preparation, and that 4 working days would be required to complete site preparation for each acre of land, an average of 0.9 acres per day would be disturbed during the first 5-year time period from 1993 to 1998. Likewise, an average of 0.5 acre per day would be disturbed during 1998-2003, and 1 acre per day would be disturbed during 2003-2013. Therefore, the amount of PM_{10} which would be released is estimated to be 50 pounds per day (0.03 ton per day) for 1993-1998, 28 pounds per day (0.01 ton per day) for 1998-2003, and 55 pounds per day (0.03 ton per day) for 2003-2013. The impact of these PM_{10} emissions would cause elevated short-term concentrations at receptors located close to the construction areas. However, the elevated concentrations would be temporary and would fall off rapidly with distance.

In order to calculate the combustive emissions from heavy construction equipment, emission factors developed as part of a large-scale community plan impact assessment were utilized. The emission factors were developed based on the assumption that it would take a total expenditure of 250,000 brake-horsepower hours of energy with diesel-powered internal combustion engines to completely demolish and redevelop 1 acre of land. Emission factors for this amount of energy expenditure were calculated to be 460 pounds per acre for ROG, 1,720 pounds per acre for CO, 4,980 pounds per acre for NO_x (as NO_2), 400 pounds per acre for particulate matter (equivalent to approximately 384 pounds per acre for PM_{10} emissions from diesel combustion), and 120 pounds per acre for SO_2. Based on the assumption that it would require 250,000 brake-horsepower hours per acre of land, the energy requirement to completely demolish and reconstruct a maximum yearly average of 26 acres in 1993-1998 would be 6,500,000 brake-horsepower hours of energy. If all heavy equipment usage took place during 80 percent of a 230 working-day year, or within 184 working days, then an average of 35,326 brake-hosepower hours of energy would have to be expended each day to completely demolish and reconstruct 26 acres in 1 year. This is equivalent to a maximum average of 0.14 acre per day being completely demolished and reconstructed by heavy equipment (unlike the daily disturbed surface area acreage calculated in the paragraph above, this daily acreage considers only the area that is being actively worked by equipment. The daily disturbed surface acreage for calculation of fugitive dust emissions includes all areas that are exposed but not necessarily being worked at the same time). Emissions from this level of construction activity

would be 64 pounds (0.03 tons) per day of ROG, 241 pounds (0.12 ton) per day of CO, 697 pounds (0.33 ton) per day of NO_2, 54 pounds (0.03 ton) per day of PM_{10}, and 17 pounds (0.01 tons) per day of SO_2. Estimates of pollutant emissions from other time periods would be in proportion to the acreage being demolished and constructed per day, i.e., 0.08 acre per day during 1998-2003 and 0.15 acre per day during 2003-2013.

Operations. Total estimated emissions associated with operations under the Proposed Action are included with construction emissions in Table 4.4-7 for the years 1993, 1998, 2003, and 2013. Estimates of aircraft operation emissions are based on U.S. EPA aircraft emission factors provided as part of the built-in data base of the EDMS model. The EDMS model uses U.S. EPA emission factors and information on both peak and annual operations (including takeoff, runway climb and approach, runway queuing, taxi-in and taxi-out, and idling) to produce an emissions inventory report. Estimates for all other categories of emissions with the exception of FPTA emissions, were calculated as described in Appendix K.

Emissions from the FPTA associated with this alternative are shown in Table 4.4-8. These emissions were based upon estimates of the expected total annual use of No. 2 diesel and emission factors developed by the U.S. Air Force for the open burning of JP-4 during fire fighting training operations (Fagin, 1988). JP-4 emission factors were used because factors for No. 2 diesel fuel are not available. Emission factors for No. 2 diesel would be somewhat higher than JP-4 emission factors because of the fuel property differences. JP-4 is a more volatile fuel and less viscous than No. 2 diesel fuel, having negligible ash and nitrogen content and small amounts of sulfur. Being more viscous and less volatile than JP-4, No. 2 diesel would experience less complete combustion and emissions of PM_{10}. NO_x, CO, and SO_x would be higher.

Table 4.4-8. Pollutant Emissions from the Fire Protection Training Area*

Pollutant	Daily Emissions (tons)	Yearly Emissions (tons)
NO_2	0.0023	0.84
ROG	0.18	64.8
PM_{10}	0.071	25.9
SO_2	negligible	negligible
CO	0.31	113.5

* Emissions based upon an annual use of 52,800 gallons of No. 2 diesel fuel and emission factors for JP-4 as contained in Fagin (1988).

Potential impacts to air quality as a result of air emissions from the operations under the Proposed Action were evaluated in terms of two spatial scales: regional and local. The regional-scale analysis considered the potential for project emissions to cause or contribute to a nonattainment condition in Mississippi County. The local-scale analysis evaluated the potential impact to ambient air quality concentrations in the immediate vicinity of the base.

Regional Scale. The evaluation of regional-scale impacts from the Proposed Action considered the effect any new air emissions would have on maintaining the air quality attainment status of Mississippi County. The following paragraphs summarize the results of the regional-scale impact analysis on a pollutant-by-pollutant basis.

Ozone. Mississippi County currently meets the NAAQS and AAQS for ozone. It would therefore follow PSD requirements for major new or modified sources. Since ozone is a secondary pollutant formed in the atmosphere and not directly emitted as a pollutant by itself, emissions of its precursor pollutants, NO_x (as NO_2) and ROG, are examined instead. The potential NO_x (as NO_2) and ROG emissions from the Proposed Action were evaluated to determine if those emissions would affect the attainment status. Emissions of NO_2 and ROG were calculated for the direct sources that would be associated with each alternative reuse action, as well as for mobile sources and other indirect sources linked to population growth (both direct and indirect) associated with each reuse alternative.

Table 4.4-7 summarizes the results of the emission calculations for the Proposed Action for 0-, 5-, 10-, and 20-year increments after closure (i.e., for the years 1993, 1998, 2003, and 2013, respectively). This table also provides a comparison of the magnitude of the reuse-related emissions in relation to the 1987 emission inventory amount for Mississippi County. The reuse emissions of NO_2 and ROG levels are lower than the 1987 Mississippi County emission levels, and the regional air quality impacts associated with these emissions would be negligible.

CO, NO_2, PM_{10}, and SO_2. Mississippi County is in attainment of the NAAQS and AAQS for CO, NO_2, PM_{10}, and SO_2. It would therefore follow PSD requirements for major new or modified sources. Table 4.4-7 provides a comparison of the Proposed Action emissions to the Mississippi County emission levels. These results show that emissions from the Proposed Action are much lower than the Mississippi County emissions and would produce a negligible impact on the regional air quality.

Local Scale. The impacts of operation emissions from the Proposed Action airport-related activities were assessed by use of the EDMS. Peak-hour scenarios for emissions from aircraft operations were modeled. A summary of the EDMS analysis is presented in Table 4.4-9. The results show that for

Table 4.4-9. Air Quality Modeling Results for the Proposed Action ($\mu g/m^3$)

Pollutant	Averaging Time	Project Impact[a] 1993	1998	2003	2013	Background Concentration[b]	Limiting Standard
CO	8-hour	121.1	148.4	164.5	197.4	4,800	10,000
	1-hour	173	212	235	282	6,000	40,000
NO_2	Annual	7.2	12.6	17	31.5	15	100
SO_2	Annual	0.4	0.6	0.7	1.26	3.3	80
	24-hour	1.4	2.5	2.7	5.0	34	131
	3-hour	3.2	5.6	6.1	11.3	80	1,300
PM_{10}	Annual	0.15	0.24	0.09	0.14	26.3	50
	24-hour	0.6	0.9	0.4	0.6	69	150

Notes: (a) Maximum impact in all cases occurred approximately 2,800 feet downwind from the southern end of the runway.
(b) Refer to Table 3.4-4.

a peak-hour airport operation scenario, the maximum 1-hour pollutant concentration would occur at approximately 2,800 feet downwind from the southern end of the runway. The primary contributing factor would be aircraft exhaust emitted during takeoffs. The modeling results indicate that all of the pollutant concentrations would be below the applicable standard in the immediate area surrounding the airport and have an insignificant effect on the local air quality.

Mitigation Measures. Air quality impacts during construction would occur from (1) fugitive dust emissions from ground-disturbing activities and (2) combustive emissions from construction equipment. The future project proponent (e.g., redevelopment authority or airport authority) would have the responsibility of mitigating these impacts. Twice a day water application during ground-disturbing activities would mitigate fugitive dust emissions by at least 50 percent (U.S. Environmental Protection Agency, 1985). Decreasing the time period during which newly graded sites are exposed to the elements would further mitigate fugitive dust emissions. Combustive emission impacts could be mitigated by efficient scheduling of equipment use, implementing a phased construction schedule to reduce the number of units operating simultaneously, and performing regular vehicle engine maintenance. Implementation of these measures would substantially reduce air quality effects from construction activities associated with the Proposed Action. In addition, all aviation development during the construction phase would comply with measures contained in the FAA *Standards for Specifying Construction of Airports* (1990c).

Although the impacts caused by reuse emissions are minimal and well below standards, potential operations mitigation measures would most likely focus on some type of land use or transportation planning and management measures to reduce motor vehicle pollution. The purpose of the measures would be to reduce vehicle miles traveled, vehicle trips, and peak hour travel. These reductions would, therefore, reduce both regional and localized vehicle-related emissions of NO_x, ROG, and PM_{10}.

The types of operational mitigation measures that could be implemented include: (1) development of an airport shuttle system to reduce personal vehicle use; (2) use of off-site parking and parking lot shuttles for long-term parking needs; (3) promotion of carpools and vanpools by providing a rider matching service, preferential parking and financial incentives; (4) improvements such as bicycling lanes as a mode of transportation; and (5) on-site location of facilities that would reduce the need for off-site travel (e.g., childcare facilities, cafeterias, postal machines, automated tellers, etc.).

4.4.3.2 General Aviation Alternative. The primary difference between this alternative and the Proposed Action is elimination of the aircraft maintenance and commuter air traffic. Air and vehicular traffic associated with the operation and passenger use of the airfield, terminal, and aviation support areas would be reduced. Since these sources contributed a large portion of the Proposed Action emissions inventory, the air quality impacts associated with the operation of this alternative are less than for the Proposed Action, as described in the discussion below.

Table 4.4-10 summarizes the results of the emission calculations for the General Aviation Alternative for the 0-, 5-, 10-, and 20-year increments (i.e., for the years 1993, 1998, 2003, and 2013, respectively). This table also provides a comparison of the magnitude of the reuse-related emissions in relation to the current emission levels.

Table 4.4-10. Pollutant Emissions Associated with the General Aviation Alternative (tons/day)

	Preclosure Emissions Inventory Amount[a]		Base Reuse[b]			
Pollutant	County	Eaker AFB	1993	1998	2003	2013
NO_2	11.5	0.47	0.67	0.69	1.24	1.27
ROG	14.2	2.56	0.09	0.49	0.88	1.58
PM_{10}	61.8	0.11	0.18	1.98	3.62	6.81
SO_2	1.7	0.20	0.02	0.06	0.11	0.19
CO	34.4	2.55	0.71	1.69	2.75	4.48

Notes: (a) Refer to Table 3.4-5.
(b) See Appendix K for emission calculations.

Table 4.4-10 shows that emissions of NO_2, ROG, PM_{10}, SO_2, and CO are small in comparison to existing emissions and would not cause Mississippi County or the local area to become in nonattainment of the NAAQS or AAQS. As with the Proposed Action, the emissions presently associated with the Blytheville Municipal Airport would occur at the Eaker AFB site.

Construction. Construction impacts from this alternative would be greater than under the Proposed Action primarily because of the larger amount of disturbance which would occur in the industrial and residential land use areas. It is estimated that a total of 789 acres would be disturbed by construction over the 20-year period of project development. Applying the same assumptions as discussed previously in Section 4.4.3.1 for the Proposed Action, an average of 1.7, 0.8, and 1.5 acres per day would be disturbed during the periods 1993-1998, 1998-2003, and 2003-2013, respectively. These levels of disturbance would release an estimated 94 pounds per day (0.05 ton per day), 44 pounds per day (0.02 ton per day), and 83 pounds per day (0.04 ton per day) of PM_{10}, respectively. The impact of these emissions would cause elevated concentrations of particulates at receptors close to the construction areas. The concentrations would decrease rapidly with distance from the construction areas.

Combustive emissions are also calculated in the same manner as previously discussed for the Proposed Action in Section 4.4.3.1. A maximum average of 0.26 acre per day would be completely demolished and reconstructed by heavy equipment in the period 1993 to 1998. Emissions from this level of construction activity would be 120 pounds (0.06 ton) per day of ROG, 447 pounds (0.23 ton) per day of CO, 1,295 pounds (0.65 ton) per day of NO_2, 100 pounds (0.05 ton) per day of PM_{10}, and 31 pounds (0.03 ton) per day of SO_2. Estimates of pollutant emissions from other time periods would be in proportion to the acreage being demolished and constructed per day, i.e., 0.13 acre per day during 1998-2003 and 0.23 acre per day during 2003-2013.

Operations. Table 4.4-10 summarizes the results of the emission calculations associated with the General Aviation Alternative for the years 1993, 1998, 2003, and 2013. Estimates of aircraft operation emissions are based on U.S. EPA aircraft emission factors provided as part of the built-in data base of the EDMS model. The EDMS model uses U.S. EPA emission factors and information on both peak and annual operations (including takeoff, runway climb and approach, runway queuing, taxi-in and taxi-out, and idling) to produce an emissions inventory report. Estimates for all other categories of emissions were calculated as described in Appendix K.

Potential impacts to air quality as a result of air emissions from the operations under the General Aviation Alternative were evaluated in terms of two spatial scales: regional and local. The regional-scale analysis

considered the potential for project emissions to cause or contribute to a nonattainment condition in Mississippi County. The local-scale analysis evaluated the potential impact to ambient air quality concentrations in the immediate vicinity of the base.

Regional Scale. The evaluation of regional-scale impacts from the General Aviation Alternative considered the effect any new air emissions would have on maintaining the air quality attainment status of Mississippi County. The following paragraphs summarize the results of the regional-scale impact analysis on a pollutant-to-pollutant basis.

Ozone. Mississippi County currently meets the NAAQS and AAQS for ozone. It would therefore follow PSD requirements for major new or modified sources. Since ozone is a secondary pollutant formed in the atmosphere and not directly emitted as a pollutant by itself, emissions of its precursor pollutants, NO_x (as NO_2) and ROG, are examined instead. Table 4.4-10 summarizes the results of the NO_2 and ROG emission calculations for the General Aviation Alternative for 0-, 5-, 10-, and 20-year increments after closure (i.e., for the years 1993, 1998, 2003, and 2013, respectively). This table also provides a comparison of the magnitude of the reuse-related emissions in relation to the 1987 emission inventory amount for Mississippi County. The reuse emissions are much lower than the 1987 Mississippi County emissions and would have an insignificant effect on the air quality in Mississippi County.

CO, NO_2, PM_{10}, and SO_2. Mississippi County is in attainment of the NAAQS and AAQS for CO, NO_2, PM_{10}, and SO_2. It would therefore follow PSD requirements for major new or modified sources. Table 4.4-10 provides a comparison of the General Aviation Alternative emissions to the Mississippi County emission levels. These results show that emissions from the General Aviation Alternative are much smaller than the Mississippi County emissions and the regional air quality impacts associated with these emissions would be negligible.

Local Scale. The impacts of operation emissions from the General Aviation Alternative aircraft-related activities were assessed by use of the EDMS. Peak-hour scenarios for emissions from aircraft operations were modeled. A summary of the EDMS analysis is presented in Table 4.4-11. The results show that for a peak-hour airport operation scenario, the maximum 1-hour pollutant concentration would occur at a receptor located on the property line approximately 2,800 feet downwind of the southern end of the runway. The primary contributing factor would be aircraft exhaust emitted during takeoffs. The modeling results indicate that all of the pollutant concentrations would be below the applicable standard in the immediate area surrounding the airport and would have a negligible impact on the local air quality.

Table 4.4-11. Air Quality Modeling Results for the General Aviation Alternative ($\mu g/m^3$)

Pollutant	Averaging Time	Project Impact[a] 1993	1998	2003	2013	Background Concentration[b]	Limiting Standard
CO	8-hour	134.8	159.6	186.4	227.5	4,800	10,000
	1-hour	192.6	228.0	267.0	325	6,000	40,000
NO_2	Annual	0.3	0.4	0.5	0.7	15	100
SO_2	Annual	0.06	0.08	0.10	0.14	3.3	80
	24-hour	0.2	0.3	0.4	0.5	34	131
	3-hour	0.5	0.7	0.9	1.2	80	1,300
PM_{10}	Annual	0.05	0.07	0.08	0.10	26.3	50
	24-hour	0.2	0.3	0.3	0.4	69	50

Notes: (a) Maximum impact in all cases occurred approximately 2,800 feet downwind from the southern end of the runway.
(b) Refer to Table 3.4-4.

Mitigation Measures. Mitigation measures are the same as those recommended for the Proposed Action (Section 4.4.3.1).

4.4.3.3 Non-Aviation Alternative. This alternative eliminates airfield operations and converts the runway into industrial facilities. Also, like the Proposed Action, commercial, institutional, and residential land use areas would be developed, as described in Section 2.3.2.

Construction. Construction impacts for this alternative would be less than for the Proposed Action because of reduced disturbance in the aviation support, commercial, and public/recreation areas. It is estimated that a total of 345 acres would be disturbed over the 20-year life of the project. The greatest disturbance (198 acres) would occur during the period 2003-2013. Applying the same assumptions as discussed previously in Section 4.4.3.1 for the Proposed Action, an average of 0.7, 0.5, and 0.7 acre per day would be disturbed during the periods 1993-1998, 1998-2003, and 2003-2013, respectively. These levels of disturbance would release an estimated 39 pounds per day (0.02 ton per day), 28 pounds per day (0.01 ton per day), and 39 pounds per day (0.02 ton per day) of PM_{10}, respectively. The impact of these emissions would cause elevated concentrations of particulates at receptors close to the construction areas. The concentrations would fall off rapidly with distance from the construction areas.

Combustive emissions are also calculated in the same manner as previously discussed for the Proposed Action in Section 4.4.3.1. A maximum average of 0.10 acre per day would be completely demolished and reconstructed by heavy equipment in the period 1993 to 1998. Emissions from this level of construction activity would be 46 pounds (0.02 ton) per day of ROG, 172 pounds (0.09 ton) per day of CO, 498 pounds (0.26 ton) per day of

NO_2, 38 pounds (0.02 ton) per day of PM_{10}, and 12 pounds (0.01 ton) per day of SO_2. Estimates of pollutant emissions from other time periods would be in proportion to the acreage being demolished and constructed per day, i.e., 0.08 acre per day during 1998-2003 and 0.11 acre per day during 2003-2013.

Operations. Table 4.4-12 summarizes the results of the emission calculations associated with the Non-Aviation Alternative for the years 1993, 1998, 2003, and 2013. Estimates for all emissions were calculated as described in Appendix K.

Table 4.4-12. Pollutant Emissions Associated with the Non-Aviation Alternative (tons/day)

	Preclosure Emissions Inventory Amount[a]		Base Reuse[a]			
Pollutant	County	Eaker AFB	1993	1998	2003	2013
NO_2	11.5	0.47	0.28	0.59	0.08	1.30
ROG	14.2	2.56	0.04	0.50	0.90	1.61
PM_{10}	61.8	0.11	0.10	2.11	3.83	7.02
SO_2	1.7	0.20	0.01	0.06	0.11	0.19
CO	34.4	2.55	0.13	1.24	2.21	3.91

Notes: (a) Refer to Table 3.4-3.
(b) See Appendix K for emission calculations.

The evaluation of impacts from the Non-Aviation Alternative considered the effect any new air emissions would have on maintaining the air quality attainment status of Mississippi County. The following paragraphs summarize the results of the regional-scale impact analysis on a pollutant-by-pollutant basis.

Ozone. Mississippi County currently meets the NAAQS and AAQS for ozone. It would therefore follow PSD requirements for major new or modified sources. Since, ozone is a secondary pollutant formed in the atmosphere and not directly-emitted as a pollutant by itself, emissions of its precursor pollutants, NO_x (as NO_2) and ROG, are examined instead. Table 4.4-12 summarizes the results of the NO_2 and ROG emission calculations for the Non-Aviation Alternative for 0-, 5-, 10-, and 20-year increments after closure (i.e., for the years 1993, 1998, 2003, and 2013, respectively). This table also provides a comparison of the magnitude of the reuse-related emissions in relation to the 1987 emission inventory amount for Mississippi County. The reuse emissions are smaller than the Mississippi County emissions and would produce an insignificant effect in the air quality in the county.

CO, NO_2, PM_{10}, and SO_2. Mississippi County is in attainment of the NAAQS and AAQS for CO, NO_2, PM_{10}, and SO_2. It would therefore follow PSD requirements for major new or modified sources. Table 4.4-12 provides a comparison of the Non-Aviation Alternative emissions to the Mississippi County emission levels. These results show that emissions from the Non-Aviation Alternative are substantially lower than the 1987 Mississippi County emissions and would result in a negligible impact to the regional air quality.

Mitigation Measures. Mitigation measures are the same as those recommended for the Proposed Action (Section 4.4.3.1).

4.4.3.4 Other Land Use Concepts. Potential changes in air quality resulting from implementation of one or more of the land use concepts in conjunction with that of the Proposed Action or alternatives are described below.

McKinney Act Housing. The housing areas would generate stationary source air emissions associated with heating and power requirements and mobile source emissions related to resident and service vehicle traffic. These emissions are expected to be minimal and would not affect the current attainment status of Mississippi County.

Interpretive Center/Museum. The Interpretive Center/Museum would generate stationary source air emissions associated with heating and power requirements and mobile source emissions related to employee, visitor, and research personnel. These emissions are expected to be minimal and would not affect the attainment status of Mississippi County.

4.4.3.5 No-Action Alternative. The No-Action Alternative would have no adverse impact on air quality. Air quality conditions at the time of closure would not be adversely affected by continued maintenance of the base at the closure level of activity.

Mitigation Measures. Air quality mitigation measures are not required for the No-Action Alternative because there are no adverse impacts associated with this alternative.

4.4.4 Noise

Environmental impact analysis related to noise includes the potential effects on the local human and animal populations. This analysis will estimate the extent and magnitude of noise levels generated by the Proposed Action and alternatives, using the predictive models discussed below. The baseline noise conditions and predicted noise levels will then be assessed with respect to potential annoyance, speech interference, sleep disturbance, hearing loss, health and land-use impacts. The metrics used to evaluate noise are DNL and L_{eq}, which are supplemented occasionally by SEL and the

A-weighted maximum sound level (L_{max}); all are measured in units of A-weighted decibels. See Appendix I for an expanded discussion of these metrics.

Methods used to quantify the effects of noise such as annoyance, speech interference, sleep disturbance, and health and hearing loss have undergone extensive scientific development during the past several decades. The most reliable measures at present are noise-induced hearing loss and annoyance. Extra-auditory effects (those not directly related to hearing capability) are also important, although they are not as well understood. The current scientific consensus is that "evidence from available research reports is suggestive, but it does not provide definitive answers to the question of health effects, other than to the auditory system, of long-term exposure to noise" (National Academy of Sciences, 1981). The effects of noise are summarized within this section and a detailed description is provided in Appendix I.

Annoyance. Noise annoyance is defined by the U.S. EPA as any negative subjective reaction to noise on the part of an individual or group. Table 4.4-13 presents the results of over a dozen studies of transportation modes, including airports, investigating the relationship between noise and annoyance levels. This relationship has been suggested by the National Academy of Sciences (1977) and recently reevaluated (Fidell et al., 1989) for use in describing peoples' reaction to semicontinuous (transportation) noise. These data are shown to provide a perspective on the level of annoyance that might be anticipated. For example, 15 to 25 percent of persons exposed to DNL of 65 to 70 dB would be highly annoyed by the noise levels.

Table 4.4-13. Percentage of Population Highly Annoyed by Noise Exposure

DNL Interval in dB	Percentage of Persons Highly Annoyed
<65	<15
65-70	15-25
70-75	25-37
75-80	37-52

Source: Adapted from National Academy of Sciences, 1977.

Speech Interference. One of the ways that noise affects daily life is by prevention or impairment of speech communication. In a noisy environment, understanding speech is diminished when speech signals are masked by intruding noises. Reduced intelligibility of speech may also have other

effects; for example, if the understanding of speech is interrupted, performance may be reduced, annoyance may increase, and learning may be impaired. Research suggests that aircraft flyover noises that exceed approximately 60 dB instantaneous sound level interfere with speech communication (Bennett and Pearsons, 1981; Crook and Langdon, 1974). Increasing the level of the flyover noise maximum to 80 dB will reduce the intelligibility to zero, even if the person speaks in a loud voice. This interference lasts as long as the event, which is momentary for a flyover.

Sleep Interference. The effects of noise on sleep are of concern, primarily in assuring suitable residential environments. The DNL incorporates consideration of sleep disturbance by assigning a 10 dB penalty to nighttime noise events. The SEL may be used to supplement DNL in evaluating sleep disturbance. When evaluating sleep disturbance, studies have correlated SEL values with the percent of people awakened. The relationships between percent awakened and SEL are presented in Appendix I. Most of these relationships, however, do not reflect habituation and, therefore, would not address long-term sleep disturbance effects. The SEL takes into account an event's sound intensity, frequency content, and time duration by measuring the total A-weighted sound energy of the event and incorporating it into a single number. Unlike DNL, which describes the daily average noise exposure, SEL describes the normalized noise from a single flyover, called an event.

Studies (Lukas, 1975; Goldstein and Lukas, 1980) show great variability in the percentage of people awakened by exposure to noise. A recent review (Pearsons et al., 1989) of the literature related to sleep disturbance, including field as well as laboratory studies, suggests that habituation may reduce the effect of noise on sleep. The authors point out that the relationship between noise exposure and sleep disturbance is complex and affected by the interaction of many variables. The large differences between the findings of the laboratory and field studies make it difficult to determine the best relationship to use. The method developed by Lukas would estimate seven times more awakening than the field results reported by Pearsons.

Hearing Loss. Hearing loss is measured in decibels and refers to a permanent auditory threshold shift of an individual's hearing. The U.S. EPA (U.S. Environmental Protection Agency, 1974) has recommended a limiting daily energy value of L_{eq} 70 dB to protect against hearing impairment over a period of 40 years. This daily energy average would translate into a DNL value of approximately 75 dB or greater. Based on U.S. EPA recommendations (U.S. Environmental Protection Agency, 1974), hearing loss is not expected in people exposed to 75 DNL or less. The potential for hearing loss involves direct exposure, on a regular, continuing long-term basis, to levels above DNL 75 dB. The Federal Interagency Committee on Urban Noise (U.S. Department of Transportation, 1980) states that hearing

loss due to noise: (1) may begin to occur in people exposed to long-term noise levels of DNL 75 dB and above, (2) will not likely occur in people exposed to noise levels between DNL 70 and 75 dB, and (3) will not occur in people exposed to noise levels less than DNL 70 dB.

Health. Research investigating the relationship between noise and adverse extra-auditory health effects have been inconclusive. Alleged extra-auditory health consequences of noise exposure which have been studied include birth defects, psychological illness, cancer, stroke, hypertension, and cardiac illnesses. Although hypertension appears to be the most biologically plausible of these consequences, studies addressing this issue have failed to provide adequate support. Studies that have found negative consequences have failed to be replicated, thereby questioning the validity of those studies (Frerichs et al., 1980; Anton-Guirgis et al., 1986). Studies that have controlled for multiple factors have shown no, or very weak, associations between noise exposure and extra-auditory effects (Thompson et al., 1989). The current state of technical knowledge cannot support inference of a causal or consistent relationship, nor a quantitative dose-response, between residential aircraft noise exposure and health consequences.

Animals. Literature concerning the effects of noise on animals is not large, and most of the studies have focused on the relation between dosages of continuous noise and effects (Belanovskii and Omel'yanenko, 1982; Ames, 1974). A literature survey (Kull and Fisher, 1986) found that the literature is inadequate to document long-term or subtle effects of noise on animals. No controlled study has documented any serious accident or mortality on livestock despite extreme exposure to noise.

Land Use Compatibility. Estimates of total noise exposure resulting from aircraft operations, as expressed using DNL, can be interpreted in terms of the compatibility with designated land uses. The Federal Interagency Committee on Urban Noise developed land-use compatibility guidelines for noise (U.S. Department of Transportation, 1980). Based upon these guidelines, suggested compatibility guidelines for evaluating land uses in aircraft noise exposure areas were developed by the FAA and are presented in Section 3.4.4. The land use compatibility guidelines are based on annoyance and hearing loss considerations previously described. Part 150 of the FAA regulations describes the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs. It prescribes use of yearly DNL in the evaluation of airport noise environments. It also identifies those land-use types that are normally compatible with various levels of exposure. Compatible or incompatible land use is determined by comparing the predicted DNL level at a site with the recommended land uses.

Noise Modeling. In order to define the noise impacts from aircraft takeoff, landing, and touch-and-go operations at Eaker AFB, the FAA-developed Integrated Noise Model (INM) version 3.9 was utilized to predict 65, 70, and 75 DNL noise contours and SEL values for noise-sensitive receptors. The FAA-approved noise exposure model (NOISEMAP) version 6.0 was used to calculate noise levels associated with engine runup activity. Appendix I defines these descriptors. The contours were generated for the Proposed Action and General Aviation Alternative for the closure baseline year (1993) and three future year projections (5, 10, and 20 years after closure). These contours were overlaid on a U.S. Geological Survey map of the base and vicinity. Input data to INM 3.9 include information on aircraft types; runway use; takeoff and landing flight tracks; aircraft altitude, speeds, and engine power settings; and number of daytime (7 a.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.) operations.

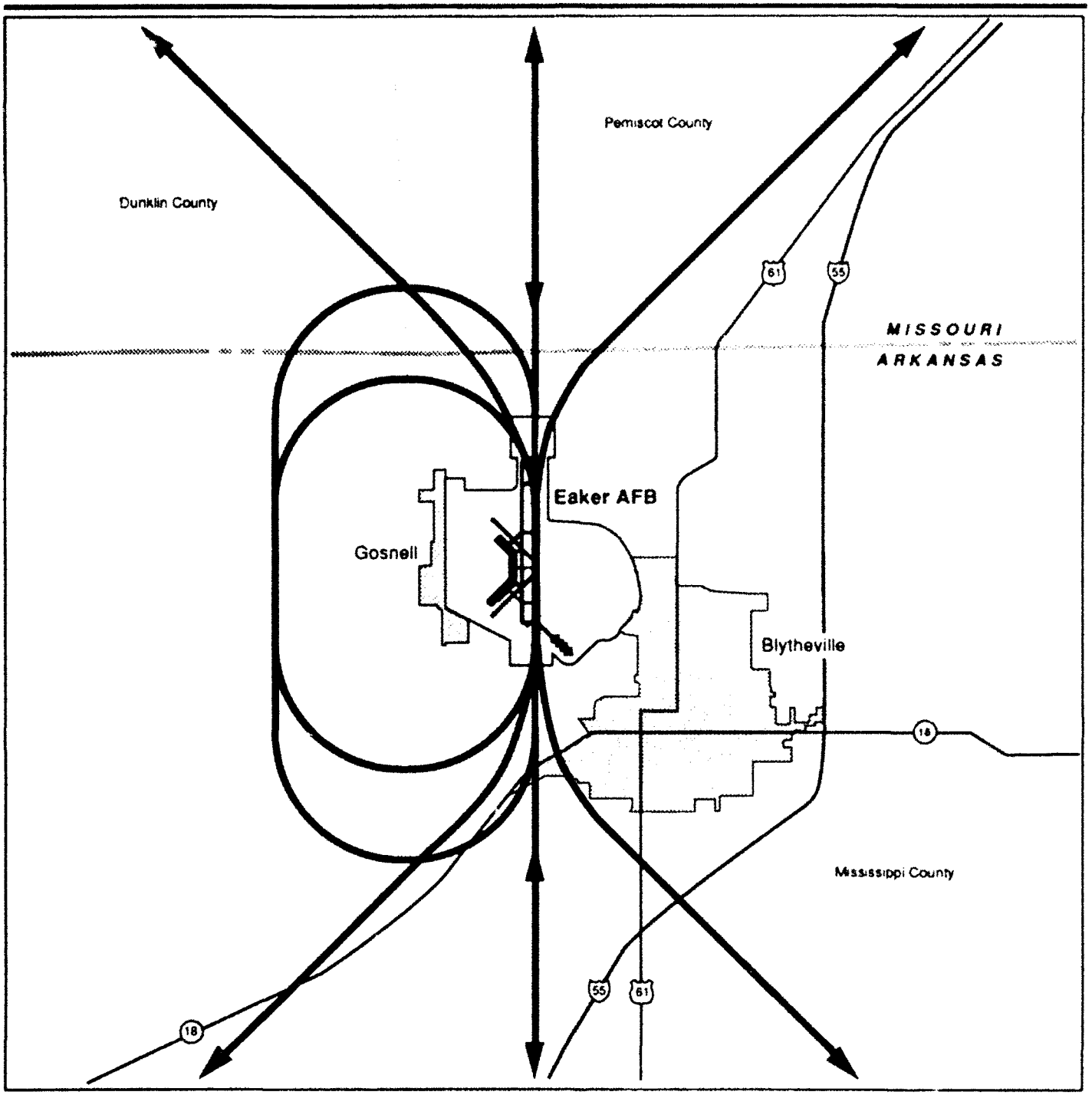
Surface vehicle traffic-noise levels for roadways in the vicinity of Eaker AFB were analyzed using the Federal Highway Administration's Highway Noise Model (1978). This model incorporates vehicle mix, traffic volume projections, day/night split, and speed to generate DNL.

Major Assumptions. Half of all aircraft operations were assumed to be takeoffs and half landings. Operations are also presented in Appendix I in detail. Flight tracks (incoming and outgoing), aircraft operations, and mix are included in Appendix I. Vicinity flight tracks assumed for modeling are shown in Figure 4.4-1. All operations were assumed to follow standard glide slopes and takeoff profiles provided by the FAA's INM Database 3.9. The phasing out of Stage 2 aircraft and subsequent replacement with Stage 3 aircraft by the year 2000 are reflected in the aircraft operations.

Major roads leading to or around the base were analyzed. Traffic data used to project future noise levels were derived from information gathered in the traffic analysis presented in Section 4.2.3. Traffic data used in this analysis are presented in Appendix I.

4.4.4.1 Proposed Action. The results of the aircraft noise modeling for the Proposed Action are presented as noise contours in Figures 4.4-2 through 4.4-5. The contribution from runup noise is evident as separate contours to the west of the center of the runway. The DNL 65 dB noise contours are contained within the airport boundary. The closure and relocation of the Blytheville Municipal Airport to Eaker AFB would eliminate aircraft noise generated at that site.

Table 4.4-14 presents the approximate number of acres and estimated population within each DNL range for each of the study years. Compared to the preclosure reference, this represents a decrease of 57,429 acres within DNL 65 dB in 1993, 57,078 acres in 1998, 57,357 acres in 2003, and 57,261 acres in 2013. The maximum exposure is projected for 1998, after



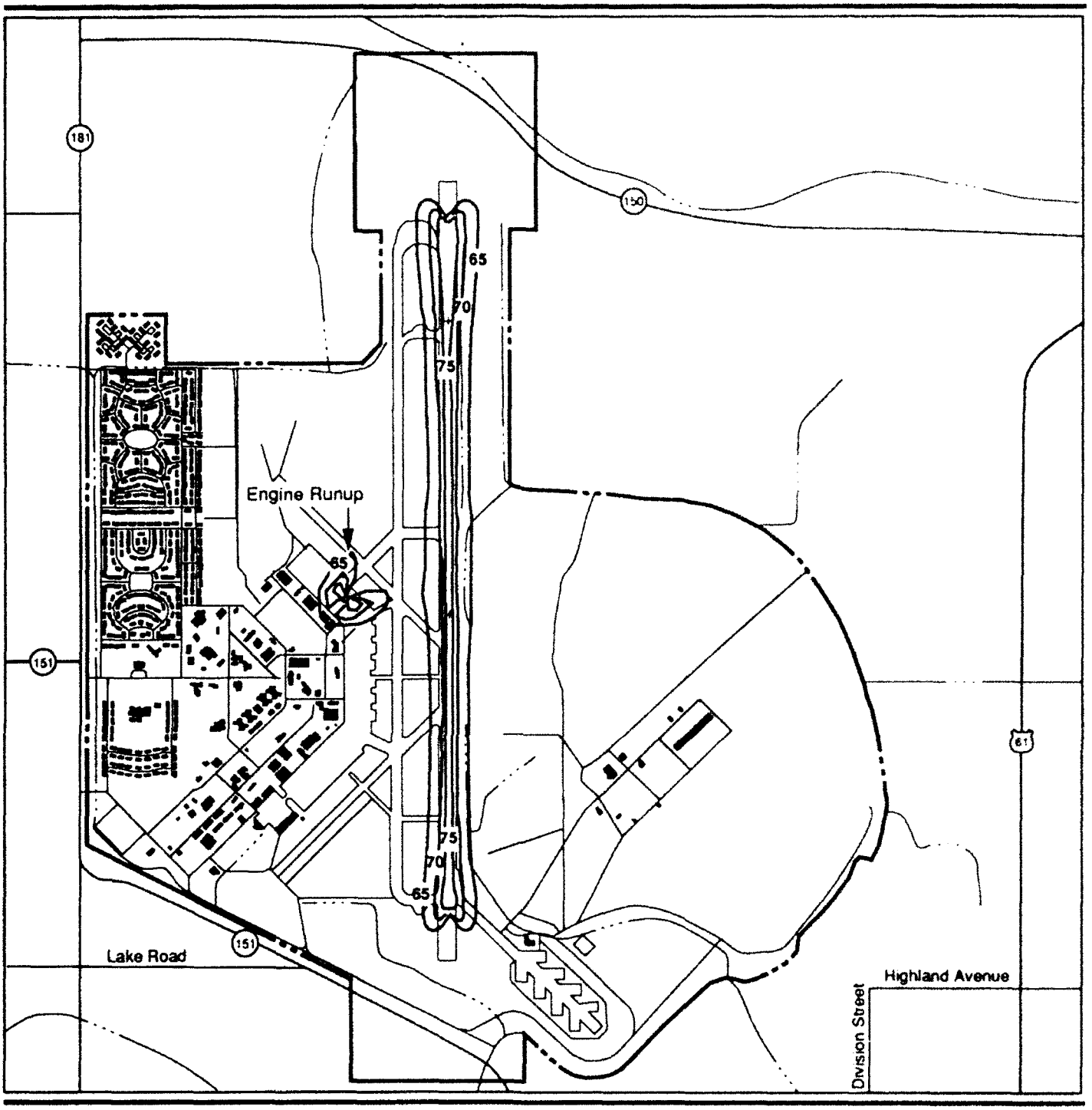
EXPLANATION

Direction of Travel on Flight Path

Primary Flight Tracks - All Aviation Alternatives

0 1/2 1 2 Miles

Figure 4.4-1



EXPLANATION

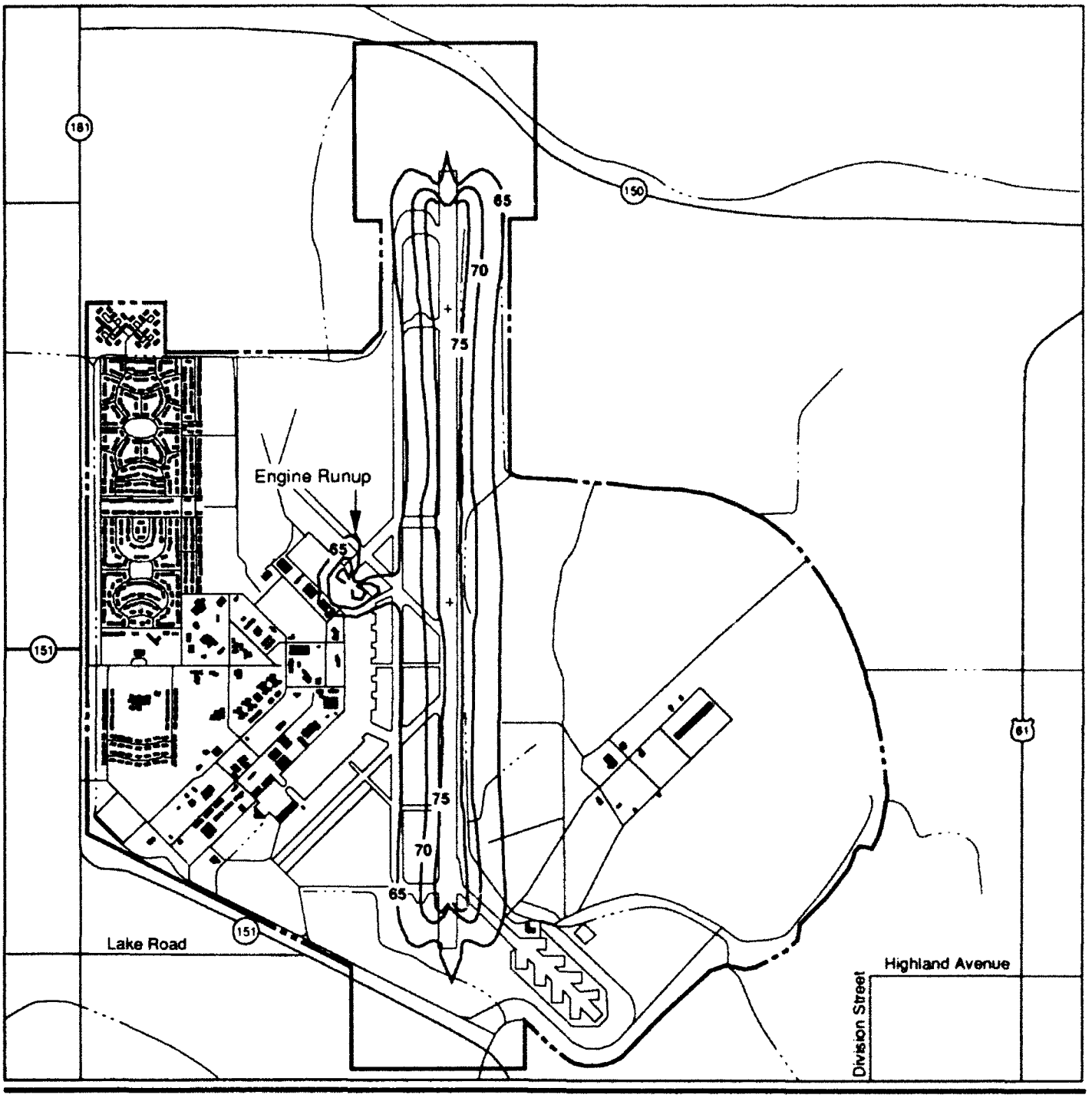
——— DNL Noise contours (in 5dB intervals)

- - - - Base Boundary

DNL Noise Contours - Proposed Action (1993)

0 625 1250 2500 Feet

Figure 4.4-2



EXPLANATION

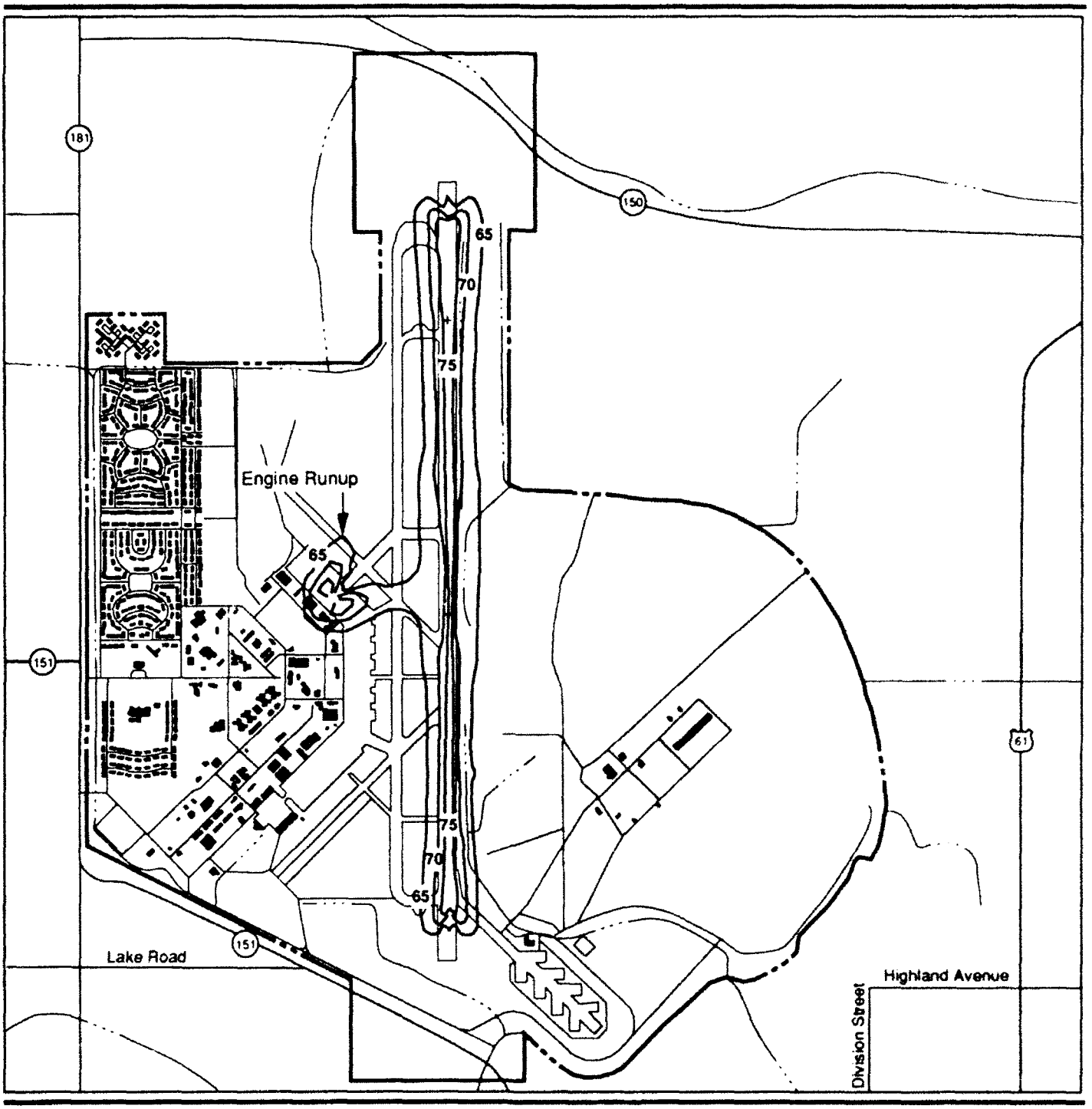
——— DNL Noise contours (in 5dB intervals)

– - – - Base Boundary

DNL Noise Contours - Proposed Action (1998)

0 625 1250 2500 Feet

Figure 4.4-3



EXPLANATION

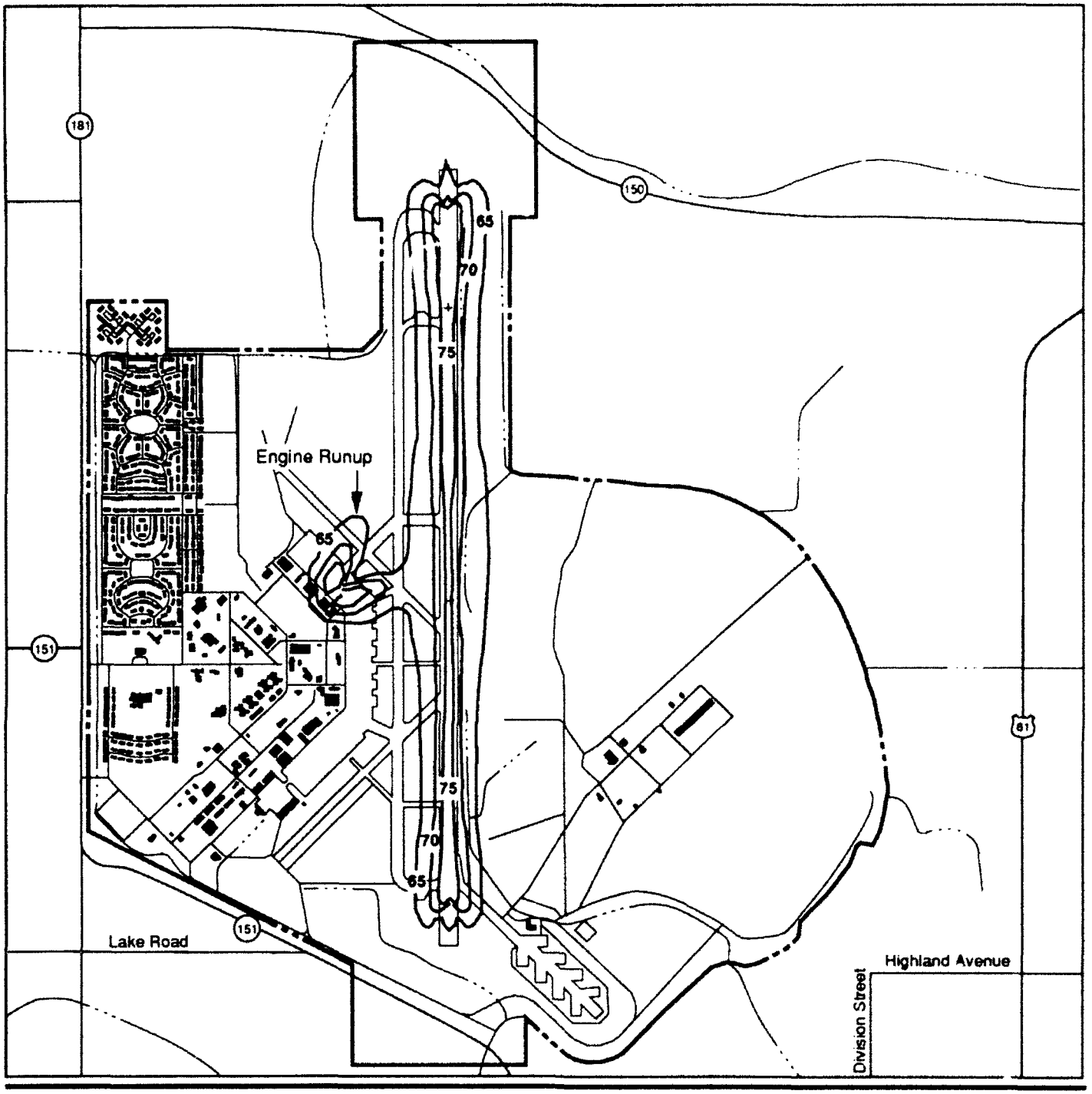
——— DNL Noise contours (in 5dB intervals)

– – – – Base Boundary

0 625 1250 2500 Feet

DNL Noise Contours - Proposed Action (2003)

Figure 4.4-4



EXPLANATION

DNL Noise contours (in 5dB intervals)

Base Boundary

DNL Noise Contours - Proposed Action (2013)

0 625 1250 2500 Feet

Figure 4.4-5

Table 4.4-14. DNL Exposure for the Alternative Reuse Plans

		DNL (dB)					
		65-70		70-75		>75	
Year	Alternative	Acres	Population	Acres	Population	Acres	Population
1993	Proposed Action	163	0	73	0	46	0
	General Aviation Alternative	11	0	6	0	5	0
1998	Proposed Action	324	0	171	0	138	0
	General Aviation Alternative	13	0	6	0	6	0
2003	Proposed Action	212	0	89	0	53	0
	General Aviation Alternative	15	0	6	0	6	0
2013	Proposed Action	248	0	127	0	75	0
	General Aviation Alternative	19	0	7	0	7	0

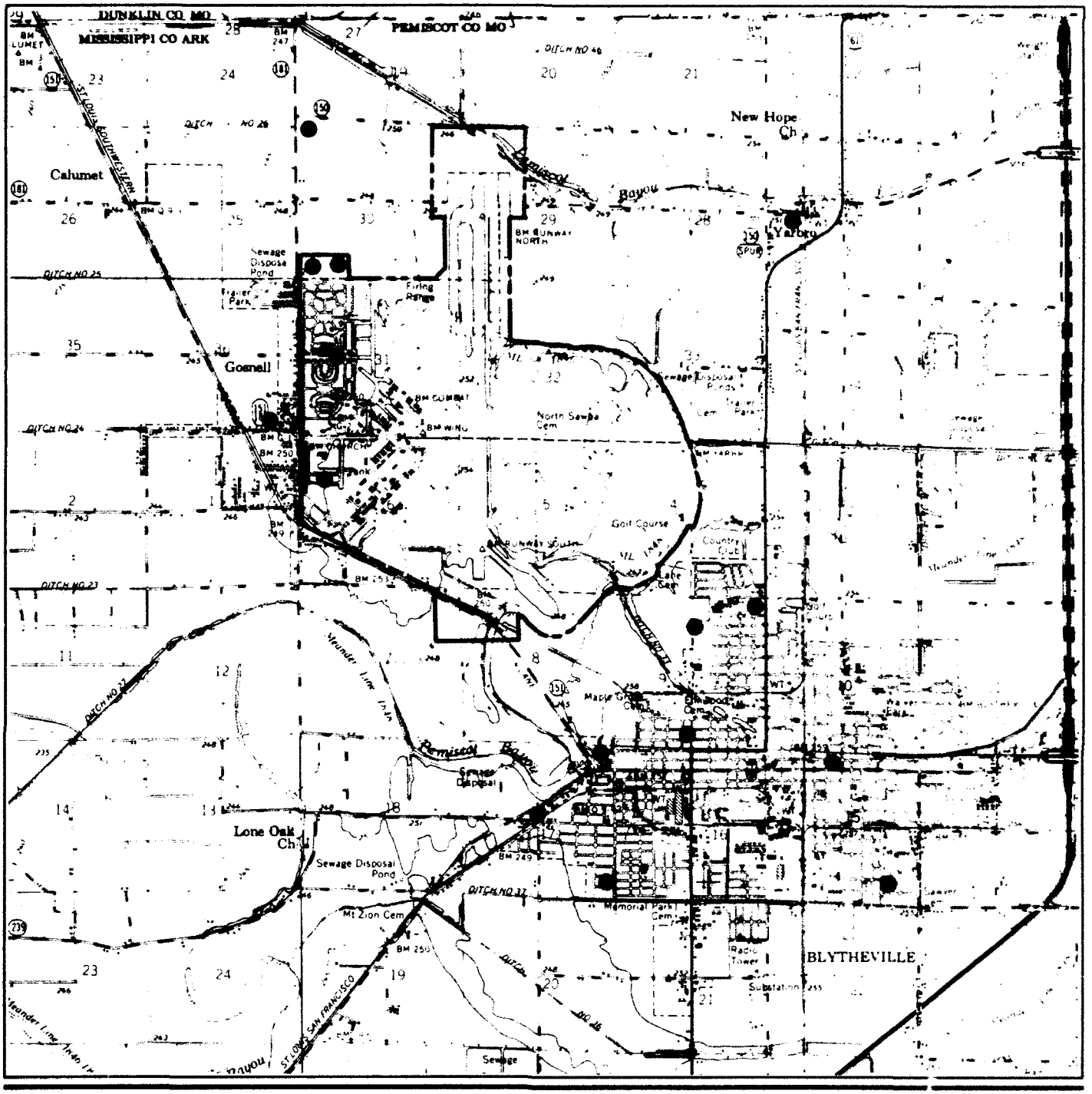
which the FAA-required conversion of Stage 2 to quieter Stage 3 aircraft by the year 2000 would result in reduced noise exposure even though numbers of aircraft operations would continue to increase.

The criteria that define Stage 2 and Stage 3 aircraft are described in FAA Part 36 (FAA, 1988c). Noise level limits are defined for takeoff, approach, and sideline measurements. The modeled aircraft operations reflect this phaseout by replacing the Boeing 727 series -100 and -200 (Stage 2) aircraft with the McDonnell Douglas MD-81 (Stage 3). Based on the certification test results presented in the FAA Advisory Circular 36-1E (FAA, 1988a), the MD-81 is approximately 6 dB and 10 dB quieter than the 727-100 and 727-200, respectively, in departures and approximately 10 dB and 12 dB quieter in approaches.

No residences would be exposed to noise levels of DNL 65 dB or greater. No incompatible land uses were identified due to aircraft noise.

SEL was calculated at representative locations (Figure 4.4-6) for the noisiest and most common jet aircraft; the results are presented in Table 4.4-15. The analysis suggests that, for the Proposed Action, some aircraft overflights could affect the sleep of some residents in the area.

For the model years 1993 and 1998, the noisiest aircraft would be the 727-200 for takeoff, and the 727-100 for landings, with the most common aircraft being the MD-81. After Stage 2 phaseout in the year 2000, the MD-81 would become the noisiest and most common aircraft. The noisiest aircraft were determined from L_{max} as presented in FAA Advisory Circular AC 36-3F (FAA, 1990b).



EXPLANATION

- ● SEL Receptor location
- ---- Base Boundary

Note: 4 SEL locations are not shown (one in rural Missouri, one in rural Mississippi County, one in the town of Burdette, and one in the town of Luxora).

Sound Exposure Level (SEL) Receptor Locations

0 1/4 1/2 1 Mile

Map Source: Based on U.S. Geological Survey, 1976.

Figure 4.4-6

Table 4.4-15. Sound Exposure Levels at Representative Noise Receptors

Community	Receptor Location	Sound Exposure Level (dB) Aircraft Type 727-100	727-200	MD-81	Citation
Eaker AFB	Northeast corner housing	89	88	81	69
Eaker AFB	Northwest corner housing	85	84	76	64
Eaker AFB	East center housing	86	84	79	67
Eaker AFB	South center housing	86	85	78	66
Rural Missouri	Along flight track 5 miles out	98	101	85	78
Gosnell	Houses along SH 151/181	76	76	74	55
Blytheville	Chickasawba Hospital	81	82	70	61
Blytheville	Doctors Hospital	83	84	72	68
Blytheville	Residential (Highland & U.S. 61)	77	78	67	57
Blytheville	Residential (Main & Franklin)	75	75	64	60
Blytheville	Residential (Walls & Clark)	73	74	63	64
Blytheville	Residential (21st & Stuart)	89	90	78	79
Blytheville	Residential (Main & I-55)	67	68	56	52
Blytheville	Residential (SH 151 & Main)	91	92	79	76
Blytheville	Residential (SH 18 & Rose)	99	101	87	79
Yarbro	Center of town	77	77	67	56
Burdette	Center of town	86	88	77	68
Luxora	Center of town	81	83	72	62
Rural Mississippi County	Houses under flight track (SH 181 near SH 150)	85	85	77	66
Rural Mississippi County	Houses under flight track (SH 312 near U.S. 61)	80	81	72	61

Surface traffic sound levels for several road segments are presented in Table 4.4-16. These levels are presented in terms of DNL as a function of distance from the centerline of the roadways analyzed. There would be an estimated 37 people residing in houses that extend into the region between DNL 65 and 70 due to surface traffic by the year 2013. However, the outdoor living areas for these houses would not be exposed to levels of DNL 65 or greater.

Mitigation Measures. No mitigation measures would be necessary for aircraft noise, because no incompatible land uses have been identified.

No mitigation measures for outdoor receptors would be necessary for surface traffic. A sound insulation program could be implemented to reduce interior noise levels for sensitive receptors exposed to DNL 65 or greater. For future development, land use planning should incorporate noise compatibility measures when establishing residential zoning. Measures such as restricting residential development to areas outside DNL 65 and

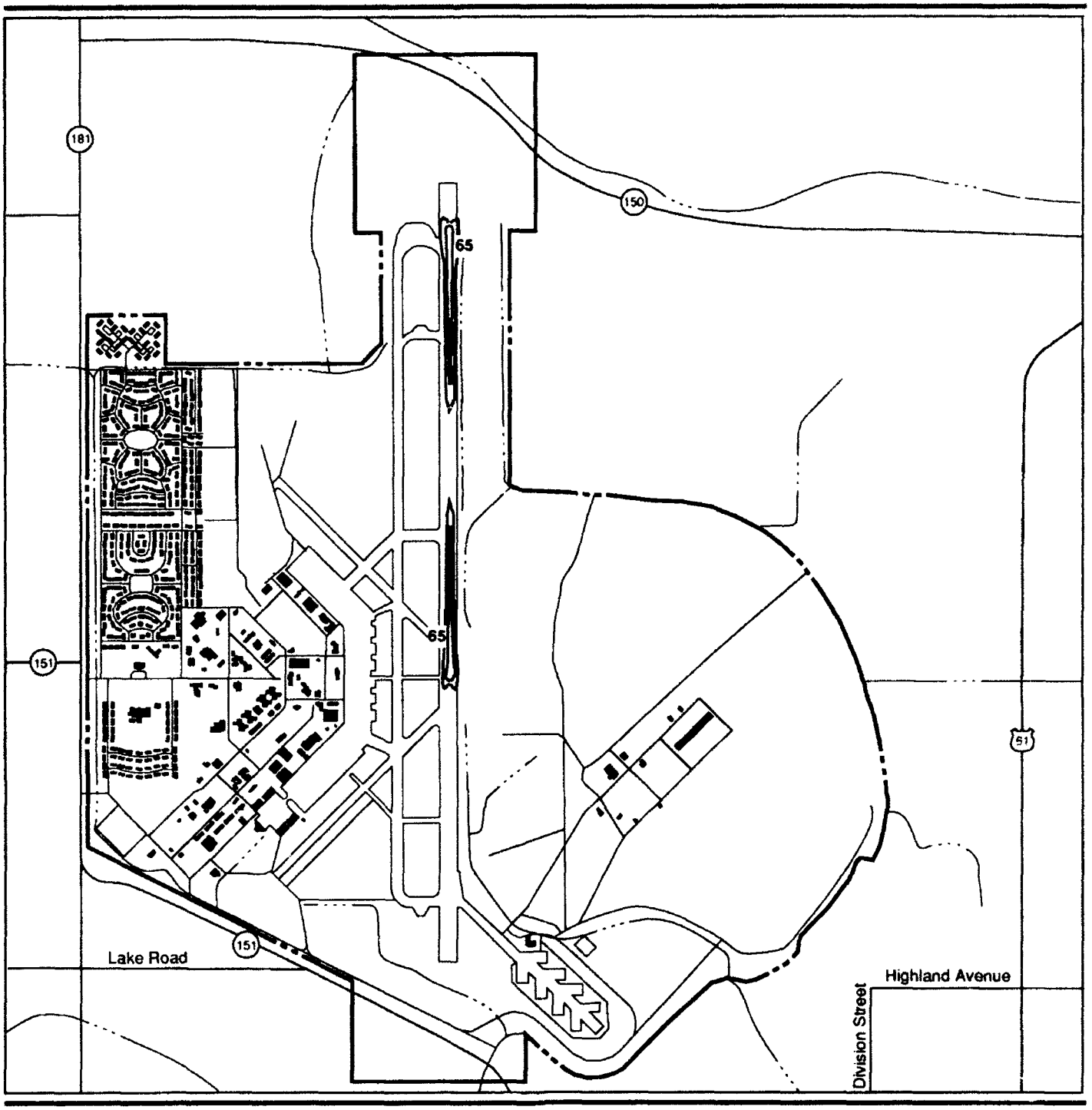
Table 4.4-16. Distance to DNL from Roadway Centerline - Proposed Action

Roadway	From/to	Distance (ft) DNL 65dB	DNL 70dB	DNL 75dB
1993				
U.S. 61	Highland to SH 150	40	20	*
U.S. 61	Chickasawba to Highland	50	20	*
SH 181	SH 150 to Main Gate	40	20	*
SH 151	Main Gate to Gosnell City Limits South	60	30	*
SH 151	Gosnell South to Pemiscot Bayou	70	40	30
SH 151	Pemiscot Bayou to SH 18	80	40	30
SH 18	SH 151 to U.S. 61	30	*	*
SH 18	SH 151 to SH 239	30	*	*
2003				
U.S. 61	Highland to SH 150	40	20	*
U.S. 61	Chickasawba to Highland	60	30	20
SH 181	SH 150 to Main Gate	50	30	*
SH 151	Main Gate to Gosnell City Limits South	70	40	30
SH 151	Gosnell South to Pemiscot Bayou	100	50	30
SH 151	Pemiscot Bayou to SH 18	100	50	30
SH 18	SH 151 to U.S. 61	40	30	*
SH 18	SH 151 to SH 239	40	20	*
2013				
U.S. 61	Highland to SH 150	50	20	*
U.S. 61	Chickasawba to Highland	60	30	20
SH 181	SH 150 to Main Gate	70	30	20
SH 151	Main Gate to Gosnell City Limits South	90	50	30
SH 151	Gosnell South to Pemiscot Bayou	140	70	40
SH 151	Pemiscot Bayou to SH 18	140	70	40
SH 18	SH 151 to U.S. 61	60	30	*
SH 18	SH 151 to SH 239	50	20	*

* Contained within roadway.

incorporating barriers and buffer zones into community development can be used. The effectiveness of the operational and management noise mitigation measures presented here cannot be completely determined without extensive modeling and/or noise measurements.

4.4.4.2 General Aviation Alternative. The results of the aircraft noise modeling for the General Aviation Alternative are presented as noise contours in Figures 4.4-7 through 4.4-10. The DNL 65 dB noise contours are contained within the airport boundary. The closure and relocation of the Blytheville Municipal Airport to Eaker AFB would eliminate aircraft noise generated at that site.



EXPLANATION

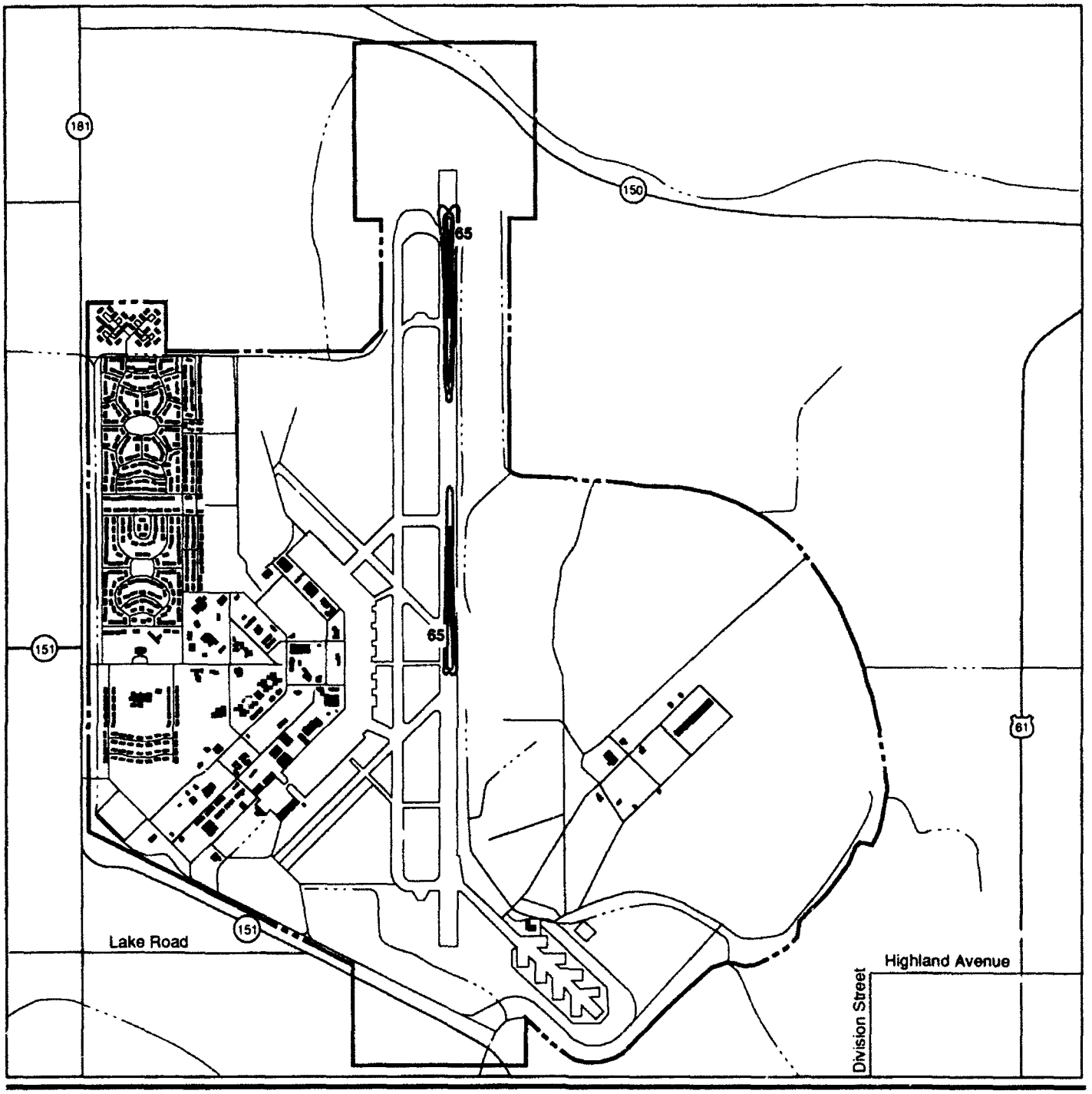
——— DNL Noise contours (in 5dB intervals)

– – – – Base Boundary

DNL Noise Contours - General Aviation Alternative (1993)

0 625 1250 2500 Feet

Figure 4.4-7



EXPLANATION

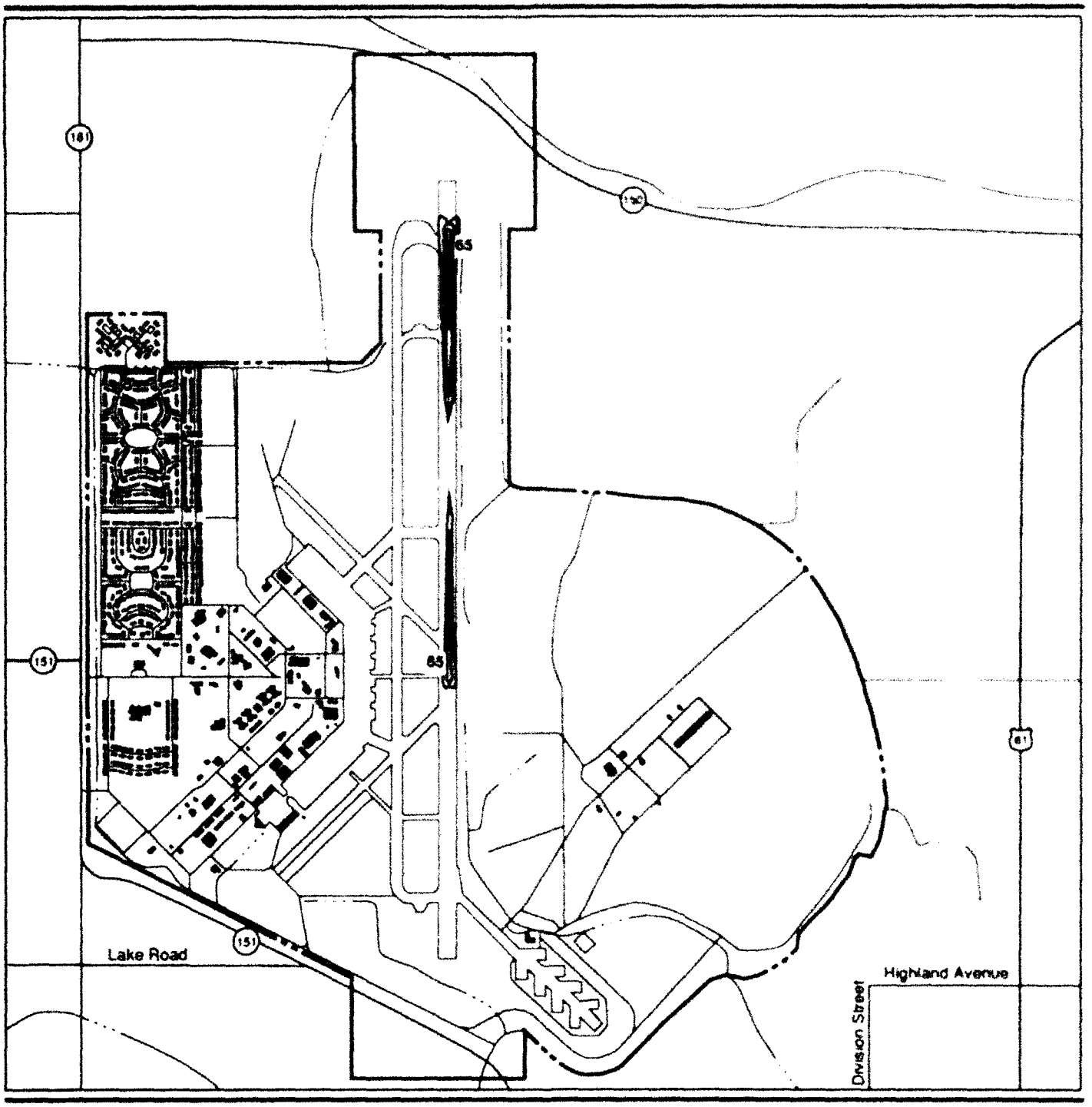
——— DNL Noise contours (in 5dB intervals)

– – – – Base Boundary

DNL Noise Contours - General Aviation Alternative (1998)

0 625 1250 2500 Feet

Figure 4.4-8



EXPLANATION

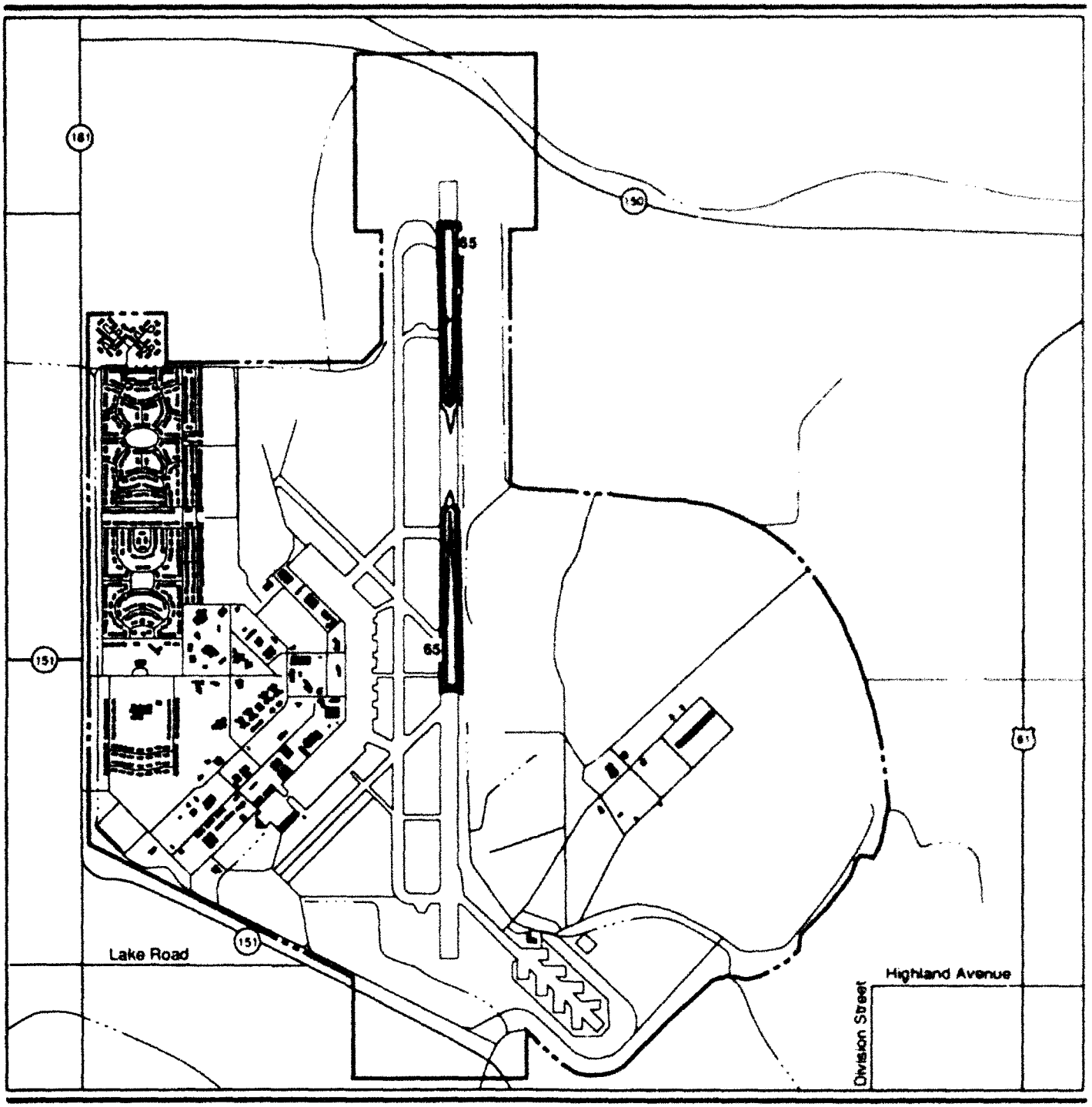
—— DNL Noise contours (in 5dB intervals)

- - - - Base Boundary

DNL Noise Contours - General Aviation Alternative (2003)

0 625 1250 2500 Feet

Figure 4.4-9



EXPLANATION

——— DNL Noise contours (in 5dB intervals)

– – – – Base Boundary

DNL Noise Contours - General Aviation Alternative (2013)

0 625 1250 2500 Feet

Figure 4.4-10

Table 4.4-14 presents the approximate number of acres and estimated population within each DNL range for each of the study years. Compared to the preclosure reference, this represents a decrease of 57,689 acres within DNL 65 dB in 1993, 57,686 acres in 1998, 57,684 acres in 2003, and 57,678 acres in 2013. The maximum exposure is projected for 2013. There are no Stage 2 aircraft modeled in the General Aviation Alternative.

No residences would be exposed to noise levels of DNL 65 dB or greater. No incompatible land uses were identified due to aircraft noise. Further, all aviation operations would take place during daytime (7 a.m. to 10 p.m.) hours under this alternative, so there would be no sleep disturbance.

Surface traffic sound levels for several road segments are presented in Table 4.4-17. These levels are presented in terms of DNL as a function of distance from the centerline of the roadways analyzed. There would be an estimated 37 people residing in houses that extend into the region between DNL 65 and 70 due to surface traffic by the year 2013. However, the outdoor living areas for these houses would not be exposed to levels of DNL 65 or greater.

Mitigation Measures. Mitigation measures would be the same as described for the Proposed Action.

4.4.4.3 Non-Aviation Alternative. For this alternative, there would be no airport activity and, therefore, no aircraft noise impacts.

Surface traffic sound levels are presented by representative year in Table 4.4-18. These levels are presented in terms of DNL as a function of distance from the centerline of the roadways analyzed. There would be an estimated 8 people residing in houses that extend into the region between DNL 65 and 70 due to surface traffic by the year 2013. However, the outdoor living areas for these houses would not be exposed to levels of DNL 65 or greater.

For this alternative, the Small Arms Firing Range was assumed to be active. Gun firing activities at the firing range would produce noise. Noise levels at the nearest residence due to the firing range are estimated to be less than DNL 60 and would therefore result in no incompatible land uses. See Appendix I for the assumptions and a description of the calculation method used.

Mitigation Measures. Mitigation measures would be the same as described in the Proposed Action.

Table 4.4-17. Distance to DNL from Roadway Centerline - General Aviation Alternative

Roadway	From/to	Distance (ft) DNL 65dB	DNL 70dB	DNL 75dB
1993				
U.S. 61	Highland to SH 150	40	20	*
U.S. 61	Chickasawba to Highland	50	20	*
SH 181	SH 150 to Main Gate	40	20	*
SH 151	Main Gate to Goenell City Limits South	60	30	*
SH 151	Goenell South to Pemiscot Bayou	70	40	30
SH 151	Pemiscot Bayou to SH 18	70	40	30
SH 18	SH 151 to U.S. 61	30	*	*
SH 18	SH 151 to SH 239	30	*	*
2003				
U.S. 61	Highland to SH 150	40	20	*
U.S. 61	Chickasawba to Highland	50	30	*
SH 181	SH 150 to Main Gate	50	20	*
SH 151	Main Gate to Goenell City Limits South	60	30	*
SH 151	Goenell South to Pemiscot Bayou	80	40	30
SH 151	Pemiscot Bayou to SH 18	80	40	30
SH 18	SH 151 to U.S. 61	40	*	*
SH 18	SH 151 to SH 239	40	20	*
2013				
U.S. 61	Highland to SH 150	50	20	*
U.S. 61	Chickasawba to Highland	60	30	20
SH 181	SH 150 to Main Gate	70	30	20
SH 151	Main Gate to Goenell City Limits South	80	40	30
SH 151	Goenell South to Pemiscot Bayou	120	60	30
SH 151	Pemiscot Bayou to SH 18	120	60	30
SH 18	SH 151 to U.S. 61	50	30	*
SH 18	SH 151 to SH 239	40	20	*

* Contained within roadway

4.4.4.4 Other Land Use Concepts

McKinney Act. The housing areas identified for this proposal would not be located within the DNL 65 dB contours for the Proposed Action or any alternatives. Based on the available details of this proposal, no noise impacts have been identified.

Interpretive Center/Museum. The archaeological areas identified for this proposal would not be located within DNL 65 dB contours for the Proposed Action or any alternatives. Based on the available details of this proposal, no noise impacts have been identified.

Table 4.4-18. Distance to DNL from Roadway Centerline - Non-Aviation Alternative

Roadway	From/to	Distance (ft) DNL 65dB	DNL 70dB	DNL 75dB
1993				
U.S. 61	Highland to SH 150	40	20	*
U.S. 61	Chickasawba to Highland	50	20	*
SH 181	SH 150 to Main Gate	40	20	*
SH 151	Main Gate to Gosnell City Limits South	60	30	*
SH 151	Gosnell South to Pemiscot Bayou	80	40	30
SH 151	Pemiscot Bayou to SH 18	80	40	30
SH 18	SH 151 to U.S. 61	40	30	*
SH 18	SH 151 to SH 239	30	*	*
2003				
U.S. 61	Highland to SH 150	40	20	*
U.S. 61	Chickasawba to Highland	50	30	*
SH 181	SH 150 to Main Gate	50	30	*
SH 151	Main Gate to Gosnell City Limits South	70	40	30
SH 151	Gosnell South to Pemiscot Bayou	100	50	30
SH 151	Pemiscot Bayou to SH 18	100	50	30
SH 18	SH 151 to U.S. 61	40	30	*
SH 18	SH 151 to SH 239	40	20	*
2013				
U.S. 61	Highland to SH 150	40	20	*
U.S. 61	Chickasawba to Highland	60	30	20
SH 181	SH 150 to Main Gate	60	30	20
SH 151	Main Gate to Gosnell City Limits South	90	40	30
SH 151	Gosnell South to Pemiscot Bayou	140	70	40
SH 151	Pemiscot Bayou to SH 18	140	60	30
SH 18	SH 151 to U.S. 61	60	30	*
SH 18	SH 151 to SH 239	50	20	*

* Contained within roadway

4.4.4.5 No-Action Alternative. There would be no airport activity and minimal surface traffic under the No-Action Alternative; therefore, there would be fewer noise impacts than anticipated for the Proposed Action or the other alternatives.

Surface traffic sound levels are expected to decrease along all roads for which traffic decreases. For SH 151, which is expected to have an increase in traffic, the increase in noise would be less than 2 dB from existing levels. No noise impacts are expected from this increase.

4.4.5 Biological Resources

The Proposed Action and reuse alternatives (except No-Action) could potentially affect biological resources through alteration or loss of vegetation and wildlife habitat. These impacts are described below for each alternative.

Assumptions used in analyzing the effects of the Proposed Action and alternatives include:

- All staging and other areas disturbed temporarily by construction would be placed in previously disturbed areas (e.g., paved or cleared areas), to the fullest extent possible.
- Proportions of disturbance associated with each land use category were determined based on accepted land use planning concepts. Development within each parcel could occur at one or more locations anywhere within that category, unless designated as vacant land on the project maps.
- Newly constructed parks and recreation areas would be vegetated with landscape species.

4.4.5.1 Proposed Action. Development under the Proposed Action could have an effect on biological resources primarily through loss of vegetation and wildlife habitat, including wetland habitat. The Proposed Action could cause some increase in collision of aircraft with birds and ground vehicles with animals over closure baseline conditions. The closure and relocation of the Blytheville Municipal Airport would have beneficial effects to biological resources in that area.

Vegetation. Overall, the Proposed Action would result in a potential loss of approximately 479 acres of vegetation by the year 2013. Except in the wetland areas, discussed in further detail under Sensitive Habitats, this vegetation consists of low quality, non-native habitat. These losses would result from new construction and renovation of existing airfield, aviation support, industrial, institutional, and commercial facilities.

Wildlife. The effects on wildlife are related to habitat loss, construction activities, and operations.

Much of Eaker AFB is presently used for agriculture (1,383 acres), while the remainder is urban or disturbed landscape. Agriculture and landscape areas exhibit low habitat value. Alteration of agricultural land to public/ recreational uses under the Proposed Action would have little effect on biological resources. The same is true of the development of the other previously disturbed areas that have low biological value.

Noise and activity resulting from demolition and construction would have minimal short-term effects on the larger, mobile species, since species intolerant of these disturbances could avoid the vicinity of the project. Some mortality from earth-moving equipment would occur among the smaller mammals who would hide in their burrows during construction disturbance.

Long-term noise impacts from aircraft would be less than those experienced under preclosure conditions. This is largely due to the use of quieter aircraft under the Proposed Action than were previously used for military aviation operations.

Additional air traffic resulting from the Proposed Action would increase the potential impact from visual effects and for bird-aircraft collisions. Eaker AFB presently has had an average of 22 bird-aircraft collisions per year from 1985 to 1991, and no strikes in 1992; it is assumed that as annual operations increase, this number would also increase. Impacts on common bird species would be negligible. Potential effects on the bald eagle are described below under Threatened and Endangered Species.

Threatened and Endangered Species. The endangered bald eagle is the only listed species with potential of occurring in the region. Three types of impacts could be of concern for this species: collisions resulting from increased air traffic, electrocution or collisions with powerlines, and effects of habitat alteration. The probability of these impacts is remote due to the lack of available habitat on base.

The increases in aviation flight activity would increase the chance of bird-aircraft strikes. However, the USFWS Management Plan for Eaker AFB, Arkansas, written in 1987, had a policy of discouraging birds from using the base to protect the aircraft from bird strikes. The plan specifically discourages eagles by eliminating as many perching sites as possible, i.e., "single trees or snags on the airfield...should be cut down or removed". The bald eagle is a winter resident in the area so its exposure to aircraft from Eaker AFB is limited. Due to the previous management practices on the base and to the limited time the raptor is exposed to the hazard of colliding with an aircraft, the results are not expected to threaten the continued existence of the bald eagle.

New power lines associated with new development could increase bald eagle deaths from electrocution or bird collision with the wires. Constructing the poles with an eagle-safe design would minimize electrocution of bald eagles. These new power lines would not present an electrocution threat to this species. Although bird/wire collisions could increase because of the increase in power lines in the area, the winter status of the eagle gives it a limited exposure to the hazards on Eaker AFB.

The increased number of power lines in the area is not expected to be a threat to eagles.

Human activity could disturb the bald eagles if they utilize Eaker AFB. The Proposed Action would result in decreased aircraft noise, due to quieter types of aircraft used. Disturbances would come from the proposed road extensions through rural areas, construction noise, and increased vehicular traffic. Although this alternative may require the removal of some trees, bald eagles are most sensitive to disturbance when it occurs near their nests, and they do not nest in this area. The increase in human presence should not alter the bird's use of the area, and is not expected to threaten the continued existence of the species.

Based on the remote potential for impact to the bald eagle as a result of reuse, the Air Force completed its Section 7 consultation with the USFWS. Concurrence with the Air Force findings was received from USFWS (Appendix L). If properties were conveyed to non-federal and private parties, those parties would be subject to the prohibitions listed in Section 9 of the Endangered Species Act (16 USC § 1538) and 50 CFR Part 17, Subparts C, D, F, and G. For activities involving the taking of threatened or endangered animal species, such as the inadvertent death of the bald eagle from aircraft collisions, non-federal and private parties would be required to obtain a permit under Section 10 of the Endangered Species Act (16 USC §1539 and 50 CFR Part 17, Subparts C and D).

Sensitive Habitats. Development under the Proposed Action would result in a potential loss of 8.5 acres of wetlands. Construction in institutional areas would potentially affect 2.6 acres of wetlands. Aviation support and airfield construction would potentially affect 2.6 acres and 3.0 acres of wetlands, respectively. Bridge construction would result in the potential loss of 0.3 acres of wetlands. However, the 8.5 acres potentially affected are generally on base boundary, and lie in land use areas that have ample non-wetland acreage for construction. Wetland areas at Eaker AFB are not considered favorable for construction. Therefore, the actual acreage disturbed would be less than 1 acre, and would occur specifically where the construction of the three proposed bridges is planned. Construction of these bridges would proceed in compliance with the Rivers and Harbors Act of 1899 (33 USC 401 et seq.).

Filling of wetland areas totalling less than 10 acres does not require an individual COE permit, because this activity is covered by the existing authorization of a nationwide permit. Filling of a wetland between 1 and 10 acres requires prior COE notification, whereas filling of a wetland under 1 acre does not. However, notification to the COE is recommended even in those cases where filling of less than 1 acre is anticipated.

Mitigation Measures. Impacts to vegetation and wildlife on Eaker AFB, other than those identified under sensitive habitats, or threatened and endangered species, require no mitigation.

Bald eagles can be discouraged from visiting the airfield by eliminating as many perching sites as possible including antiperching structures added to the new power poles. This would reduce the potential of loss from bird-aircraft strikes. New powerline poles associated with development under the Proposed Action can incorporate an eagle-safe design to minimize electrocution of bald eagles. The overall effort would dissuade bald eagles from using the vicinity of the airfield while reducing the risk of electrocution of those eagles that do venture on base. All mitigation specified by USFWS in its biological opinion for this action will be implemented.

Disturbance effects and animal collisions caused by ground vehicles could be reduced by establishing programs that encourage public transportation and nonmotorized methods of transportation. Bridge construction may result in limited temporary disturbance; however, long-term functional values of wetlands would not be affected.

Wetlands on base would be protected in compliance with Executive Order 11990 and Section 404 of the Clean Water Act. Mitigations could include: (1) avoidance of direct and indirect disturbance of wetlands through facility design; (2) on-site (if possible) replacement of any wetlands lost at a ratio determined through consultation with the USFWS and COE; (3) recreation or wetland habitat elsewhere on site or purchase and fencing of any off-site replacement habitat; and (4) monitoring (until habitat becomes well established) of any replacement wetlands required to determine the effectiveness of replacement and any remedial measures necessary. Avoidance of disturbance could include con rolling runoff from construction sites into drainages through use of berms, silt curtains, straw bales and other appropriate techniques. Equipment could be washed in areas where wash water could be contained and treated or evaporated. In addition, bridges can be built without intruding into the waterways or banks of the bayou. Nonintrusive construction practices would protect the riparian wetland zone, thus, lessening the potential wetland impacts down to even less than 0.1 acre per bridge.

Executive Order 11990, Section 2(1), states that a federal agency, to the extent permitted by law, shall avoid providing assistance for new construction located in wetlands unless the head of the agency concludes that there is no practicable alternative to such construction and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use. In determining whether an alternative is practicable, the agency may consider costs, existing technology, logistics, environmental effects, and the purpose of the project

that causes the discharge of fill or dredged material into the affected wetlands.

4.4.5.2 General Aviation Alternative. Development under the General Aviation Alternative would affect biological resources primarily through loss of vegetation and associated wildlife habitat, including wetland habitat. Additional indirect effects would occur as described for the Proposed Action and from increased human population and access to wetland areas. Effects to biological resources as a result of closure and relocation of the Blytheville Municipal Airport would be the same as described in the Proposed Action.

Vegetation. New residential areas on base, constructed under the General Aviation Alternative, could have negative effects on vegetation, primarily agricultural. Overall, this alternative would result in a potential loss of approximately 779 acres of vegetation by the year 2013. Except in wetland areas discussed below, this vegetation consists of low quality habitat.

Wildlife. The effects on wildlife are related to habitat loss, construction activities, and operations.

Since much of Eaker AFB is already disturbed in some way (agricultural land, urban/landscaped areas), the effects on habitat will be minimal.

Noise and activity resulting from demolition and construction would have minimal short-term effects on mobile species since those intolerant of the disturbances could avoid the vicinity of the project. Increased aircraft operations under the General Aviation Alternative would result in less noise effects on wildlife than preclosure conditions; however, bird aircraft strikes would increase as a result of increased operations.

Potential adverse impacts to wildlife associated with residential development include predation by domestic dogs and cats, handling by humans, construction activity and additional disturbance or mortality caused by increased vehicle use.

Threatened and Endangered Species. Impacts to federal and state-listed species that are potentially present in the vicinity of Eaker AFB and that may be adversely affected by this alternative are the same as those described under the Proposed Action.

Sensitive Habitats. Under this alternative, 17.3 acres of wetlands could potentially be lost as a result of construction. Industrial construction could impact 2.6 acres, while aviation support could affect 2.6 acres of drainage wetlands. Bridge construction would potentially impact 0.2 acres of wetlands. Residential construction could impact 12.1 acres of wetlands. However, the 17.3 acres potentially affected are on the base boundary and lie in land use areas that have ample non-wetland acreage for construction.

Wetland areas at Eaker AFB are not considered favorable for construction. Therefore, the actual acreage disturbed would be less than 1 acre, and would occur specifically where the construction of the two proposed bridges is planned. Construction of these bridges would proceed in compliance with the Rivers and Harbors Act of 1899 (33 USC 401 et seq.). Potential indirect adverse impacts to wetlands include sedimentation, increased runoff, pollutants, and increased human access.

Mitigation Measures. Measures to offset adverse impacts would be as described for the Proposed Action.

4.4.5.3 Non-Aviation Alternative. Development under the Non-Aviation Alternative would affect biological resources primarily through increased human presence, construction, and loss of vegetation and associated wildlife habitat.

Vegetation. Construction associated with the institutional land use under this alternative could potentially have adverse impacts on vegetation. Since most of the construction on base under the Non-Aviation Alternative would involve previously disturbed areas, the effects would be minimal. Overall this alternative would result in a potential loss of 339 acres of vegetation by the year 2013. Except in wetland areas, discussed below, this vegetation is of low biological value.

Wildlife. The effects on wildlife under this alternative are related to habitat loss, construction activities, and operations. Since much of the wildlife habitat at Eaker AFB is already disturbed in some way (agricultural land, urban/landscaped), the effects on wildlife would be minimal.

Noise and activity related to construction and demolition would have short-term effects on mobile species (i.e., temporary displacement of species intolerant of those activities), but impacts on their populations would be minimal. Aircraft operations would cease under this alternative, which would eliminate bird-aircraft collisions.

Threatened and Endangered Species. The bald eagle is potentially present in the vicinity of Eaker AFB and may be adversely affected by this alternative. Bird-aircraft collisions would no longer be a concern for the bald eagle, but habitat loss would occur through construction disturbance and further introduction of non-native vegetation. Since bird use of the base no longer needs to be discouraged, the increase in raptor perches from the new power lines may enhance the habitat on the base for the bald eagle.

Sensitive Habitats. A total of 2.0 acres of wetlands could potentially be lost as a result of land use alteration. Institutional land use area construction would account for 1.9 acres of potential wetlands loss. Bridge construction across wetland areas would potentially affect [illegible] acres. However, the

2 acres potentially affected are on the base boundary, and lie in land use areas that have ample non-wetland acreage for construction. Wetland areas at Eaker AFB are not considered favorable for construction. Therefore, the actual acreage disturbed would be less than 1 acre, and would occur specifically where the construction of the proposed bridge is planned. The construction of the proposed bridge would be planned in compliance with the Rivers and Harbors Act of 1899 (33 USC 401 et seq.). Potential indirect adverse impacts to wetlands include sedimentation, increased runoff, and pollutants.

Mitigation Measures. Measures to offset adverse impacts (including communication with COE and USFWS) would be as described for the Proposed Action. Raptors would no longer need to be discouraged from the base.

4.4.5.4 Other Land Use Concepts. Federal transfers and independent land use concepts have been identified which may take place in addition to one of the integrated reuse alternatives.

McKinney Act Proposal. Since this concept would use existing buildings and result in few modifications, effects on biological resources would remain unchanged.

Interpretive Center/Museum. Construction of a museum and interpretive center would have a minor effect on biological resources since much of the land contained within this reuse option has been used for agriculture or is maintained grassland. Succession of natural vegetation would have a positive effect on wildlife and habitat. Local populations of native species would increase within the area described by this proposal.

4.4.5.5 No-Action Alternative. Maintenance of the base under the OL would have minimal adverse effects on biological resources. A reduction in human activity and a cessation of aircraft flights would reduce disturbance (particularly by noise and bird-aircraft strikes) to wildlife on and in the vicinity of the base. Habitat quality for wildlife could improve if mowing of nonlandscaped areas was terminated, thereby allowing vegetation to grow to its natural height. This would allow populations of wildlife species to increase, and would have an overall positive effect on biological resources at Eaker AFB.

4.4.6 Cultural Resources

Potential impacts were assessed by (1) identifying types and possible locations of reuse activities that could directly or indirectly affect cultural resources, and (2) identifying the nature and potential significance of cultural resources in potentially affected areas. Pursuant to the NHPA,

consultation, as directed by the Section 106 review process, has been initiated with the Arkansas SHPO.

Historic properties, under 36 CFR Part 800, are defined as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP. This term includes, for the purposes of these regulations, artifacts, records, and remains that are related to and located within such properties. The term "eligible for inclusion in the National Register" includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet National Register listing criteria." Therefore, sites not yet evaluated are considered potentially eligible to the NRHP and, as such, are afforded the same regulatory consideration as nominated historic properties.

As a federal agency, the Air Force is responsible for identifying any historic properties at Eaker AFB. This identification process includes not only field surveys and recording of cultural resources, but also evaluations to develop determinations of significance in terms of NRHP criteria. (NRHP criteria and related qualities of significance are discussed in Appendix E, Methods of Analysis.) Completion of this process results in a listing of historic properties subject to federal regulations regarding the treatment of cultural resources.

Twenty-two archaeological sites have been identified on Eaker AFB (Lafferty and Cande, 1989; Cande and Lafferty, 1991; and The Earth Technology Corporation, 1992). One site, 3MS105, has been determined eligible for the NRHP. A second site, 3MS547, has been evaluated as not eligible for inclusion. The Arkansas SHPO has concurred with the Air Force determinations of eligibility for both sites. This analysis has been performed using the inventory of known sites within Eaker AFB. The Air Force has begun the evaluation of the remaining 20 sites to determine eligibility.

4.4.6.1 Proposed Action. Under the Proposed Action, a number of potential reuse activities could impact archaeological sites considered potentially eligible for listing on the NRHP. Types of impacts that could affect these resources can be broadly categorized as those resulting from the disposal or conveyance of the property and those associated with ground disturbance activities.

Regulations for implementing Section 106 of the NHPA indicate that the conveyance of historic property without adequate measures to ensure preservation is procedurally considered to be an adverse impact, thereby ensuring full regulatory consideration in federal project planning and execution. All confirmed and potential historic properties on base could be impacted by conveyance.

Ground disturbance, by means of construction-associated activities and/or farming practices (i.e., chisel plowing, terracing, land leveling and tilling) which intrude upon historic properties are considered adverse effects. Sites that could be affected by proposed land uses resulting in ground disturbance are presented in Table 4.4-19. This table identifies the proposed land use, the archaeological sites within the parcel, their respective acreages and the type(s) of impact that would result from reuse.

Table 4.4-19. Archaeological Sites Subject to Impact - Proposed Action

Land Use Zone	Archaeological Sites	Site Acreage (within land use)	Impacts
Airfield	*3MS524, 3MS525, 3MS547, 3MS548, *3MS550, *3MS551, 3MS559	21.6	No Impact
Aviation support	None	N/A	N/A
Industrial	*3MS524, 3MS560, *3MS551, *3MS557	13.9	Construction and associated activities
Institutional (education)	None	N/A	N/A
Commercial	None	N/A	N/A
Residential	None	N/A	N/A
Public/recreation	*3MS195, 3MS531, 3MS558, 3MS552, Survey I-#1	6.0	Construction and associated activities
Archaeological/ open space	*3MS524, 3MS105, 3MS549, *3MS550, 3MS553, 3MS554, 3MS555, 3MS556, *3MS557, 3MS561	194.4	Construction and associated activities
Agriculture	3MS526, *3MS557	4.9	Farming Practices

* Site lies within more than one land use parcel.

Within the industrial land use zone, all or portions of four sites, with a total of 14 acres within the parcel, could be impacted. Seventeen percent of this area is expected to be subject to ground-disturbing activities. Five sites also lie wholly or partially within the public/recreation land use zone, constituting a total area of 6 acres within that parcel. Approximately 22 percent of the public/recreation area is expected to be subject to ground disturbance. Although the archaeological/open space zone contains ten sites, with a total acreage of 194 acres within the parcel, only 17 of the 332 acres in this land use zone are expected to be disturbed. Finally, the two sites in the proposed agricultural land use zone total 5 acres. Virtually all of this area could be subject to impact, and avoidance would be impractical if not impossible to ensure.

Property within the base boundaries is of concern to Native Americans, most notably the Quapaw Tribe. Human remains are known to exist (at site 3MS105) or expected to occur (at other prehistoric sites) throughout the historic properties identified on base. Consultation has been ongoing with the Quapaw since the investigation of site 3MS105. Human remains uncovered during subsurface testing were reburied on site pursuant to federal and state law. Coordination has been continued in light of the disposal of the base, and will be maintained through each phase of the investigation.

Because there are no paleontological resources on base, reuse alternatives will not cause any impacts.

Mitigation Measures. General procedures can reduce or eliminate the impacts associated with the Proposed Action. Properties may be conveyed to non-federal owners with preservation covenants to ensure that future owners will abide by cultural resource management procedures dictated by the NHPA, or their equivalent as approved by the SHPO and the Advisory Council on Historic Preservation. Impacts due to conveyance can thus be reduced to a non-adverse level.

Potential impacts resulting from construction and associated activities may be mitigated by avoidance of historic properties through project redesign. If avoidance is not feasible, the value of the cultural resource may be preserved through techniques such as data recovery or documentation, as set forth in a treatment or management plan.

Potential impacts resulting from farming practices may be mitigated by restricting agricultural activities to production of hay or other crops which require a limited plow depth and thus minimize damage to intact archaeological deposits. If such restrictions are not feasible, preserving the value of the site through techniques such as data recovery or documentation may be pursued.

In accordance with Section 106 of the NHPA and its implementing regulations, the agency or reuse proponent, as appropriate, would consult with the SHPO and the Advisory Council on Historic Preservation during the development and implementation of specific procedures and mitigation strategies. Mitigation proposed would comply with the appropriate standards and guidelines established for historic preservation activities by the Secretary of the Interior and other federal, state, and local regulations, as applicable.

An agreement document may be prepared to establish the acceptable mitigation measures. A Memorandum of Agreement or Programmatic Agreement must be coordinated with, at a minimum, the SHPO, the Advisory Council on Historic Preservation, and the Air Force.

4.4.6.2 General Aviation Alternative. This alternative is similar to the Proposed Action in regard to potential reuse activities. The General Aviation Alternative, however, has a higher percent of archaeological sites within agricultural land use rather than within archaeological/open space. The discussion related to conveyance impacts and ground disturbing impacts presented in Section 4.4.6.1 is equally appropriate for this alternative.

Sites that could be affected by the General Aviation Alternative's proposed land uses are provided in Table 4.4-20.

Table 4.4-20. Archaeological Sites Subject to Impact - General Aviation Alternative

Land Use Zone	Archaeological Sites	Site Acreage (within land use)	Impacts
Airfield	*3MS524, *3MS525, *3MS552	27.6	No Impact
Aviation support	None	N/A	N/A
Industrial	*3MS195, *3MS552, *3MS525	4.9	Construction and associated activities
Institutional (education)	None	N/A	N/A
Commercial	None	N/A	N/A
Residential	3MS526, 3MS531, 3MS558	5.6	Construction and associated activities
Public/recreation	3MS547, 3MS556, 3MS557, *3MS550, Survey I - #1	9.7	Construction and associated activities
Archaeological/ open space	*3MS524, 3MS105	102	Construction and associated activities
Agriculture	3MS548, 3MS549, *3MS550, 3MS551, 3MS553, 3MS554, 3MS555, 3MS559, 3MS560, 3MS561	92	Farming Practices

* Site lies within more than one land use parcel.

The industrial land use zone contains portions of two sites, with a total of 5 acres. Forty-one percent of the 503-acre industrial land use is expected to be subject to ground-disturbing activities. Three sites are located entirely within the 517-acre residential land use, totaling 6 acres within that parcel. Approximately 68 percent of the residential area is expected to be subject to ground disturbance. Within the public/recreation land use zone there are four sites and a portion of a fifth consisting of a total of 10 acres. Over 22 percent of this 624-acre area is expected to be subject to ground disturbance. One site and a portion of the second, totaling 102 acres, are located within the archaeological/open space land use zone. Only 17 of the

332 acres in this land use zone are expected to be disturbed. Finally, the proposed agricultural land use zone contains all of nine sites and a portion of a tenth, totaling 92 acres. Virtually all of this area could be subject to impact, and avoidance would be impractical, if not impossible to ensure.

The discussion relating to Native American concerns for the Proposed Action is equally appropriate for this alternative.

Mitigation Measures. Appropriate mitigation measures are the same as those outlined for the Proposed Action.

4.4.6.3 Non-Aviation Alternative. The types of land use related impacts that could occur are similar to those of the Proposed Action and General Aviation Alternative, but with an even greater emphasis on agriculture. The discussion related to conveyance impacts and ground disturbing impacts presented in Section 4.4.6.1 is equally appropriate for this alternative.

Sites affected by the Non-Aviation Alternative's proposed land uses are provided in Table 4.4-21.

Table 4.4-21. Archaeological Sites Subject to Impact - Non-Aviation Alternative

Land Use Zone	Archaeological Sites	Site Acreage (within land use)	Impacts
Industrial	*3MS550 and *3MS561, 3MS551	4.8	Construction and associated activities
Institutional (education)	*3MS195	3.7	Construction and associated activities
Commercial	None	N/A	N/A
Residential	None	N/A	N/A
Public/recreation	3MS547 and Survey I - #1	0.8	Construction and associated activities
Archaeological/ open space	3MS524 and 3MS105	127	Construction and associated activities
Agriculture	3MS525, 3MS526, 3MS531, 3MS548, 3MS549, *3MS550, *3MS551, 3MS552, 3MS553, 3MS554, 3MS555, 3MS556, 3MS557, 3MS558, 3MS559, 3MS560, and 3MS561	104.1	Farming Practices

* Site lies within more than one land use parcel.

Within the industrial land use zone are portions of two sites, with a total of 5 acres. Fifteen percent of the 799-acre industrial land use is expected to

be subject to ground-disturbing activities. Within the 98-acre institutional (education) land use, there is one-half of one site, totaling 4 acres within that parcel. Approximately 59 percent of the institutional (education) area is expected to be subject to ground disturbance. Two sites, totaling less than 1 acre, are within the 410-acre public/recreation land use zone. Seven percent of this area is expected to be subject to ground disturbance. Finally, the proposed agricultural land use zone encompasses all of 15 sites and portions of 2 sites, totalling 104 acres. Virtually all of this area could be subject to impact, and avoidance would be impractical, if not impossible to ensure.

The discussion relating to Native American concerns and paleontological resources for the Proposed Action are equally appropriate for this alternative.

Mitigation Measures. Appropriate mitigation measures are the same as those outlined for the Proposed Action.

4.4.6.4 Other Land Use Concepts

McKinney Act. There would be no impact on cultural resources resulting from implementation of the McKinney Act, because this proposal addresses reuse of the existing residential areas. There are no historic properties located in existing residential areas.

Interpretive Center/Museum. This land use concept proposes an interpretive center/museum to be established in an existing building. In addition, three parcels containing nine sites and one-half of a tenth site have been designated as archaeological/open space. These parcels and sites will be incorporated into the interpretive center/museum management plan and thus preserved. The archaeological sites include a total area of 194 acres; however, it is anticipated that only 5 percent, or approximately 17 acres, of this 332-acre area would be disturbed under this proposal. Additional existing facilities, possibly with the base weapons storage area, may be used as a state-wide curation facility.

The proposed center could be transferred to another federal agency and, thus, there would be no adverse impacts to the sites. Historic properties would then be subject to the same considerations under the NHPA as existed when the base was owned by the Air Force.

If the land is conveyed to a non-federal entity (state, local, or private) preservation covenants could be placed on the disposal document. As described in Section 4.4.6.1, these restrictions would reduce the impact associated with conveyance to a non-adverse level. Any minor development within the designated parcels which could impact historic properties would, therefore, fall under the requirements of Section 106 of the NHPA.

4.4.8.5 No-Action Alternative. There would be no effect on cultural resources resulting from implementation of the No-Action Alternative because the Eaker AFB property would remain under federal jurisdiction. However, the OL should continue to ensure adequate security to discourage illegal looting of the archaeological sites, and thus inadvertent violation of the Archaeological Resources Protection Act.

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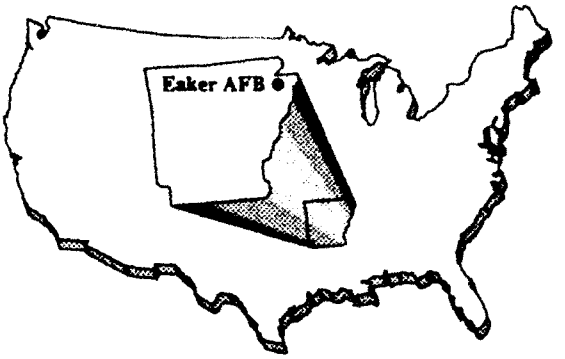


CHAPTER 5
CONSULTATION AND COORDINATION

5.0 CONSULTATION AND COORDINATION

The federal, state, and local agencies and private agencies/organizations that were contacted during the course of preparing this Environmental Impact Statement are listed below.

FEDERAL AGENCIES

Federal Aviation Administration
Environmental Protection Agency (Region VI)
National Solid Waste Management Association
United States Army Corps of Engineers
United States Department of Agriculture, Soil Conservation Service
United States Bureau of Mines
United States Department of Education
United States Department of the Interior, National Park Service
United States Department of Justice, Federal Bureau of Prisons
United States Department of Transportation
United States Department of Veterans Affairs
United States Fish and Wildlife Service
United States Postal Service

STATE AGENCIES

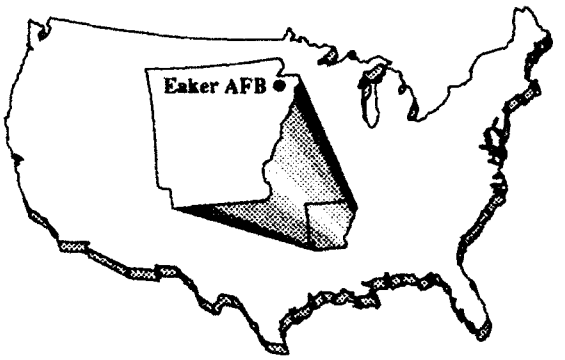
Arkansas Department of Aeronautics
Arkansas Department of Pollution Control and Ecology
Arkansas Game and Fish Commission
Arkansas Industrial Development Commission
Missouri Department of Natural Resources, Division of Environmental Quality, Air Pollution Control Programs
State Office of Historic Preservation

LOCAL/REGIONAL AGENCIES

City of Blytheville

PRIVATE ORGANIZATIONS AND INDIVIDUALS

Air Transport Association
Aircraft Owners and Pilots Association
British Aerospace, Incorporated
Federal Express Corporation
Kennett Memorial Airport, Kennett, Missouri
National Business Aircraft Association
Steele Municipal Airport, Steele, Missouri



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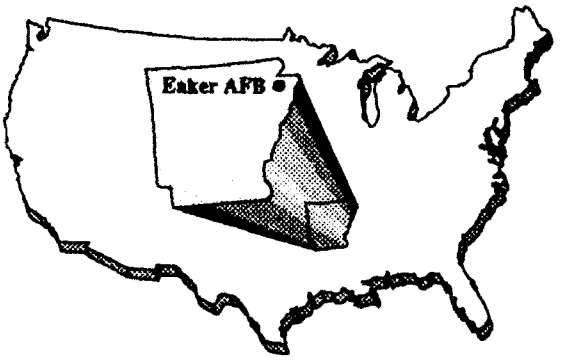


CHAPTER 7
REFERENCES

7.0 REFERENCES

Airborne Systems, Inc., 1988. Aerial Photographs, Peacekeeper-Rail Garrison Project, Blytheville, Arkansas, prepared under U.S. Air Force Contract No. AFRCE-BMS/BMO (1:7200), Flown March 11.

Allen & Hoshall Engineers Architects Consultants, 1985. Study for Upgrading Water System, Blytheville Air Force Base, Arkansas, prepared for the Department of the Army, Little Rock District, Corps of Engineers.

American National Standards Institute, 1983. Specification for Sound Level Meters, ANSI S1.4 1983.

Ames, D.R., 1974. Sound Stress and Meat Animals. Proceedings of the International Livestock Environment Symposium, Lincoln, Nebraska, pp. 324-330.

Anton-Guirgis, H., B. Culver, S. Wang, and T. Taylor, 1986. Exploratory Study of the Potential Effects of Exposure to Sonic Boom on Human Health, Vol 2: Epidemiological Study (Report No. AAMRL-TR-86-020).

Arkansas, 1989. Arkansas Airport System Plan.

Arkansas Department of Pollution Control and Ecology, 1988. Compilation of Regulations Promulgated Pursuant to the Arkansas Plan of Implementation for Air Pollution Control, Air Division, Little Rock, Arkansas, October.

Arkansas Game and Fish Commission, 1992. Arkansas' List of Federally Endangered and Threatened Species, January 1.

Arkansas Geological and Conservation Commission, 1985. Mineral Resources of Arkansas, AGCC Bulletin Number 6.

Arkansas State Highway Department, 1991. Traffic Counts.

Belanovskii, A.S., and V.A. Omel'yanenko, 1982. Acoustic Stress in Commercial Poultry Production, Soviet Agricultural Science, 11, pp. 60-62.

Bennett, R.L., and K.S. Pearsons, 1981. Handbook of Aircraft Noise Metrics, Report No. NASA CR-34006, National Aeronautics and Space Administration, Washington, DC.

Blytheville, 1981. Zoning Ordinance and Subdivision Regulations.

Blytheville, 1990. Ordinance 1260.

Booker and Associates, n.d. Base Comprehensive Plan, Eaker Air Force Base, prepared for U.S. Army Corps of Engineers, Little Rock District.

Cande, R.J., and H. Lafferty, III, 1991. Archaeological Survey of Undeveloped Portions of Eaker Air Force Base, Mississippi County, Arkansas, Mid-Continental Research Associates Report 90-3, submitted to Tetra Tech, Inc.

Caple, K., 1992. Personal Communication with Karen Caple, Air Quality Specialist, Air Division, Arkansas Department of Pollution Control and Ecology, March 30 and April 10.

Cobb, C., 1992. Personal communication with Charles Cobb, Gosnell Sewer Department, April.

Corps of Engineers, 1987. Wetlands Delineation Manual.

Crook, M.A., and F.J. Langdon, 1974. The Effects of Aircraft Noise on Schools around London Airport, Journal of Sound and Vibration, 34(2), pp. 221-232.

Dorris, D., 1992. Personal communication with Doug Dorris, Gosnell Water Association, April.

Driskoll, T., 1992. Personal communication with Tom Driskoll, Air Quality Representative, U.S. Environmental Protection Agnecy Region VI, April 10 and 20.

FAA, see Federal Aviation Administration.

Fagin, G., 1988. Manual Calculation Methods for Air Pollution Inventories, U.S. Air Force Occupational and Environmental Health Laboratory, Human Systems Division (AFSC), Brooks Air Force Base, Texas, May.

Federal Aviation Administration, 1983. Policies and Procedures for Considering Environmental Impacts, Order 1050.ID.

Federal Aviation Administration, 1985. Airport Environmental Handbook, Order 5050.4A.

Federal Aviation Administration, 1986. Census of U.S. Civil Aircraft.

Federal Aviation Administration, 1987. Census of U.S. Civil Aircraft.

Federal Aviation Administration, 1988a. Census of U.S. Civil Aircraft.

Federal Aviation Administration, 1988b. Noise Levels for U.S. Certificated and Foreign Aircraft, Advisory Circular No. 36-1E.

Federal Aviation Administration, 1988c. Part 36--Noise Standards: Aircraft Type and Airworthiness Certification (effective May 6).

Federal Aviation Administration, 1989a. Census of U.S. Civil Aircraft.

Federal Aviation Administration, 1989b. Federal Aviation Regulations Part 150 Airport Noise Compatibility Planning.

Federal Aviation Administration, 1990a. Census of U.S. Civil Aircraft.

Federal Aviation Administration, 1990b. Estimated Airplane Noise Levels in A-weighted Decibel, Advisory Circular No. 36-3F.

Federal Aviation Administration, 1990c. Standards for Specifying Construction of Airports, (Change 10), Temporary Air and Water Pollution, Soil Erosion and Situation Control, Advisory Circular 150/5370-10, June.

Federal Aviation Administration, 1991. Airman's Information Manual, April 4.

Federal Highway Administration, 1978. FHWA Highway Traffic Noise Prediction Model, Report No. FHWA-RD-77-108.

Federal Interagency Committee for Wetland Delineation, 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S.D.A. Soil Conservation Service, Washington, DC.

Fidell, S., D. Barber, and T. Schultz, 1989. Updating a Dosage-Effect Relationship for the Prevalence of Annoyance Due to General Transportation Noise (HSD-TR-89-009), Noise and Sonic Boom Impact Technology, Human Systems Division, Air Force Systems Command, Brooks Air Force Base, TX 78235-5000.

Frerichs, R.R., B.L. Beeman, and A.H. Coulson, 1980. Los Angeles Airport Noise and Mortality - Faulty Analysis and Public Policy, American Journal of Public Health, 70(4), pp. 357-362.

Gee, J., 1992. Personal communication with Jimmie Gee, Blytheville Sewer Department, April.

Goldstein, J., and J. Lukas, 1980. Noise and Sleep: Information Needs for Noise Control, Proceedings of the Third International Congress on Noise as a Public Health Problem, ASHA Report No. 10, pp. 442-448.

Green, S., 1992. Personal communication with Steve Green, Associated Natural Gas, April.

Hodges, D., 1992. Personal communication with Dean Hodges, Mississippi County Electric Cooperative, April.

Institute of Transportation Engineers, 1987. Trip Generation (4th ed.).

Jackson, K.C., 1979. Earthquakes and Earthquake History of Arkansas, Arkansas Geological Commission Information Circular 26, Little Rock, Arkansas.

Kull, R.C., and A.D. Fisher, 1986. Supersonic and Subsonic Aircraft Noise Effects on Animals: A Literature Survey (AAMRL-TR-032), Noise and Sonic Boom Impact Technology (NSBIT) ADPO, Human Systems Division, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio 45433-6573.

Lafferty, R.H., III, and R.J. Cande, 1989. Cultural Resources Investigations, Peacekeeper Rail Garrison Program, Eaker Air Force Base, Mississippi County, Arkansas, Mid-Continental Research Associates Report 88-5, submitted to Tetra Tech, Inc., under U.S. Air Force Contract No. F04704-85-C-0062.

Lukas, J., 1975. Noise and Sleep: A Literature Review and a Proposed Criterion for Assessing Effect, Journal of the Acoustical Society of America, 58(6), pp. 1232-1242.

Maine, State of 1991. Maine Aviation Systems Plan, Air Service Study.

Max, D. W., L. W. Moore, and J. W. Smith, 1985. Geohydrologic and Conservation Studies for Eastern Arkansas Region Comprehensive Study, Civil Engineering Department, Herff College of Engineering, Memphis State University.

McNeil, J.D., 1982. A Cultural Resources Survey of Ditch 75, Blytheville Air Force Base, Mississippi County, Arkansas, U.S. Army Corps of Engineers, Memphis District.

Military Traffic Management Command Transportation Engineering Agency, 1988. Traffic Engineering Study.

Moore, N., 1992. Personal communication with Neel Moore, Arkansas Power & Light, April.

Murray, G. E., 1961. Geology of the Atlantic and Gulf Coastal Plains Province of North America, Harper and Company, New York.

National Academy of Sciences, 1977. Guidelines for Preparing Environmental Impact Statements on Noise, Report of Working Group 69, Committee on Hearing, Bioacoustics, and Biomechanics National Research Council, Washington, DC.

National Academy Sciences, 1981. The Effects on Human Health from Long-Term Exposure to Noise, Report of Working Group 81, Committee on Hearing, Bioacoustics and Biomechanics, National Research Council, Washington, DC.

NUS Corporation, 1990. Draft U.S. Air Force, Installation Restoration Program Site Investigation, Eaker Air Force Base, Arkansas, Vol. 1, October.

Pearsons, K., D. Barber, and B. Tabachnick, 1989. Analyses of the Predictability of Noise-Induced Sleep Disturbance, Report No. HSD-TR-89-029, BBN Systems and Technologies Corporation, Canoga Park, California.

Porter, M., 1992. Personal communication with Mike Porter, Air Quality Representative, Air Division, Arkansas Department of Pollution Control and Ecology, May 22.

RKG Associates, Inc., 1991. Resource Inventory and Assessment.

RKG Associates, Inc., 1992a. Development Options.

RKG Associates, Inc., 1992b. Redevelopment Plan and Implementation Strategy.

Segal, H.M., 1988. A Microcomputer Pollution Model for Civilian Airports and Air Force Bases - Model Description, FAA Report No. FAA-EE-88-4, U.S. Air Force Report No. ESL-TR-88-53.

Stanbokin, R., 1992. Personal communication with Ralph Stanbokin, Building Inspector for the city of Blytheville, Arkansas.

The Earth Technology Corporation, 1992. Identification of Cultural Resources within a 150 Acre Parcel at Eaker AFB, Blytheville, Arkansas, September.

Thompson, S., S. Fidell, and B.G. Tabachnick, 1989. Feasibility of Epidemiologic Research on Nonauditory Health Effects of Aircraft Noise Exposure (Vols. I, II, and III), BBN Report No. 6738, BBN Systems and Technologies, Canoga Park, California.

Transportation Research Board, 1985. Highway Capacity Manual & Special Report 209, National Research Council, Washington, DC.

U.S. Air Force, 1956. Brief History of Blytheville Air Force Base 1942-1956, Historical Division, Research Studies Institute, Maxwell Air Force Base, Alabama.

U.S. Air Force, 1976. Air Installation Compatible Use Zone (AICUZ) Study, Blytheville AFB, Arkansas.

U.S. Air Force, 1985. Installation Restoration Program, Phase I - Records Search, Blytheville AFB, Arkansas, Strategic Air Command, August.

U.S. Air Force, 1986. Base Comprehensive Plan, Eaker Air Force Base.

U.S. Air Force, 1989. Final Environmental Impact Statement for the Peacekeeper Rail Garrison Project.

U.S. Air Force, 1990a. Eaker AFB 1989 Air Emissions Inventory, Bioenvironmental Engineering, December.

U.S. Air Force, 1990b. Eaker AFB Economic Resource Impact Statement, FY: 1990, Eaker AFB, Arkansas.

U.S. Air Force, 1990c. Environmental Impact Statement Proposed Closure of Eaker AFB, Arkansas, Draft.

U.S. Air Force, 1991a. Asbestos Management/Operating Plan, Eaker Air Force Base, Strategic Air Command, Headquarters 97th Bombardment Wing, March.

U.S. Air Force, 1991b. Hazardous Waste Management Plan, Eaker Air Force Base, Strategic Air Command, 97th Bombardment Wing, September.

U.S. Air Force, 1991c. Spill Prevention Control and Countermeasures (SPCC) Plan, Eaker Air Force, Arkansas, Headquarters 97th Bombardment Wing, November.

U.S. Air Force, n.d. Cropland Management Plan for Eaker AFB, Arkansas, January 1990 to December 1994.

U.S. Army, Corps of Engineers, 1987. Wetlands Delineation Manual, Environmental Laboratory, Vicksburg, Mississippi, January.

U.S. Bureau of the Census, 1991. 1990 Census of Population and Housing, Summary Tape File 1, U.S. Bureau of the Census, Suitland, Maryland.

U.S. Department of Agriculture, 1971. Soil Survey Mississippi County, Arkansas, Soil Conservation Service.

U.S. Department of Commerce, National Oceanic and Atmospheric Administration, 1991a. Memphis, Kansas City, and St. Louis Sectional Aeronautical Charts (43rd Edition).

U.S. Department of Commerce, National Oceanic and Atmospheric Administration, 1991b. U.S. Terminal Procedures - South Central (SC), Volume 1 of 2, July - September.

U.S. Department of Housing and Urban Development, 1982. Firm Flood Insurance Rate Map, City of Blytheville, Arkansas, Mississippi County: Community-Panel Number 050140 0005C, September 21.

U.S. Department of Transportation, 1980. Guidelines for Considering Noise in Land Use Planning and Control, Federal Interagency Committee on Urban Noise, June.

U.S. Environmental Protection Agency, 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, Publication No. 550/9-74-004, Washington, DC.

U.S. Environmental Protection Agency, 1985. AP-42, Compilation of Air Pollutant Emission Factors, Volume I, Stationary Point and Area Sources, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina, September.

U.S. Environmental Protection Agency, 1986. A Citizen's Guide to Radon.

U.S. Environmental Protection Agency, 1988. 1988 Bossier Parish, Louisiana; Mississippi County, Arkansas; Pulaski County, Arkansas; and Taylor County, Texas Air Quality Inventory; National Emission Data System, Region VI, Dallas, Texas.

U.S. Fish and Wildlife Service, 1986. Fish and Wildlife Management Plan for Blytheville AFB, Arkansas, Initial Plan for Plan Period January 1986 to December 1990.

U.S. Geological Survey, 1965. Memphis Map (1:250,000 scale).

U.S. Geological Survey, 1970a. Blytheville Map (1:250,000 scale).

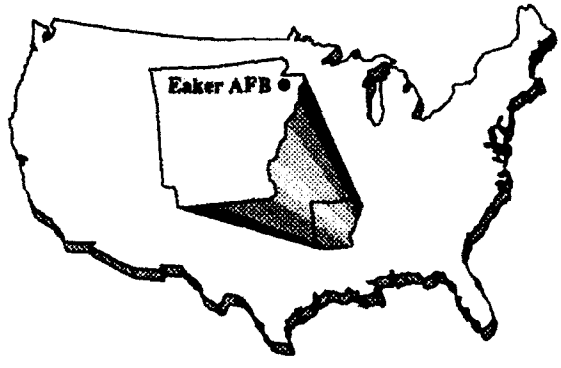
U.S. Geological Survey, 1970b. Dyersburg Map (1:250,000 scale).

U.S. Geological Survey, 1976. 15 minute Blytheville Quadrangle Arkansas-Missouri-Tennessee.

U.S. Geological Survey, 1978. Poplar Bluff Map (1:250,000 scale).

U.S. Geological Survey, 1990. Ground-Water Levels in Arkansas, Spring 1990, Open-File Report 90-377.

White, R., 1992. Personal communication with Robert White, Blytheville Waterworks, April.



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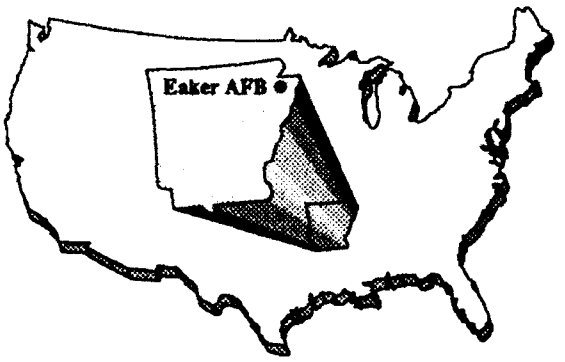

CHAPTER 9
PUBLIC COMMENTS AND RESPONSES

9.0 PUBLIC COMMENTS AND RESPONSES

INTRODUCTION

The Air Force has complied with the EIAP NEPA mandate of public participation in the EIAP primarily in two ways:

- A public hearing was held in Blytheville, Arkansas, on August 13, at which the Air Force presented the findings of the DEIS for disposal and reuse of Eaker AFB and invited public comments.
- The subject DEIS was made available for public review and comment in July 1992.

Public comments received both verbally at the public meeting and in writing during the response period have been reviewed and are addressed by the Air Force in this section.

ORGANIZATION

This Public Comment and Response section is organized into several subsections, as follows:

- This Introduction, which describes the process, organization, and approach taken in addressing public comments
- A consolidated comment-response document
- An index of commentors
- A transcript of the public hearing
- Photocopies of all written comments received.

These sections are described below.

Comments received that are similar in nature or address similar concerns have been consolidated to focus on the issue of concern, and a response is provided that addresses all of the similar comments. Some comments simply state a fact or an opinion, for example, "the DEIS adequately assesses the impacts on [a resource area]." Such comments, although appreciated, do not require a specific response and are not called out herein. The comments and responses are grouped by area of concern, as follows:

1.0 Air Force Policy

2.0 Purpose and Need for Action

3.0 Alternatives Including the Proposed Action

4.0 Land Transfer/Disposal

5.0 Local Community

6.0 Land Use/Aesthetics

7.0 Transportation

8.0 Airspace

9.0 Utilities

10.0 Hazardous Materials/Waste Management

11.0 Soils and Geology

12.0 Water Resources

13.0 Air Quality

14.0 Noise

15.0 Biological Resources

16.0 Cultural Resources

17.0 Socioeconomic Impact Analysis Study

Within each area, each consolidated comment-response is numbered sequentially. For example, under 9.0 Utilities, individual comments-responses are numbered 9.1, 9.2, etc. At the end of each numbered comment is a set of numbers that refer to the specific comment in the documents received that were combined into that consolidated comment. The numbers of the individual comments are indicated in parentheses, e.g. (6-8, 11-13, 15-6, 15-22). Comment 6-8, for example, refers to document 6, comment number 8. A reader who wishes to read the specific comment(s) received may turn to the photocopies of the documents included in this section. Below each comment number is the number of the consolidated comment in which the specific comment has been encompassed, e.g. 7.5. Thus, the reader may reference back and

forth between the consolidated comments-responses and the specific comment documents as they were received.

It should be further noted that some comments in the documents received are not included in the consolidated comment-response document. These comments fall into two categories:

Comments to which no response is required, as explained above

Comments regarding the Socioeconomic Impact Analysis Study (SIAS).

Effects upon the physical or natural environment that may result from projected changes in certain socioeconomic factors that are associated with or caused by the disposal or reuse of the base are addressed within this EIS. Other socioeconomic issues, such as the region's employment base, school budgets, municipal/state tax revenues, municipal land planning, medical care for military retirees and dependents, local governments and services, real estate, and economic effects on utility systems and specific businesses are beyond the scope of NEPA and CEQ requirements. Analysis of impacts associated with these issues is provided in the SIAS; that public document will also support the base reuse decision-making process. The environmental impact analyses presented in this EIS are based on the results of the socioeconomic analyses described in detail in the SIAS. All comments pertaining solely to issues addressed in the SIAS were considered beyond the scope of this EIS, and so are not addressed in the comment and response chapter. However, those comments have been reviewed and responses have been provided to the commentors. Comments concerning socioeconomic issues addressed in the SIAS only are indicated with an S on the photocopies of the comment documents. Comments related to socioeconomic factors that are addressed in this EIS (e.g., population, employment) have been included in this chapter.

Finally, it should be emphasized that not only have responses to EIS comments been addressed in this comment-response chapter, as explained, but the text of the EIS itself has also been revised, as appropriate, to reflect the concerns expressed in the public comments.

The list of commentors includes the name of the commentor, the identifying document number that has been assigned to it, and the page number in this section on which the photocopy of the document is presented.

1.0 AIR FORCE POLICY

1.1 Comment: Some type of agreement or stipulation may be necessary with reuse recipients to ensure that all mitigation measures and subsequent monitoring identified in the EIS are carried out. (5-5)

Response: NEPA does not require that any mitigation actions be adopted by a federal agency. However, the Air Force agrees that certain stipulations, as required by other applicable laws and regulations, may be necessary to ensure enforcement of certain mitigations. Examples of such stipulations may include covenants to protect historic resources eligible for listing on the NRHP, and restrictions on certain reuse activities that could interfere with the Air Force's efforts to remediate a contaminated site. Mitigations deemed necessary would be stipulated in the ROD.

Many aspects of the future reuse of the disposal property will be regulated by Federal, State, and local regulatory agencies when the reusers develop detailed plans on implementation of the reuse activities. Additionally, much of the detailed information about specific impacts resulting from project development will not be available until those projects are developed. For the different phases of project redevelopment, this information may not be available until several years after property disposal. Air Force imposition of restrictions, except those required by federal law or regulation, on future reuse at the time of property disposal may be premature and may unduly restrict future land uses that may otherwise be acceptable to regulatory and zoning agencies with oversight of project activities.

2.0 PURPOSE OF AND NEED FOR ACTION

No comments were received for this area of concern.

3.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

3.1 Comment: The No-Action Alternative or the transfer of Eaker AFB to another federal agency is the preferred course of action for the protection of historic properties. (9-1, 11-1, 11-2, 11-5)

Response: Comment noted.

3.2 Comment: Support was indicated for the use of the Weapons Storage Area and surrounding grounds as an Interpretive Center/Museum and Curation Facility. (12-1)

Response: Comment noted.

3.3 Comment: Comment includes the statement that the Air Force has chosen the Proposed Action as a result of the study. (5-1)

Response: Clarification is necessary to correct this assumption. The Air Force has chosen the community's reuse plan as the Proposed Action only for purposes of the analysis. The Air Force has not chosen the Proposed Action as the final reuse of the property. The determination of the decision maker will be outlined in the ROD developed after publication of the *EIS for the Disposal and Reuse of Eaker AFB.*

3.4 Comment: The EIS should explain the present need for closing the Blytheville Municipal Airport and include generalized environmental impacts as a result of closing the airport. (5-4)

Response:

Text has been added throughout the document discussing the closure of Blytheville Municipal Airport and its relocation to Eaker AFB. Text can be found in the Proposed Action and the General Aviation Alternative descriptions (Chapter 2); the Affected Environment description (Chapter 3) where closure of the airport was included in the ROI for affected resources; and in the Environmental Consequences section (Chapter 4) where impacts of the airport's closure are discussed for affected resources.

4.0 LAND TRANSFER/DISPOSAL

4.1 Comment: Eaker AFB should be transferred to the National Park Service to assure protection of historic properties. (9-3, 11-4, 11-7)

Response: Disposal methods permitted by federal property management regulations include: transfer to another federal agency, donation or public benefit sale to a public body under special statutory authority, negotiated sale to a public body, or sale by public auction and/or sealed bid to a private interest. No requests for the transfer of all or part of Eaker AFB have yet been received from the National Park Service or other federal agency. In order to facilitate the possibility of such a request, a potential scenario was created by the Air Force and analyzed under Other Land Use Concepts (Section 2.3.3.2). This scenario sets aside 330 acres which contain the majority of the archaeological sites for potential transfer or conveyance to a government or private agency. The reuse assumed for the analysis was the creation of an interpretive center of museum, and preservation of the associated historic properties.

5.0 LOCAL COMMUNITY

No comments were received for this area of concern.

6.0 LAND USE/AESTHETICS

6.1 Comment: Government housing at Eaker AFB should be utilized for low-income housing and for replacing condemned property within the community. (1-3, 3-1)

Response: Two housing locations at Eaker AFB have been identified as possible sites for low-income families and individuals and for the homeless population in the region. These housing areas are discussed under the McKinney Act in Other Land Use Concepts (Section 2.3.3.1) and are analyzed throughout the EIS.

Under various reuse scenarios some base housing is to be demolished to reduce density in the residential areas. It may be possible to move these homes rather than demolish them so as to replace condemned homes in local communities as requested. The decision to demolish or move these structures, however, would be up to the developer of the property.

At this time no active official request for McKinney Act housing at Eaker AFB is pending. One request for housing for the homeless had been received by the Air Force, but was later withdrawn by the proponent.

7.0 TRANSPORTATION

No comments were received for this area of concern.

8.0 AIRSPACE

No comments were received for this area of concern.

9.0 UTILITIES

9.1 Comment: The final EIS should discuss the applicability of the final NPDES storm water regulations, promulgated in November 1990, to the disposal and reuse alternatives and any necessary permitting requirements. (5-2)

Response: Text in Section 4.2.4 has been added stating that new users may have to make provisions for pretreatment of industrial wastewater, including storm water and may also be required to obtain discharge permits in accordance with the ADPCE.

10.0 HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

10.1 Comment: A description of pollution prevention and waste minimization policies and practices should be included in the EIS. (5-3)

Response: The development and implementation of pollution prevention and waste minimization policies and practices would be the responsibility of the reuse proponent. Recycling and/or reuse of inert demolition wastes are recommended in the discussion of mitigation measures in Section 4.2.4.1. Mitigation measures to be contemplated during development are discussed for each environmental resource as applicable. A table summarizing mitigation and pollution prevention measures has been added to the Summary.

11.0 SOILS AND GEOLOGY

No comments were received for this area of concern.

12.0 WATER RESOURCES

No comments were received for this area of concern.

13.0 AIR QUALITY

No comments were received for this area of concern.

14.0 NOISE

No comments were received for this area of concern.

15.0 BIOLOGICAL RESOURCES

No comments were received for this area of concern.

16.0 CULTURAL RESOURCES

16.1 Comment: Clarification of the "New Hope North Sawba Cemetery" should be included in the EIS with regard to the earliest dates the site was used for burials, the number of burials, and potential relocation of the site. (1-1, 2-1, 2-2, 2-4)

Response: The Air Force is conducting documentary and field research in an attempt to validate conflicting information on the Chickasawba (also known as the New Hope or North Sawba) cemetery. Text has been revised to incorporate data provided to the Air Force with the written comment. Resolution regarding the most accurate information obtained during this effort will be made available prior to disposal of the property.

16.2 Comment: The Air Force should make available the original survey and photographs of the objects found on the site of the "New Hope, North Sawba Cemetery". (2-3)

Response: In conjunction with the research described under the response to comment 16.1, the Air Force is attempting to locate the 1942 survey report and any details regarding the miscellaneous objects collected during the performance of the survey. The community will be provided with any documentation or photographs acquired during the process, prior to the disposal of the property.

16.3 Comment: Cultural resources at Eaker AFB should be protected. (7-1, 10-1)

Response: The Proposed Action and alternatives offer reuse plans designed to eliminate or minimize adverse impacts to cultural resources on Eaker AFB. The Air Force is currently conducting significance evaluations for all such properties on the base. Any resources found to be eligible for inclusion in the NRHP will be treated in accordance with all appropriate federal regulations. These regulations stipulate that all federal agencies will manage historic properties with preservation goals in mind. If these resources are ultimately included in parcels conveyed to non-federal parties, appropriate restrictions will be placed on the disposal document ensuring the new owner will follow, at a minimum, federal cultural resource regulations.

16.4 Comment: There appears to be a discrepancy in the description of where archaeological site 3MS105 is located. (1-2)

Response: The location of archaeological site 3MS105 has been verified by field survey and remote sensing conducted in association with the evaluations of cultural resources on Eaker AFB. However, the Archaeological Resources Protection Act prohibits the disclosure of specific site locations in public documents. All information regarding cultural resources on Eaker AFB, including site 3MS105, is filed with the Arkansas State Office of Historic Preservation.

16.5 Comment: The Air Force is encouraged to follow the Advisory Council on Historic Preservation's regulations (36 CFR Part 800.10) regarding the protection of National Historic Landmarks (NHL). (9-2, 11-3, 11-6)

Response: Archaeological site 3MS105 has been nominated to the NRHP. The Air Force will work with the National Park Service to ascertain the site's eligibility as a NHL. As a federal agency, the Air Force is bound by and committed to compliance with all federal regulations, including 36 CFR Part 800.10. Regulations addressing the NHL program are described in detail in 36 CFR Part 65.

17.0 SOCIOECONOMIC IMPACT ANALYSIS STUDY

No comments were received for this area of concern.

INDEX OF COMMENTORS

Page	Document #	Author	Title Agency
9-23	1	Transcript of Public Hearing	
9-33	2	Jonathan Abbott	Member, Historic Education Committee
9-34	3	Curtis J. Smith	President, Delta Action Council
9-35	4	I.J. Ramsbottom	Regional Environmental Officer, U.S. Department of Housing and Urban Development
9-35	5	Robert P. Cantrell	Assistant State Conservationist, Soil Conservation Service
9-35	6	Vernon Bond	Community Service Director, Carduus Counseling Center
9-36	7	Marion L. Haynes	Member, Mississippi County Historical Commission
9-36	8	Randall L. Leister	Staff Forester, Arkansas Forestry Commission
9-36	9	Cathy Buford	State Historic Preservation Officer
9-37	10	Glenn B. Sekavac	Acting Regional Environmental Officer, U.S. Department of the Interior
9-37	11	Joe Gillespie	Manager, State Clearinghouse
9-43	12	Robert H. Lafferty III, Ph.D	Mid-Continental Research Associates
9-43	13	Kenneth W. Holt	Department of Health and Human Services
9-44	14	B.J. Wynne	Regional Administrator, U.S. Environmental Protection Agency

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UNITED STATES AIR FORCE
PUBLIC HEARING

on the

DRAFT ENVIRONMENTAL IMPACT STATEMENT

for

DISPOSAL AND REUSE

of

EAKER AIR FORCE BASE

August 13, 1992 at 7:00 p.m.

Ritz Civic Center
Blytheville, AR 72315

GIBSON REPORTING SERVICE
Dianne Gibson, CCR
Route 2, Box 226B
Jonesboro, AR 72401

(501) 935-1213

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(REPORTER'S NOTE: Slide #1 - Public hearing title.)

LIEUTENANT COLONEL STARR:

Good evening, ladies and gentlemen, and thank you for coming tonight. Can everyone hear me all right? Apparently so. This is the public hearing on the Draft Environment Impact Statement for the Disposal and Reuse of Eaker Air Force Base. I'm Lieutenant Colonel Starr, and I'll be the presiding officer over tonight's hearing.

This hearing is held under the provisions of the National Environmental Policy Act and implementing regulations. The Act requires that federal agencies study the potential environmental impacts of certain proposed actions and alternatives, and consider the findings of those studies in deciding how to proceed.

On October 28th, 1991, a scoping meeting was held here in Blytheville to hear your suggestions concerning what should be covered in the Environmental Impact Statement, or EIS. Since that meeting, the Air Force has examined the environmental concerns you raised, as well as others, and prepared the Draft EIS that is the subject of tonight's hearing.

The purpose of tonight's hearing is to receive your comments, suggestions and criticisms of the Draft EIS. For those of you who haven't had a chance to review the Draft EIS, you may want to read the summary of the major findings of the EIS in the

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handout available at the door. Those findings will also be discussed by the panel members in their presentations to you tonight.

(REPORTER'S NOTE: Projector off.)

Before introducing the panel members, I'll explain my role in this hearing. I'm a military judge and, primarily, I serve as a trial judge for Air Force courts martial.

I'm not here as an advocate or an expert on this Draft EIS, and I've had no connection with its development. I'm not here as a legal advisor to the panel members who will be talking to you tonight. My purpose is to see that we have a fair, orderly hearing, and that everyone who wants to speak gets a fair chance to speak.

Now, I'll introduce the members of the public hearing panel. On my right is Mr. Gene Aefsky of the Air Force Base Disposal Agency. He'll describe the Air Force Base disposal process. To his right is Lieutenant Colonel Gary Baumgartel. Lieutenant Colonel Baumgartel is the Chief of the Environmental Planning Division at the Air Force Center for Environmental Excellence at Brooks Air Force Base, Texas. He'll discuss the Environmental Impact Analysis process, and summarize the results reported in the Draft EIS. To Lieutenant Colonel Baumgartel's right is Mr. Tim Tandy of the Federal Aviation Administration, or FAA. Mr Tandy is from the FAA's Southwest Regional Office. Because two of the reuse proposals in the EIS involve some form of airport

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[illegible] operations [illegible] alternatives [illegible] operations.

This meeting is intended to provide a continuing public [illegible] about the Draft EIS [illegible] decision-making process.

If [illegible] the first part of the hearing the panel members will discuss details of the [illegible] and the anticipated environmental impacts. The second part of the hearing will give you an opportunity to provide information and make statements for the record. This gives the decision makers the benefit of your knowledge of the local area and any adverse environmental effects you think may result from the proposed action or alternatives.

Also, if you have any questions regarding the Environmental Impact Analysis process or the environmental impacts presented in the Draft EIS, please ask the panel members and they will answer to the extent they can answer.

If your question is a technical question that requires further research and cannot be answered tonight, the Air Force

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[illegible] adequate [illegible]

[illegible] meeting [illegible] addressed.

When you came tonight you were given a [illegible] card and were asked [illegible] wish to speak tonight. After Mr. [illegible] statement, the delegates have [illegible] their statements [illegible] minute [illegible] After [illegible] members of the public [illegible] want to speak but wish to speak later, please fill out the card during the break that you will find back at the registration table.

[REPORTER'S NOTE: Slide #[illegible] Address.]

If you don't feel like standing up tonight and making a statement, you have until September 8th of this year to submit a copy of your statement to the Air Force [illegible]

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publishing the Final EIS. The Air Force will accept comments after September 8th but cannot guarantee that late comments will be included in the Final EIS. Special sheets are provided in the registration area for your use in providing these comments.

The address shown on the slide is also contained in the booklets and comment sheets you received as you entered the Convention Hall. Even if you make comments tonight, you have until September 8th to submit additional written comments to the address shown on the slide and at the bottom of the comment sheets.

Whether a statement is made verbally or submitted in writing, either tonight or later, the statement will have the same impact and will be considered to the same extent.

(REPORTER'S NOTE: Projector off.)

Don't be hesitant to make a statement tonight. I want to ensure that all who wish to speak have a fair chance to be heard. We have a Court Reporter here, Mrs. Dianne Gibson, who will take down, word for word, everything that is said tonight. This record will become part of the Final EIS. The reporter will be able to make a complete record only if she can hear and understand what you say. With that in mind, please help me enforce the following ground rules tonight.

First, please don't begin speaking until I recognize you and please address your remarks to the panel members. If you have a written statement, please place it in the box at the edge

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of the stage by the podium and you may also read the statement if you choose to do so.

Second, speak clearly and slowly into the microphone at the podium, starting with your name, address, and the capacity in which you appear, that is, public official, designated spokesperson of a group, or concerned citizen. This will help the court reporter prepare a professional transcript.

Third, please limit your remarks to approximately five minutes and please honor any request that I make that you stop speaking. I won't make such a request unless it appears that the length of your comments will unreasonably interfere with the opportunity of others to speak tonight.

Fourth, do not speak while another person is speaking. Only one person will be recognized at a time.

And finally, please do not smoke in this room.

One thing is extremely important. You may have information about environmental concerns that are peculiar to the [illegible]. The Air Force is very interested in knowing and assessing all potential environmental impacts of the proposed action and alternatives. You have experience that comes from living in this area, so the second part of tonight's meeting, that is, the part that focuses on you, [illegible] the panel, [illegible] please don't hesitate to participate in these proceedings tonight.

Now, it's my pleasure to introduce Mr. [illegible], who will describe the Air Force Base disposal process.

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MR. GENE AEFSKY:

Thank you, Colonel. Can you all hear me? My name is Gene Aefsky, and I work for the Air Force Base Disposal Agency, an office created to manage the clean-up and disposal of Air Force Bases closed under the authorized authorities of the Two Base Closure and Realignment Laws. In discussing the Air Force's proposed action of disposing of Eaker Air Force Base, I'd like to cover four general topics.

(REPORTER'S NOTE: Slide #2 - Overview.)

First is disposal planning. Second is the objective used by the Air Force to guide its planning. Third is disposal considerations we will use to arrive at a decision. And last is the Air Force decision itself. That is what actions the Air Force will take, based on the findings in the EIS and other considerations.

The Secretary of the Air Force has been delegated the authority to act as the Federal Disposal Agent under the 1988 Base Closure and Realignment Act and the Defense Base Closure and Realignment Act of 1990, to utilize or dispose of the federal property which makes up the Air Force's closing bases. Usually this responsibility rests with the General Services Administration. Despite this change, the traditional statues for disposal of federal property are still in effect.

The Air Force must adhere to those laws and General Services Administration regulations that were in place at the time of the

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passage of the Closure Acts. The Air Force has also issued additional policy and procedures required to implement the delegated authority. Another provision of the 1988 and 1990 Acts requires us to consult with the state governor and local governments for the purpose of considering any plans for the use of such property by the local community concerned. We are meeting this consultation requirement by working with the latter authorities.

Finally, our planning recognizes that the Secretary of the Air Force has full discretion in deciding how the Air Force will dispose of the property.

(REPORTER'S NOTE: Slide #4 - Disposal objective.)

The Air Force recognizes the significant economic impact closure will have on the local communities, and it is the Air Force's goal to complete closures as quickly and efficiently as possible. The federal government and the Air Force are committed to assisting communities in their efforts to replace the departing military activities with viable public and private enterprises. We are in the process of developing a comprehensive disposal plan which attempts to balance the needs of the community, the environmental consequences of our disposal decision, and the needs of the Air Force.

Congress has only provided start up capital for implementation of the realignments and closures. Therefore, revenues from property sales will be used to offset the funding

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shortfall.

(REPORTER'S NOTE: Slide #5 - Disposal considerations.)

The disposal of property is accomplished in a three part planning process which includes:

First, the Air Force's preparation of an Environmental Impact Statement. This statement analyzes the various reasonable disposal and reuse alternatives for the Base.

Second, the community's plan for the future use of the property.

And finally, the Air Force's disposal plan which analyzes the various disposal options. The disposal plan is based on a thorough real estate analysis of the Base and region, results from the Environmental Impact Statement, interest shown by other federal agencies, and inputs from the Community Reuse Organization.

The EIS process culminates with the issuance of a record of decision which documents the decisions for the disposal of the real property, and specifies what environmental mitigations may be needed to protect human health and the environment as a result of the disposal and reuse decisions selected.

(REPORTER'S NOTE: Slide #6 - Disposal decision.)

Under current law, other federal agencies and homeless assistance providers must be given priority consideration in the use and acquisition of excess Base real property. It is the Air

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Force's policy to inform the local community representatives of any expressed interest from the federal agencies or homeless assistance providers. We encourage all parties to communicate openly with each other during the disposal planning process.

It should be noted that federal agencies generally work with the community to solicit support for their proposal to acquire property. Moreover, it has been the Air Force's experience that such uses for a portion of the property and facilities can be accommodated with the overall community's planned future uses for the entire Base.

In general, the disposal options are federal agency transfers; public benefit conveyance to states, their political subdivisions and eligible nonprofit institutions; negotiated sales to public agencies for public purposes; and competitive sales to the general public.

(REPORTER'S NOTE: Projector off.)

The laws and regulations governing disposal do not establish a rigid priority for disposal, but provide the federal disposal agent with the broad discretion necessary to ensure that all federal real property interests are disposed of in an efficient and effective manner.

Therefore, the Secretary of the Air Force will decide on the actual method of disposal. Final disposal decisions will be documented in the record of decision.

The last subject I'd like to address is that of

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environmental clean-up. The Air Force is committed to cleaning up all areas contaminated by past Air Force activities, and protecting the health and safety of the public and any future owners of Eaker Air Force Base. Clean-up activities are continuing, and additional studies are underway which will fully characterize contamination of all other sites to determine the best means to clean them up.

It should be clear that if contaminated areas are not ready for disposal at the time of closure, the Air Force will not convey ownership until the property is suitable for transfer. On other parcels, we may require easements and a rights of entry, to prevent long-term groundwater monitoring and treatment. Nevertheless, despite he Air Force's commitments to cleaning up all past contaminated areas and protecting the public, we do not expect any clean-up activities to delay the reuse of uncontaminated property at Eaker Air Force Base.

Thank you for the opportunity to meet with you this evening. Now, I'd like to turn the meeting back to Lieutenant Colonel Starr. Thank you.

LIEUTENANT COLONEL STARR:

Thank you, Mr. Aafsky. Now, Lieutenant Colonel Gary Baumgartel will address the environmental process.

(REPORTER'S NOTE: Slide #1 - Environmental process.)

LIEUTENANT COLONEL BAUMGARTEL:

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Thank you, Lieutenant Colonel Starr. Good evening. I'm Lieutenant Colonel Gary Baumgartel from the Air Force Center for Environmental Excellence at Brooks Air Force Base in Texas. Our organization is conducting the Environmental Impact Analysis Process for the disposal and reuse of Eaker Air Force Base as well as for other Air Force installations mandated to close or be realigned during Round II under the Base Closure and Realignment Act.

Tonight, I will present the schedule for this Environmental Impact Analysis Process, and show how the public comment period fits into the schedule. I'll also discuss the scope of the study, the relationship between the Environmental Impact Statement, which I'll refer to as the EIS, and the Socioeconomic study. Last, I will present the results of our analysis by resource category.

(REPORTER'S NOTE: Projector off.)

In October, 1991, the Notice of Intent to Prepare an EIS for Disposal and Reuse was published in the Federal Register. A scoping meeting was held in these chambers on October 28th, 1991, to receive public input on a scope of issues to be addressed in the Environmental Impact Statement, and to identify reuse alternatives and issues related to property disposal.

During the scoping process, our office received input from the public, as well as comprehensive reuse proposals from the Blytheville-Gosnell Development Authority, or BGDA. The BGDA

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proposal, and one of the alternatives developed for study by the Air Force, included aviation components. Due to the potential for an aviation reuse of the Base, the Federal Aviation Administration, Southwest Region, was invited, and subsequently agreed to become a cooperating agency in the preparation of the EIS.

After scoping, we collected the necessary data and conducted the analysis. The Draft Environmental Impact Statement was filed with the U.S. Environmental Protection Agency on July 17th of this year.

(REPORTER'S NOTE: Slide #2 - Public comment period.)

In addition to tonight's hearing, written comments on the Draft Environmental Impact Statement will continue to be accepted at this address shown on this line until September 8th of this year. After the comment period is over, we will evaluate all comments, both written and oral, and perform additional analysis, or change the Environmental Impact Statement where necessary. Again, as in the scoping, in the scoping process, equal consideration will be given to all comments, whether they're presented here tonight or mailed prior to September 8th, 1992.

Comments received after September 8th cannot be considered in the Final Environmental Impact Statement because of the schedule constraints. And once the review process is complete, we will produce a Final Environmental Impact Statement, scheduled

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for completion in November of 1992, and mail it to all those on the original Draft Environmental Impact Statement Distribution List. If you are not on our mailing list, then you can request a copy by writing to this same address.

The Final Environmental Impact Statement will include comments received during the public period, and our responses to those comments.

If appropriate, we will group comments into categories, and respond accordingly. Depending on the number and diversity of comments, or the need to conduct additional analysis, the Final Environmental Impact Statement consists of a separate volume as a companion to the Draft Environmental Impact Statement, which will include the public comments and response and the appendices. The document will serve as an input for the record of decision which will document the decision by the Air Force.

As you just heard from Mr. Aafsky, other studies and considerations of other issues besides those addressed in the Environmental Impact Statement will enter into the final disposal decision. We expect to accomplish the record of decision in December of 1992.

(REPORTER'S NOTE: Projector off.)

The Draft Environmental Impact Statement was prepared to comply with the National Environmental Policy Act and the Council on Environmental Quality Regulations. Efforts were made to reduce the needless bulk, write in plain language, focus on

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those issues that are clearly related to the environment, and to integrate with other documents required as part of the decision making process. Reuse alternatives that were developed during the scoping process were individually analyzed to provide an environmental comparison.

The analysis focuses on impacts to the natural environment that may occur as direct result of the Base disposal and reuse, or indirectly through changes in the community. Resources evaluated are soils and geology; water, both surface and groundwater; air quality; noise; biological resources; and cultural resources.

Indirect changes to the community that provide measures against which environmental impacts could be analyzed included changes to the local employment and population, land use and aesthetics, transportation, and community utility services.

In addition, the following issues related to current ad future management of hazardous wastes, hazardous materials and wastes are discussed in the document; hazardous materials management, the Air Force's installation restoration program, asbestos, pesticide usage, polychlorinated biphenyls or PCBs, radon, an medical or biohazardous waste management.

If, as a result of our analysis, it was determined that substantial adverse environmental impacts would occur through implementation of a reuse alternative, potential mitigation measures were identified and included in the document.

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As I mentioned earlier, this Draft Environmental Impact Statement focuses on the impacts to the natural environment that may occur, either directly or indirectly, from the disposal and reuse of Eaker Air Force Base. The document addresses socioeconomic factors, where there is a relationship between Base disposal and the changes to socioeconomic conditions that would result in impacts to the natural environment.

Our organization has recently produced a separate socioeconomic study that is not required under the National Environmental Policy Act. It describes, in greater detail, how disposal and reuse of Eaker Air Force Base may economically affect the surrounding area. Specifically, the socioeconomic study addresses the following factors for each of the reuse alternatives: population, employment, housing, public finance, education, government, police and fire, medical, recreation, transportation, and utilities.

Copies of this document were recently provided to key federal, state and local officials, and are available for review at libraries in the area. This document will also be forwarded to the decision maker for input into this disposal process.

Now, I would like to present an overview of the proposed action and alternatives that have been analyzed. And afterwards, I will present a synopsis of the results of the analysis by resource category.

Please note that the nomenclature or title of each

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alternative is presented to give the reader, or the person reviewing tonight, only a general idea of the action. Each of the alternatives contains numerous activities which may not be included in the title.

(REPORTER'S NOTE: Slide #3 - Proposed action.)

This figure shows the land uses for the proposed action. The focus of the proposed action is the reuse of existing aviation related facilities to establish a general aviation facility. Commuter service and air cargo operations would constitute a small percentage of aircraft operations. The airfield would also be used for pilot training, aircraft maintenance, military operations, and as a weather alternative site for air carriers.

Non-aviation portions of the Base include industrial, institutional, commercial, residential, public or recreation, which includes the archaeological and open space, and agricultural.

The institutional use includes the alert facility which would be used as a training academy for emergency response personnel.

Aviation related land use areas are indicated in blue. Industrial areas are shown in brown. The associated non-aviation land uses proposed for other portions of the Base property include commercial areas shown in red. The institutional areas are shown in pink. The residential areas are shown in yellow.

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Public and recreational areas are shown in light gr .n, and the agricultural areas are shown in the dark green.

(REPORTER'S NOTE: Slide #4 - General aviation alternative.)

This figure shows the land uses for the general aviation alternative. The focus of this plan is once again on a general aviation facility. The primary difference from the proposed action include the use of a shorter runway, fewer flights, and smaller aircraft.

More residential use is proposed for the new residential development to be located on the eastern side of the Base. Once again, the aviation land use is shown in blue. Industrial use is shown in brown. Commercial areas are shown in red. Institutional areas are shown in pink, residential in yellow. Public and recreational areas are light green, and agricultural is in dark green.

(REPORTER'S NOTE: Slide #5 - Non-Aviation Alternative.)

This figure shows the land uses for the non-aviation alternative. Under this plan, the Base's airfield and most aviation related facility would be reused for industrial purposes, and that's shown in brown. The commercial public and recreational, residential and institutional are being shown in red, light green, yellow and pink, respectively. You'll also notice that a large portion of the Base would be reused for

agricultural, again in the dark green.

(REPORTER'S NOTE: Slide #7 - No Action Alternative)

As required by the National Environmental Policy Act, the No-Action alternative was also evaluated. No-action alternative results in the Air Force retaining control of the Base property after closure. The property would be closed and maintained in a condition to prevent deteriorations. An operating location team would be provided to ensure Base security and maintenance of grounds and physical assets, including the existing utilities and structures.

I would now like to present the results of our analysis that are presented in the Draft EIS. The proposed action and all the alternatives were analyzed to the same level of detail. The baseline conditions assumed for the purpose of analysis are the conditions projected at closure, or December 15th, 1992. The following slides show the comparative impacts among the reuse alternatives, excluding the no-action alternative.

(REPORTER'S NOTE: Slide #8 - Employment)

Redevelopment of the base will be beneficial to the regional economy. In addition to the direct jobs on site, a substantial number of indirect jobs will be created throughout the region. These additional jobs will increase regional earnings, income, and spending. Employment would be phased over a twenty year redevelopment period.

The graph shows an increase in employment in the region of influence, due solely to reuse activities at the Base projected through the year 2013. The region of influence includes the counties assumed to be most affected by reuse of the Base, and include Craighead, Greene, and Mississippi Counties in Arkansas, Dunklin and Pemiscot Counties in Missouri.

The communities of Blytheville and Gosnell are likely to experience the largest increases in employment. Depending on the reuse alternative followed, activities at the Base would result in an additional five thousand nine hundred (5,900) to over nine thousand seven hundred (9,700) direct and secondary jobs in the area by the year 2013. This increase translates to an increased growth in the local job market of five to eight percent by the year 2013.

(REPORTER'S NOTE: Slide #9 - Population)

Redevelopment activities and job growth in the area are also expected to lead to population in-migration to the region. The greatest number of people are expected to locate within Mississippi County. The communities of Blytheville and Gosnell are likely to experience the largest increases in population.

This graph shows the increase in population within the region of influence, due solely to reuse activities at the Base projected through 2013. In the same period, other growth in the region, excluding growth due to reuse activities at the Base, is expected to increase the population by three percent to

approximately two hundred and eleven thousand seven hundred (211,700) in the year 2013. Reuse activities at the base over the same period could further increase the population by three thousand eight hundred (3,800) to eleven thousand (11,000) people, depending on the alternative selected. This represents a two to five percent increase in the area's ongoing population growth.

(REPORTER'S NOTE: Slide #10 - Land Use and Aesthetics)

Land uses in the various development alternatives are generally consistent with zoning presently in existence around the Base. The type and number of aircraft expected to use the airfield will result in reduced noise levels off base, as compared to the Air Force operations when the base was fully activated, and could allow other land uses to be developed in these areas. Retention and reuse of most existing facilities will occur. In addition, little change will be experienced in the general appearance of the base.

(REPORTER'S NOTE: Slide #11 - Vehicle traffic)

The redevelopment of Eaker Air Force Base will affect local and regional transportation networks. Reuse of the Base will increase traffic on arterial roads near the Base, especially State Highway 151 and State Highway 181.

This graph shows the estimated number of average daily trips, projected to the year 2013, generated by each of the reuse

alternatives. The number of daily trips to and from the Base would range from sixteen thousand six hundred (16,600) under the General Aviation Alternative, to over twenty-five thousand (25,000) under the proposed action by the year 2013.

Depending upon the redevelopment alternative implemented, additions and upgrades to the transportation network may be required. A major concern will be providing proper access to the Base.

(REPORTER'S NOTE: Slide #12 - Aircraft Operations)

The runway and accompanying facilities are incorporated into two of the prospective redevelopment alternatives. This graph shows the level of annual air operations projected through the year 2013 for each plan. For reference, approximately fourteen thousand five hundred (14,500) flight operations, consisting primarily of bomber, cargo and training flights, occurred at Eaker Air Force Base in 1990. By 2013, the number of annual air operations would increase to about sixty thousand five hundred (60,500) under the proposed action, and forty-six thousand one hundred (46,100) under the General Aviation Alternative. Operations for the proposed action would include a mix of general aviation, cargo and aviation maintenance and training traffic.

The General Aviation Alternative would serve only general aviation needs. The number of operations under both alternatives is not expected to exceed the airspace capacity of the region

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(REPORTER'S NOTE: Slide #13 - Utilities)

Redevelopment of Eaker Air Force Base will place demands on local utility systems including water, wastewater, solid waste disposal, electricity and natural gas.

This table shows the projected utility demand increases in the region for each of the reuse alternatives. As a reference, the first column shows the total local purveyor regional demands, projected to the year 2013, without any reuse of the Base. For instance, the total water demand in the region of influence is projected to be 3.49 million gallons per day by 2013.

The other three columns show the increases in utility demand associated with each alternative in the year 2013. For example, under the proposed action, the total regional water demand is projected to be 1.2 million gallons per day higher than the regional demand without reuse of the Base.

For all of the utilities under all of the alternatives, increases in demand range from less than two percent for electricity to a high of forty-four and a half percent for solid waste disposal.

Infrastructural changes would be required to adequately meet the projected demand under the alternatives. Redesign or reconfiguration may be necessary for some utilities to accommodate particular user related demands. Individual metering would need to be installed at most locations.

(REPORTER'S NOTE: Slide #14 - Hazardous

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Materials/Waste Management)

The Air Force is conducting investigations to identify, characterize and remediate environmental contamination on Eaker Air Force Base that has resulted from past actions. This comprehensive effort is called The Installation Restoration Program.

Remedial activities will be accomplished in accordance with applicable federal and state laws and regulations. Some initial remedial actions will be underway, continuing after Base closure. Remediation and monitoring of certain sites at the Base may require long-term access to the site to ensure the success of the remedial actions.

The Air Force will take all necessary actions for environmental remediation of the Base to protect public health and the environment. Deeds of property transfer will contain this assurance, and all property transfers will be conducted in compliance with the Comprehensive Environmental Response, Compensation and Liability Act asserted.

Underground storage tanks at the Base, which are not in compliance with current regulations, will be deactivated and removed prior to disposal of the Base.

An asbestos survey will be completed on Base by September, 1992. Asbestos containing materials which may pose a threat of release will be removed or managed in accordance with Air Force policy. Renovation or demolition of asbestos containing

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structures, during Base reuse, will require the compliance with applicable federal, state, and local regulations concerning asbestos containing materials.

Polychlorinated Biphenyl compounds, called PCBs, were once used extensively in electrical equipment. Recent legislation has put stringent regulations on the manufacture, distribution and use of PCBs, because PCBs are now classified as a carcinogenic agent. All federally regulated PCB and PCB contaminated equipment owned by the Air Force has been removed from service, and properly disposed of.

And finally, the explosive ordinance range will be cleared prior to disposal.

(REPORTER'S NOTE: Slide #15 - Soils and Geology)

Potential impacts to soils and geology at Eaker Air Force Base, under the alternatives, would be due principally to ground disturbance associated with new construction. Once that construction is complete, most areas would be covered or landscaped, reducing the erosion potential. The amount of ground disturbance, due to the General Aviation Alternative, would be substantially higher due to new residential construction. Agricultural and construction uses would minimally alter the soil profiles, and would have little effect on the local topography.

(REPORTER'S NOTE: Slide #16 - Water Resources)

Groundwater basins within the region currently provide most of the potable water for use at Eaker and surrounding areas.

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Total water demand in the region is expected to reach over three thousand nine hundred (3,900) acre-feet per year by the year 2013. Increased demand due to the reuse of Eaker is expected to range from as much as thirteen hundred and forty (1,340) acre-feet per year for the proposed action to five hundred and ninety (590) acre-feet per year under the non-aviation alternative. The existing water supply in the region is adequate to meet this demand. However, infrastructural improvements may be required due to the aging distribution system.

The reuse activities are expected to comply with applicable federal and state regulations to reduce the potential to affect the quality of groundwater. Installation restoration program activities will assure that contamination at hazardous material locations is remediated, and that contamination cannot impact water supplies.

Surface water and surface drainage may also be affected by reuse activities due to construction of new facilities and infrastructure.

(REPORTER'S NOTE: Slide #17 - Air Quality Pollutants Analyzed Graphic)

Air pollutant emissions due to or related to reuse of the Base would include carbon monoxide, nitrogen dioxide, sulfur dioxide, particular matter less than ten microns in diameter which is also referred to as PM10, and ozone, which is formed by

the reaction of nitrogen oxides and reactive organic gases. Eaker Air Force Base is located in the Northeast Arkansas Air quality Control Region, which is in attainment of all federal and state air quality standards for each criteria pollutant. An attainment area is a region that meets the national ambient air quality standards for a criteria pollutant under the Clean Air Act.

(REPORTER'S NOTE: Slide #17A - Air Quality Pollutants Analyzed)

Pollutant emissions as a result of any of the reuse alternatives would produce a negligible impact on the regional air quality, and thus, the area will remain in attainment of federal and state standards.

(REPORTER'S NOTE: Slide #18 - Noise)

No people will be exposed to DNL noise levels of sixty-five decibels or more from aircraft activity under the reuse alternatives. DNL is the Day-Night average sound level expressed in decibels, with a penalty added to account for increased annoyance from noise during the night. Sixty-five decibels is equivalent to normal speech at three feet. Noise effects are based on present locations of residences and the maximum projected noise. The maximum projected noise effects would occur in the year 1998 for the proposed action, and the year 2013 for the general aviation alternative. The aircraft noise projections take into account the federally mandated transition to quieter

aircraft. Also, roadway segments may experience increased noise levels due to increased surface traffic.

(REPORTER'S NOTE: Slide 18A - Noise Contours)

The land area exposed to sixty-five DNL or greater for maximum projected noise will range from thirty-three (33) acres under the general aviation alternative to six hundred and thirty-three (633) acres under the proposed action.

(REPORTER'S NOTE: Slide #18B - Preclosure Noise Contour)

For comparison, preclosure military operations at the Base exposed an area of over fifty-seven thousand seven hundred (57,700) acres to sixty-five DNL or greater.

(REPORTER'S NOTE: Slide #19 - Biological Resources)

Analysis of biological resources at Eaker Air Force Base included an explanation of potential impacts to native and naturalized plants and animals, threatened or endangered species, and sensitive or critical habitats.

Wetlands are considered a unique biological resource. They are described as areas where saturation with water is the dominant factor determining the types of plants and animals living in the area. A total of fifty-four (54) acres of wetlands occur on or adjacent to the Base. These sites include the Pemiscot Bayou, The south bank and central portion of Razorback Lake, Lake Pride, and the eastern extension of Ditch 25.

Implementation of reuse alternatives is expected to affect less than one-half acre of wetlands. Effects could easily be mitigated. Biological studies confirm that the reuse alternatives will not affect any threatened or endangered species.

(REPORTER'S NOTE: Slide #20 - Cultural Resources.)

Consultation is currently underway with the Arkansas State Historic Preservation Officer, concerning the potential significance of cultural resources at the Base. None of the buildings at Eaker Air Force Base are considered eligible for the National Register of Historic Places.

Twenty-one archaeological sites have been identified on Eaker Air Force Base. One site has been determined significant or eligible for the National Register of Historic Places. A second site has been evaluated but as not significant. Only sites eligible or potentially eligible for the National Register are subject to consideration under federal and state law. The remaining nineteen (19) known archaeological sites on the Base have not yet been evaluated for significance. They are, therefore, considered potentially eligible for inclusion on the National Register. One parcel has recently been surveyed, and once analysis is completed, the results of that investigation will be incorporated into the analysis of potential impacts.

Potential ground disturbance could adversely affect multiple

sites under all reuse alternatives. However, under the proposed action, the vast majority of archaeological sites lie within land use zones that are scheduled for minimal or no redevelopment. The greatest potential for impact from the general aviation and non-aviation alternatives is due to the substantial areas proposed for agriculture.

Potential impacts from construction could be mitigated by avoidance through project redesign, data recovery or documentation. Potential impacts resulting from farming practices could be mitigated by restricting the more intensive agricultural activities.

(REPORTER'S NOTE: Projector off.)

In closing, let me remind you that the study is in a draft stage. Our goal is to provide Air Force decision makers with accurate information on the environmental consequences of the reuse proposals. To do this, we are soliciting your comments on the Draft EIS. This information will support informed Air Force decision making.

I'd like to turn the meeting back over to Lieutenant Colonel Starr.

LIEUTENANT COLONEL STARR:

Thank you, Colonel Baumgartel. After our fifteen minute recess, we'll move into the main part of the meeting which is the public comment portion. We're now in recess.

(REPORTER'S NOTE: Off the record for short

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recess.)

LIEUTENANT COLONEL STARR:

All right. The hearing will come back to order, please. Now, we have some people who have indicated they want to speak. For those of you who are speaking, when I call on you, please state your name clearly before making your comments. Also, remember that the panel members are not the decision makers on the proposed action or the alternatives.

Finally, if you need any information or clarification before making any comments, the panel members will try to answer your questions.

And now, we'll begin the public comment period. First, I'd like to call on Mr. Jonathan Abbott.

Mr. Abbott, if you will come down to the podium, please, sir.

MR. JONATHAN ABBOTT:

I am Jonathan Abbott. My mailing address is Post Office Box 974, Blytheville, 72316. I live at 1100 East Main in Blytheville. I'm here tonight as a concerned citizen/historian, and also as a member of the Base Closure Committee, Subcommittee, Historical and Education.

I have far too numerous comments to go on record in five minutes tonight, and I would present most of them in writing. I would like to bring out tonight an issue that has been near and dear to my heart for the past many years, and that is, under

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cultural resources, the New Hope Cemetery, as it's been referred to in the Draft Statement.

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It's covered, in most detail, under E, on page 101, 102 and 103. Basically what is covered under this particular area is a 18.1 brief description of what the church was, and the cemetery, and I have some problems with some of the wording here, and I would like to just insert for the record, so that possible changes could be made.

On page 3-102, the brief statement says that this three acre parcel was established as part of the New Hope Church in 1835. Of the one hundred and nineteen graves, ninety-two still have legible headstones. Burial dates range from 1896 to 1941. All of that is true in some respect; although I think the, as being a local person, with local input, needs some clarification. I'm placing in the box various things tonight. One of them is an actual copy of the description of the land transfer in 1875 of the property from this New Hope Church. In that description, it says, in part, that is to say the land upon which New Hope Church and graveyard is now located. The statement that is in the Draft EIS statement infers that the graves range from 1896 to 1941, which are actually the dates that were possibly on the stones. But the records of Mississippi County indicate that there was a cemetery in use in October of 1875.

Also, I have, to turn in tonight, copies of part of the book which was put together by Mrs. Jeff Wade, also known as Mrs.

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Ophelia Wade, some years ago. She was a historian, genealogist in this part of the country. Her parents and her people lived for many, many years in the north Savba, Chickasawba area, as we call it. And some of the statements she makes in there, and one which agrees with a lot of the work, the interviews I have done over the past thirty or so years, she states that there was possibly up to five thousand burials at this location. I don't know how you would ever prove or disprove that, but to say that it was a larger cemetery than what it appears to be.

And in addition to that, she did a reading in 1968 of the cemetery with her father, who, I might add, was present and buried many of the people in later years there, as his father before him had. She comes up with a total, in that reading, in 1968, of a hundred and fifty-three stones, and a hundred and seventy graves. That was what was present at the time. The brief statement on 3-102 states that there are a hundred and nineteen graves, and ninety-two still having legible stones.

In addition to that, I have a copy of a paper which was put together by Mrs. Grace Morphew and Mary Hallmark, through a number of years, reading from Mr. Stovall's records, Cobb's Funeral Home, which lists an additional two hundred and fifty burials. These are in addition to the stones that are there.

So, we come up with a total of five hundred and twenty graves versus a hundred and nineteen, fair increase.

I might also add that Mrs. Grace Morphew did an independent

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reading in the early seventies of the cemetery site, and she came up with a hundred and forty-eight stones. A lot of this was probably the difference in the readings of the stones was based on personal knowledge, and a few things that appear on the stone, they were able to decipher, from knowledge of the past. Mrs. Morphew had a long running history with the cemetery.

Now, in addition to that, over the past ten, fifteen years, I have been the ombudsman, I guess you would say, for some people at the Base, involved in public relations when they have had sometimes irate citizens come through and want to know what happened to the cemetery. There has been numerous congressional inquiries as to what happened to the cemetery, quote, quote. In my years of association with the people out there, it has become known to me, through various sources, that in the original taking or giving or whatever you can call it of the cemetery, including into the Base, there was an original survey done for the Air Force, which at that time was probably referred to as U.S. Army, by a local contractor. And since it was done by a local contractor, it was given to the Air Force or the Army or engineers, whichever, who had jurisdiction at the time, and we do not have a copy of that locally.

Some limited knowledge into this says that there was some eighteen hundred to two thousand articles identified at the burial sites. Now, that could have been anything from a stick, I'm sure, to a full blown headstone. Also, what limited

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knowledge I have of this survey, states that there was six inches of concrete placed over the graves. That's open for speculation, what that was. I do know that the grave sites, stones, were laid down and are not found, whichever way you would have it, during the training sessions, and they were stood up at a later date. Anyone who visits the area out there, knows they are now standing tall, I might add, dressed and covered, double spaced apart in all directions. Unfortunately, our forefathers did not dress and cover their graves military style. Most cemeteries in the 1860s, '70s, '80s, '90s, were just hither and there, just however they fell.

2 All right. I have additional comments which I will address later as a member of the historical, the archeological sites, and 15.4 especially concerning 3MS105, which is the one, I believe, that is under, or has been, consideration for the National Register.

Briefly, there seems to be some discrepancies about the description of actually where this is. I know you may find it hard to believe, but there was some original statements made by Professor Morris, when he was asked where it was, which have not been followed through. And we're probably talking about a twenty-five to thirty acre expansion of it, or turning it in a different way or something like that.

Again, all I'd like to do is stress that I would like to see the survey that was originally done produced so that we can have a definitive reading, if that's what you would call it, on what

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was out there at the time that the Base was taken over and used by the Armed Services.

LIEUTENANT COLONEL STARR:

Thank you, sir. Any response by the panel?

LIEUTENANT COLONEL BAUMGARTEL:

We'll follow up on that, double check on this and look for that survey to get the position.

LIEUTENANT COLONEL STARR:

Thank you, Mr. Abbott. I will now call on Mr. Curtis J. Smith. Mr. Smith, come on down, please.

MR. CURTIS J. SMITH:

My name is Curtis J. Smith, president of the Delta Action Council, also a local pastor of a local church. My mailing address is Post Office Box 1035, Blytheville. I have a question 3 I want to direct concerning how, I want to know where do the phase stand on the housing project out there, as to tearing down or letting them remain? And this was our request. This was a 6.1 request not to tear down any housing units which are currently at Eaker Air Force Base, Blytheville, Arkansas. Mississippi County are in need of low income housing, especially for families to accommodate more than three to four children. We just want to submit this, and one of our reasons is we know currently of several families that are living in local churches for shelters because they lost their homes, and we feel that the housing would be really necessary to help accommodate those that are in need of

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3 ho . ng, even those that have houses. Many times we look at homeless people that are put out. We have many people in the 6.1 city of Blytheville that are living in condemned houses because they can't do any better. I would like to see those houses either moved to vacant lots so that these people can stay on it. This will help beautify the city of Blytheville, condemn some of the condemned houses in Blytheville, or use them where they presently stand. Curtis J. Smith.

LIEUTENANT COLONEL STARR:

Thank you, Mr. Smith. Any response from the panel?

MR. AEFSKY:

The Air Force isn't going to be tearing down any housing. The Air Force will be conveying an ownership interest in the property, and the following usage will be making the decision on what will happen to the property.

LIEUTENANT COLONEL BAUMGARTEL:

The Environmental Impact Statement will indicate the worst case environmental, the destruction of some, I think, the number that is in the statement is a total of nine hundred and some houses on the Base now that have previously been used. But thinning out some of those housing areas, the main military style, (unintelligible); that would be one plan, potential plan would be to thin out some of those housing units by decreasing them a couple, two hundred, two hundred fifty houses, but that was just a potential reuse, but also gives us the most adverse

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impact environmentally due to that demolition. As far as further use, as Mr. Aefsky said, that the property will be transferred and conveyed to someone else, they'll make the decision on what they can do with it and it depends...

MR. AEFSKY:

There's been no formal request for that.

LIEUTENANT COLONEL BAUMGARTEL:

It is advertised for that.

LIEUTENANT COLONEL STARR:

Thank you, Mr. Smith. Does anyone else tonight wish to make a comment, either verbally or in writing? Apparently not.

I want to thank you all for coming tonight. I want to thank you for your comments, and I thank you for your courtesy.

The hearing is closed.

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REPORTER'S CERTIFICATE

STATE OF ARKANSAS

COUNTY OF CRAIGHEAD

I, Dianne Gibson, Certified Court Reporter and Notary Public for the state of Arkansas, hereby certify that the attached and foregoing transcript is a true and accurate transcript of the public hearing as given before me on the 13th day of August, 1992.

I further certify that the above and foregoing transcript, as set forth in typewriting, is a true and accurate transcript of the proceeding, to the best of my ability.

WITNESS MY HAND AND SEAL as such Notary Public and Court Reporter on this the 25th day of August, 1992.

ARKANSAS SUPREME COURT
DIANNE GIBSON
LIC CERTIFICATE
Dianne Gibson
REPORTER

My Commission Expires:
7/29/2002

DIANNE GIBSON
NOTARY PUBLIC - ARKANSAS
CRAIGHEAD COUNTY

Document 2

Written Comment Sheet

Disposal and Reuse
Draft Environmental Impact Statement
Eaker AFB, AR

Thank you for attending this Public Hearing. Please use this sheet to provide us your written comments on our Draft Environmental Impact Statement.

Date Aug 13 1992

Name Jonathan ABBott

Address P.O. Box 974 - 1100 East Main Blytheville ARK 72316
Street Address City/State/Zip Code

Please hand this form in or mail to:
AFCEE/ESR
Attn: Lt Col Gary Baumgartel
Brooks Air Force Base, TX 78235-5000

Document 2

Sirs.

Page 3-102 under 3.46.2., "Historic Structures & Resources" states in part that a 3 acre parcel, (a 20th Century Cemetery) was established as part of he New Hope Church in 1875. However, a full reading of the original deed reveals that in the description of the property appears the statement" the land upon which New Hope Church and the grave yard is now located". It is clear at the time of the legal transaction, the cemetery at New Hope Church, later known as North Sawba was established

1
16.1 Returning to page 3-102 under 3.4.6.2, the statement Burial Dates range from 1896 to 1941 maybe correct in regard to the few remaining head stones, however, a statement should be inserted at this point to state, " the New Hope Cemetery was being used as a burial ground before Oct. 10, 1875."

2
16.1 Further clarification should note the " New Hope Cemetery" has been rearranged, if not in fact, totally destroyed and that the remaining headstones do not necessarily represent their original location or their relationship to one another

3
16.2 It would seem entirely appropriate that the Air Force produce, exhibit, and make available the original survey & photographs of the approximately 1800 objects found on the site of "New Hope, North Sawba Cemetery" at the time of the "taking" or" disturbing", or when the 6 inch concrete"protection" was applied over the original cemetery site.

4
16.1 It should be further acknowledged that the size of the original cemetery as, have contained up to 5000 burial sites and local legend has it that this is the burial ground that contains many of the casualties of "Military Action" on Peaiscot Bayou. (April 6, 1864 Frederich H. Dyer, A Compendium of the War of the Rebellion). It should also be noted that the New Hope-North Sawba Cemetery is the burial place for William George Bryeans(Bryans) and Newton James Bryans (Bryeans), twin brothers and sons of John Z. Bryans(Bryeans) The twin brothers being shot & killed by Union soldiers in 1863 and buried at New Hope Cemetery. The Bryans twins military records show that they were both Union & Confederate soldiers.

Submitted by Jonathan Abbott, member Historic Educational Committee
P.O. Box 974
Blytheville, Ar 72316

Document 2

Sirs.

Under 4.6 Cultural Resources, page E-10, it states that data was collected from "interviews with individuals familiar with the history, archaeology, etc of the Blytheville area". If at all possible, I would like to obtain a list of persons"interviewed" about the Blytheville area.

Jonathan Abbott
P.O. Box 974
Blytheville, Ar 72316

Document 2

9444 or go by the school at 103 S 13th St

Mississippi County Christian Academy registration is open for students in grades 6 through 12. Anyone wanting an application may write P O Box 641, Osceola, Ark 72370

The Clean Fun Club offers a live country-western band and dancing each Friday night from 7p m to 10 p m at the Women's Exhibit Building in Walker Park. Admission is $2. No alcholic beverages are allowed

---

Free adult education classes are underway at the Mississippi County Community College Moore Center at 300 W Chickasawba. Classes are from 8 30 a.m to noon Monday through Friday and from 5 to 8 p m Monday through Thursday. For more information, call Charles Payne at 762-1020, ext

community patriotic programs and other areas of interest.

Order of the Eastern Star 308 will meet the first and third Tuesday of each month at 7 p m at the Masonic Hall on McHaney Road.

Armorel-Huffman Volunteer Fire Department will meet the second and fourth Mondays of each month at 7 30 p m at the Armorel School

---

Delta Action Council usually meets the second Friday of each month at 5 30 p m at Bible Way Church, 304 East Sawyer. The public is invited. But, Delta Action Council will not meet Friday, Aug. 14, at the Bible Way Church, and the next meetings and locations will be announced (possibly monthly) due to future remodeling. For information, call 720-2013.

YEARS AGO

From the CN Files

Fifty years ago North Sawba Cemetery lies opened to the summer sun where quiet trees have brooded for a hundred years to shade the graves of pioneers and their children's children.

The stately grove of white oak, hickory, pecan, gum and hackberry trees has been cut and the gently rising mound of earth is being graded to the level of the surrounding areas, for it is in almost the exact center of the huge landing field of the new Blytheville Army Flying School, where training of aviation cadets began last week.

Not a grave is disturbed and even the tombstones and markers are left in exact position, laid flat and flush with the surface, to mark the spot that was selected as the last resting place for members of a huge proportion of the families of Blytheville and it's environs

---

Twenty-five years ago: Blytheville High School will initiate an Air Force cadet course at the school this fall

Col. Houston W Longino, Jr. and SM Sgt. Burgin Howdeshell, retired Air Force personnel, will teach the course

According to both men, the course is "primarily academic" They said, the high school will offer elective courses for academic credit. The entire program will be able to waive the first year of college ROTC or enlist in the Air Force as an airman third class.

"We hope to familiarize students with the challenges and opportunities of aerospace, to develop leadership and to promote habits of order and discipline," Longino said.

JONATHAN ABBOTT
P. O. Box 974
Blytheville, Ark. 72316

Document 2

State of Arkansas
County of Mississippi

Know all men by these presents, that we J. B. Lyerly and ... [illegible]

... [illegible] ... October 10th 1870.

[illegible]

Document 3

Written Comment Sheet

Disposal and Reuse Draft Environmental Impact Statement Eaker AFB, AR

Thank you for attending this Public Hearing. Please use this sheet to provide us your written comments on our Draft Environmental Impact Statement.

Date: 8/1 /92

Delta Action Council
% Curtis J. Smith Sr
P.O. Box 1355
Blytheville, ArK
72316-1355
Curtis J. Smith Sr.

Name

Address
Street Address City/State/Zip Code

Please hand this form in or mail to:
AFCEE/ESE
Attn: Lt Col Gary Baumgartel
Brooks Air Force Base, TX 78235-5000

Document 3

P.O. Box 1355
Blytheville Ark 72316-1355
8/13/92

To: Whom this Might Concern
The Eaker Committee (Bly-Gosnell) trust
% Lynn F. Kusy Coordinator

P.(1)

Dear Sirs

This is a Request Not to tear down Any Housing Units that are Currently at Eaker Air Base Blytheville AR. Mississippi are in Need of Low income housing, especially for family requiring sufficient accomodation rooms for families four (4) or more ChildRen. It is the Interest of The African Americans In The Blytheville and Surrounding Area, that the EAker Base duplex Apartment units Are the ideal thing for large families Without any major building Construction. We have evidents of documentation The Housing Authority of the city of Blytheville, Ark. Large Waitings for Housing Namely four (4) and five (5) bedrooms. — Since WE (the Residents) NAmely, African American of the city of Blytheville Know families who Where Homeless and had to Stay in Local Black Community Churches. Plus We know a Large number of Condemable Homes Where people live who want better Housing, but their financial Status Wont Permit them to take on any other obligations mortgages.

Document 3

[illegible] S. [illegible]
Page (2) [illegible] Blytheville, Ark.
8/13/92 72316 [illegible]

Our Reasons for not wanting to [illegible] [illegible] Eaker Air Force Base [illegible] units.

[illegible] We know people personal who Need an Home.

2. The Housing Unit could Be given to needy famlies and moved off Eaker Base.

3. The City of Blytheville can BE Beautified by Replacing Condemned Standard homes with Eaker Housing Unit moved to Vacant or Personal owned lot.

Final Conclusion

1 4. We Feel [illegible] Housing as Eaker Air Force Base Should BE an priority for Low income Housing, & Sheltering The Homeless & Condemned property Home owner Replacement Homes

8.1

Delta Action Council
President [illegible] J. Smith SR

Document 4

U.S. Department of Housing and Urban Development
Fort Worth Office, Region VI
1600 Throckmorton
P.O. Box 2905
Fort Worth, Texas 76113-2905

August 14, 1992

Lt. Colonel Gary Baumgartel
Chief of Environmental Planning Division
AFCEE/ESE
Brooks AFB, Texas 78235-5000

Dear Colonel Baumgartel:

SUBJECT: Review of Draft Environmental Impact Statement (DEIS) for the Disposal and Reuse of Eaker Air Force Base (AFB), Arkansas

The subject DEIS has been reviewed by both our Little Rock Office and this Regional Office.

It appears the disposal by the Air Force of the 3,286 acres comprising this AFB is involved with multiple environmental concerns. Eleven Installation Restoration Process (IRP) sites have been identified on the bases.

It has been determined that the closure and disposal of the AFB would have no impact upon HUD projects/activities in the Blytheville area.

We appreciate the opportunity of reviewing and commenting upon the subject DEIS.

Sincerely,

I. J. Ramsbotton
Regional Environmental Officer

Document 5

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Room 5404 Federal Office Building
700 West Capitol Avenue
Little Rock, Arkansas 72201

AUG 13 1992

Lieutenant Colonel Gary Baumgartel
Chief of Environmental Planning Division
AFCEE/ESE
Brooks AFB, TX 78235-5000

Dear Colonel Baumgartel:

The Draft Environmental Impact Statement (EIS) for the Disposal and Reuse of Eaker Air Force Base, Arkansas has been forwarded to us for review and comment. Our primary concerns are soil erosion, water quality, and loss of prime farmlands.

We feel the Draft EIS adequately addresses these concerns. Therefore, we have no comments.

Sincerely,

Dennis D. Hackbart Acting For
ROBERT P. CANTRELL
Assistant State Conservationist (Water Resources)

DRAFTEISAF.dcx(8/92)

Rec'd 19 AUG 1992

Document 6

Carduus Counseling Center
928 Ida
Poplar Bluff, MO 63901
Telephone: 314-686-5645
Fax: 314-686-1790

August 18, 1992

Lt. Colonel Gary Baumgartel
Chief of Environmental Planning Div.
AFCEE-ESE
Building 1155
Brooks AFB, TX. 78235-5000

RE: Adaptive Re-Use and Environmental Impact Statement-Eaker AFB, AR

Dear Lt. Col. Baumgartel:

Service to the community is a part of business, so it is logical that even within a "social service/counseling type business" such as this one, a strong sense of community--a sense of caring for others is a component of the mission statement.

Though Eaker AFB does not lie within our immediate catchment area, the Base has been of benefit to the public good. Individually and collectively small communities in adjoining Southeast Missouri have benefitted from Eaker AFB--contributions that have improved the lot of others.

Bringing back some measure of opportunity, support and well being to Northeast Arkansas as well as Southeast Missouri through adoptive re-use of Eaker AFB lies at the heart of citizens, employees, civic and charitable organizations and others involved in practically every stratum of community life.

The business community, it would seem, would have a distinct role to play in this process. Though I have not done any opinion polls, research, or interviewing of local citizens, the limited, few comments to which I have been privy, seem to favor a plan of adoptive re-use which relates to an aviation/industrial adaptation with full use of runway.

Regardless of any plan that is brought forward, the spirit of volunteerism and cooperation not only improves the environment of communities, but perhaps, as importantly, increases the spirit and sense of self worth of those that make this contribution.

Rec'd 21 AUG 1992

Document 6

-2-

Thank you for the opportunity to provide input. May I also wish you success in your deliberations and in your future leadership.

Sincerely,

Vernon Bond
Vernon Bond,
Community Service Director

lem

Document 7

Written Comment Sheet

Disposal and Reuse
Draft Environmental Impact Statement
Eaker AFB, AR

Thank you for attending this Public Hearing. Please use this sheet to provide us your written comments on our Draft Environmental Impact Statement

Dear Sirs

Date Aug 28, 92

Imagine it is now 3000 AD An Alien culture overlooks the ruins of St Louis and concludes it is worthless rubble.
Insulated by time these new kids on the block decide to ignore the record. A record that could reveal the hopes & fears that once echoed through the streets.
In their haste to progress there is little time for the 'others past'. They do not realize that all human activity adds to the [illegible] of itself, and that all information is within the kinship of spirit in the heart of human time.
All that is requested is that the due respect be given to this almost unique situation that has existed for 3000 years on site 3MS105 and other sites on Eaker.
The information is not always written on paper in English but in [illegible] in solid form within the earth itself waiting for a reader.

1
16.5 Please help give the chance to protect this resource that has survived in an area that skullduggery and looting is [illegible] upon seasonally as harvest time and duck hunting.
Not only is this resource being destroyed by looting but also by the apathy of the powerful!

Name MARION L. HAYNES (member Miss County Historical Commission)

Address 2476 E. Highway 150 Blytheville, Ark. 72315
Street Address City/State/Zip Code

501-763-7825

Please hand this form in or mail to:
AFCEE/ESE
Attn: Lt Col Gary Baumgartel
Brooks Air Force Base, TX 78235-5000

Rec'd 11 SEP [illegible]

Document 8

ARKANSAS
FORESTRY
COMMISSION

P.O. Box 4523, Asher Station • Little Rock, Arkansas 72214-4523

Edwin E. Waddell
State Forester

Ph 501 664 2531
FAX 501 324 5090

September 2, 1992

Lt. Col. Gary Baumgartel
Chief of Environmental Planning Division
AFCEE/ESE
Brooks AFB, TX, 78235-5000

Dear Lt. Col. Baumgartel:

In response to your request for comments on the Draft EIS for the Disposal and Reuse of Eaker Air Force Base, Arkansas, we have no comment to make.

Thank you for the opportunity to comment.

Sincerely,

Edwin E. Waddell
State Forester

By: Randall L. Leister
Staff Forester

EEW/RLL/lee

An equal opportunity employer

Rec'd 11 SEP 1992 ESC

Document 9

ARKANSAS
HISTORIC
PRESERVATION
PROGRAM

August 26, 1992

Lt. Colonel Gary Baumgartel
Chief of Environmental Planning Division
AFCEE/ESE
Brooks Air Force Base, Texas 78235-5000

RE: Mississippi County - Blytheville
Section 106 Review - USAF
"Draft Environmental Impact Statement, July 1992, Disposal and Reuse of Eaker Air Force Base, Arkansas"

Dear Colonel Baumgartel:

1
3.1 My staff has reviewed the referenced draft environmental impact statement. We have determined that the No-Action Alternative or the transfer of Eaker Air Force Base to another federal agency is the preferred course of action for the protection of historic properties. With either of these alternatives, the archeological sites on base would continue to be protected under the Archeological Resources Protection Act and other historic preservation legislation.

Archeological site 3MS105, a property determined eligible for inclusion in the National Register of Historic Places, is one of the largest and best preserved sites of its type in the southeastern United States. Additionally, the National Park Service and this office has determined that the site is nationally significant and will qualify as a National Historic Landmark (NHL), the highest rating of significance by the U.S. Department of the Interior.
2
16.5 We therefore encourage the Air Force to follow the Advisory Council on Historic Preservation's regulations (36 CFR Part 800.10) regarding the protection of NHLs.

3
4.1 We specifically recommend that Eaker Air Force Base be transferred to the National Park Service. The base could then be designated as a National Park or National Historic Site and also serve as an archeological research center and regional curation facility for archeological materials. The National Park Service in Atlanta, Georgia has indicated that grants and aid would be available for some programs. We do not believe that restrictive covenants or deed restrictions alone, as proposed in the various EIS alternatives, would protect the National Register eligible properties on base.

Suite 200 • 225 East Markham • Little Rock, Arkansas 72201 • Phone (501) 324-9346

A Division of the Department of Arkansas Heritage

Document 9

Thank you for your interest and concern for the cultural heritage of Arkansas. If you have any questions, please contact George McCluskey of my staff at (501)-324-9346.

Sincerely,

Cathy Buford
State Historic Preservation Officer

CB:lh

cc: Governor Bill Clinton
Advisory Council on Historic Preservation
U.S. National Park Service, Santa Fe
U.S. National Park Service, Atlanta
Ms. Joan Sigler
Arkansas Archeological Survey
Mr. Harold Sudbury
Arkansas Technical Review Committee

Document 10

United States Department of the Interior

OFFICE OF THE SECRETARY
OFFICE OF ENVIRONMENTAL AFFAIRS
POST OFFICE BOX 26567
ALBUQUERQUE, NEW MEXICO 87125

ER 92/674

September 8, 1992

Lt. Colonel Gary Baumgartel
Chief of Environmental Planning Division
AFCEE/ESR
Brooks Air Force Base, Texas 78235-5000

Dear Colonel Baumgartel:

The U.S. Department of the Interior has reviewed the Draft Environmental Impact Statement (DEIS) for the Disposal and Reuse of Eaker Air Force Base, Mississippi County, Arkansas. The following comments are provided for your consideration.

Wetlands impacted by the Proposed Action would be less than 1 acre and Department of the Army permit requirements are discussed. In this regard, we will provide comments on Department of the Army permits, when advertised.

We support that part of the Proposed Action which includes retention of 332 acres for preservation of cultural resources and retention and reuse of existing recreation facilities. However, the document states that the Proposed Action could adversely affect cultural resources if ownership were transferred without adequate provision for their protection or mitigation (page S-13). The mitigation section on page 4-107 states that "Properties may be conveyed to non-federal owners with preservation covenants to ensure that future owners will abide by cultural resource management procedures . . . ." Because of the significance of the cultural resources involved, we believe it is imperative that the property be conveyed with preservation covenants so that legal responsibilities for cultural resource preservation be fulfilled. It is important to continue close coordination with the State Historic Preservation Officer throughout the planning effort. 16.3

If these cultural resources were to be conveyed to a non-federal entity without preservation covenants, the action would be considered an adverse effect on the resources, pursuant to Section 106 of the National Historic Preservation Act. Accordingly, the environmental consequences of this action would require future analyses.

Thank you for the opportunity to comment on this DEIS.

Sincerely,

Glenn B. Sekavec
Acting Regional Environmental Officer

11

Document 11

STATE OF ARKANSAS
DEPARTMENT OF FINANCE AND ADMINISTRATION
P.O. BOX 3278
LITTLE ROCK, 72203

OFFICE OF INTERGOVERNMENTAL SERVICES
PHONE (501) 682-1074
FAX (501) 324-9070

September 8, 1992

Lt. Col. Gary Baumgartel
Chief of Environmetnal Planning
Division
AFCEE/ESE
Brooks AFB, TX 78235-5000

Dear Lt. Col. Baumgartel:

Re: Socioeconomic Impact Analysis Study, August 1992, Disposal and Reuse of Eaker Air Force Base, Arkansas

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,

Joe Gillespie, Manager
State Clearinghouse

Enclosure
PC: Randy Young, ASWCC
JG/gb

0790v.088

AN EQUAL OPPORTUNITY EMPLOYER

14

Document 11

Arkansas
Soil and Water
Conservation Commission

J. Randy Young, P.E.
Executive Director

101 EAST CAPITOL
SUITE 350
LITTLE ROCK, ARKANSAS 72201

Phone (501) 682-1611
FAX (501) 682-3991

MEMORANDUM

TO: Mr. Joe Gillespie, Jr.
Manager, State Clearinghouse

FROM: J. Randy Young, P.E.
Chairman, Technical Review Committee

Jon Easterly, P.E.
Deputy Director/Chief Engineer
Acting for J. Randy Young, P.E.

SUBJECT: EIS NO. SOCIOECONOMIC IMPACT ANALYSIS STUDY
DISPOSAL AND REUSE OF EAKER AIR FORCE BASE, ARKANSAS

DATE September 4, 1992

Members of the Technical Review Committee have reviewed the referenced Socioeconomic Impact Analysis Study, which addresses the socioeconomic effects of closure and potential reuse of the Eaker Air Force Base. In general, the Committee is supportive of the proposed project. The Arkansas Historic Preservation Program has determined that the No-Action alternative or the transfer of Eaker Air Force Base to another federal agency is the preferred course of action for the protection of historic properties. 3.1

The opportunity to comment is appreciated. Enclosed are copies of comments from members of the Committee.

JR: mdt
Enclosures
cc: Members of the Technical Review Committee

An Equal Opportunity Employer

Document 11

STATE OF ARKANSAS
DEPARTMENT OF FINANCE AND ADMINISTRATION

AUG 1? 1992

SOIL AND WATER CONSERVATION COMMISSION

Memorandum

TO: All Technical Review Committee Members

FROM: Joe Gillespie, Manager, State Clearinghouse

DATE: August 10, 1992

SUBJECT: EIS on Socioeconomic Impact Analysis Study, Disposal and Reuse of Eaker Air Force Base, Arkansas

Please review the above stated document [illegible]

YOUR COMMENTS SHOULD BE RETURNED BY AUGUST 28, 1992 [illegible] LITTLE ROCK, ARKANSAS [illegible]

[illegible]

- [ ] SUPPORT
- [ ] DO NOT SUPPORT [illegible]
- [ ] COMMENTS ATTACHED
- [ ] SUPPORT WITH FOLLOWING CONDITIONS
- [x] NO COMMENTS
- [ ] NON-DEGRADATION CERTIFICATION [illegible] APPLIES TO [illegible]

SIGNATURE [signature] [illegible]

[illegible]

Document 11

STATE OF ARKANSAS
DEPARTMENT OF FINANCE AND ADMINISTRATION

RECEIVED

AUG 2? 1992

SOIL AND WATER CONSERVATION COMMISSION

Memorandum

AUG 1? 1992

[illegible]

- [ ] SUPPORT
- [ ] DO NOT SUPPORT [illegible]
- [ ] COMMENTS ATTACHED
- [ ] SUPPORT WITH FOLLOWING CONDITIONS
- [ ] NO COMMENTS
- [ ] NON-DEGRADATION CERTIFICATION [illegible] APPLIES TO [illegible]

[signature] AHPP 8-27-92

Document 11

ARKANSAS HISTORIC PRESERVATION PROGRAM

August 26, 1992

Lt. Colonel Gary Baumgartel
Chief of Environmental Planning Division
AFCEE/ESE
Brooks Air Force Base, Texas 78235-5000

RE: Mississippi County - Blytheville
Section 106 Review - USAF
"Socioeconomic Impact Analysis Study, August 1992, Disposal and Reuse of Eaker Air Force Base, Arkansas"

Dear Colonel Baumgartel:

2
3.1 My staff has reviewed the referenced socioeconomic impact analysis study. We have determined that the No-Action Alternative or the transfer of Eaker Air Force Base to another federal agency is the preferred course of action for the protection of historic properties. With either of these alternatives, the archeological sites on base would continue to be protected under the Archeological Resources Protection Act and other historic preservation legislation.

Archeological site 3MS105, a property determined eligible for inclusion in the National Register of Historic Places, is one of the largest and best preserved sites of its type in the southeastern United States. Additionally, the National Park Service and this office has determined that the site is nationally significant and will qualify as a National Historic Landmark (NHL), the highest rating of significance by the U.S. Department of the Interior.
3
18.5 We therefore encourage the Air Force to follow the Advisory Council on Historic Preservation's regulations (36 CFR Part 800.10) regarding the protection of NHLs.

4
4.1 We specifically recommend that Eaker Air Force Base be transferred to the National Park Service. The base could then be designated as a National Park or National Historic Site and also serve as an archeological research center and regional curation facility for archeological materials. The National Park Service in Atlanta, Georgia has indicated that grants and aid would be available for some programs. We do not believe that restrictive covenants or deed restrictions alone, as proposed in the various alternatives, would protect the National Register eligible properties on base.

Suite 300 • 323 Center Street • Little Rock, Arkansas 72201 • Phone (501) 324-9346

A Division of the Department of Arkansas Heritage

Document 11

Thank you for your interest and concern for the cultural heritage of Arkansas. If you have any questions, please contact George McCluskey of my staff at (501) 324-9346.

Sincerely,

[signature]

Cathy Buford
State Historic Preservation Officer

CB:m

cc: Governor Bill Clinton
Advisory Council on Historic Preservation
U.S. National Park Service, Santa Fe
U.S. National Park Service, Atlanta
Ms. Joan Sigler
Arkansas Archeological Survey
Mr. Harold Sudbury
Arkansas Technical Review Committee

Document 11

STATE OF ARKANSAS

RECEIVED
AUG 12 1992
SOIL AND WATER CONSERVATION COMMISSION

TO: All Technical Review Committee Members

FROM: Joe Gillespie, Manager - State Clearinghouse

DATE: August 10, 1992

SUBJECT: EIS Re: Socioeconomic Impact Analysis Study - Disposal and Reuse of Eaker AFB, Arkansas

Please review the above stated document under provisions of the [illegible] and the Arkansas Project Notification and Review System.

YOUR COMMENTS SHOULD BE RETURNED BY: AUGUST 28, 1992
MR. RANDY YOUNG, CHM., TAR - TECHNICAL REVIEW COMMITTEE, #1 CAPITOL MALL, SUITE 2-D, LITTLE ROCK, ARKANSAS 72201

If we have no reply within that time we will assume you have no comments and will proceed with the clearance.

- [ ] SUPPORT
- [ ] DO NOT SUPPORT (COMMENTS ATTACHED)
- [ ] COMMENTS ATTACHED
- [ ] SUPPORT WITH FOLLOWING CONDITIONS
- [x] NO COMMENTS
- [ ] NON-DEGRADATION CERTIFICATION ISSUES (APPLIES TO PCAC ONLY)

SIGNATURE [illegible] AGENCY Geology DATE 8/11/92

IGS/SC 0100-006-ES

Document 11

STATE OF ARKANSAS

RECEIVED
AUG 12 1992
SOIL AND WATER CONSERVATION COMMISSION

TO: All Technical Review Committee Members

FROM: Joe Gillespie, Manager - State Clearinghouse

DATE: August 10, 1992

SUBJECT: EIS Re: Socioeconomic Impact Analysis Study - Disposal and Reuse of Eaker AFB, Arkansas

Please review the above stated document under provisions of the [illegible] and the Arkansas Project Notification and Review System.

YOUR COMMENTS SHOULD BE RETURNED BY: AUGUST 28, 1992
MR. RANDY YOUNG, CHM., TAR - TECHNICAL REVIEW COMMITTEE, #1 CAPITOL MALL, SUITE 2-D, LITTLE ROCK, ARKANSAS 72201

If we have no reply within that time we will assume you have no comments and will proceed with the clearance.

- [ ] SUPPORT
- [ ] DO NOT SUPPORT (COMMENTS ATTACHED)
- [ ] COMMENTS ATTACHED
- [ ] SUPPORT WITH FOLLOWING CONDITIONS
- [x] NO COMMENTS
- [ ] NON-DEGRADATION CERTIFICATION ISSUES (APPLIES TO PCAC ONLY)

SIGNATURE [illegible] AGENCY Forestry DATE 8-18-92

IGS/SC 0100-006-ES

Document 11

ARKANSAS GAME AND FISH COMMISSION
August 18, 1992

MEMORANDUM TO: Randy Young, Chairman
Technical Review Committee

FROM: Craig K. Uyeda, Member
Technical Review Committee

In response to memorandums from the State Clearinghouse of August 10, 1992, with attached Public Notices from the Little Rock and Vicksburg Districts, U.S. Corps of Engineers, please be advised that we have no objections to the following projects:

Finding of No Significant Impact Environmental Assessment, City of Ward, AR - CS-0502671-01.

* * * *

Socioeconomic Impact Analysis Study - Disposal and Reuse of Eaker Air Force Base, AR

* * * *

404 Notice - Permit ID NO. 11011 - Little Rock District, USCE - proposal to discharge fill material associated with the clearing and grubbing of Crooked Creek and Dry Jordan Creek in the vicinity of Harrison, AR, the purpose being to contribute to the reduction of flood damages to existing properties in the floodplain of the Creeks.

* * * *

404 Notice - Construction of Minor Drainage Structures and the associated Discharge of Dredged and/or Fill material - District Engineer, Vicksburg District - reissuance of General Permit.

We appreciate the opportunity to comment on the above proposals.

CRU:DGC:ac

cc: State Clearinghouse
U.S. Fish & Wildlife Service
Little Rock & Vicksburg Districts, USCE, Permits Branches

RECEIVED
AUG 19 1992
SOIL AND WATER CONSERVATION COMMISSION

Document 11

STATE OF ARKANSAS

RECEIVED
AUG 19 1992
SOIL AND WATER CONSERVATION COMMISSION

TO: All Technical Review Committee Members

FROM: Joe Gillespie, Manager - State Clearinghouse

DATE: August 18, 1992

SUBJECT: EIS Re: Socioeconomic Impact Analysis Study - Disposal and Reuse of Eaker AFB, Arkansas

Please review the above stated document under provisions of the [illegible] and the Arkansas Project Notification and Review System.

YOUR COMMENTS SHOULD BE RETURNED BY: AUGUST 28, 1992
MR. RANDY YOUNG, CHM., TAR - TECHNICAL REVIEW COMMITTEE, #1 CAPITOL MALL, SUITE 2-D, LITTLE ROCK, ARKANSAS 72201

If we have no reply within that time we will assume you have no comments and will proceed with the clearance.

- [x] SUPPORT
- [ ] DO NOT SUPPORT (COMMENTS ATTACHED)
- [ ] COMMENTS ATTACHED
- [ ] SUPPORT WITH FOLLOWING CONDITIONS
- [ ] NO COMMENTS
- [ ] NON-DEGRADATION CERTIFICATION ISSUES (APPLIES TO PCAC ONLY)

SIGNATURE [illegible] AGENCY ANC DATE 8-18-92

IGS/SC 0100-006-ES

Document 11

STATE OF ARKANSAS
DEPARTMENT OF FINANCE AND ADMINISTRATION

Office of Intergovernmental Services
682-1074

SOIL AND WATER CONSERVATION COMMISSION
SEP 4 1992

Memorandum

TO: All Technical Review Committee Members

FROM: Joe Gillespie, Manager - State Clearinghouse

DATE: August 10, 1992

SUBJECT: EIS No. Socioeconomic Impact Analysis Study - DISPOSAL AND REUSE OF EAKER AIR FORCE BASE, ARKANSAS

Please review the above stated document under provisions of [illegible] Clean Water Act, Section [illegible] of the National Environmental Policy Act of 1969 and the Arkansas Project Notification and Review System.

YOUR COMMENTS SHOULD BE RETURNED BY AUGUST 28, 1992 TO MR. RANDY YOUNG, CHAIRMAN - TECHNICAL REVIEW COMMITTEE, [illegible] LITTLE ROCK, ARKANSAS 72201.

IF WE HAVE NO REPLY BY THIS DATE, WE WILL ASSUME YOU HAVE NO COMMENTS AND WILL PROCEED WITH THE SIGNOFF.

- [ ] SUPPORT
- [ ] DO NOT SUPPORT (COMMENTS ATTACHED)
- [ ] COMMENTS ATTACHED
- [ ] SUPPORT WITH FOLLOWING CONDITIONS
- [x] NO COMMENTS
- [ ] NON-DEGRADATION CERTIFICATION ISSUED (APPLIES TO PSAC ONLY)

SIGNATURE: [signature]
AGENCY: Division of Engineering, Arkansas Department of Health, 4815 West Markham, Little Rock, AR 72205-3867
DATE: 9-1-92

IGS/SC 0100-008-85

An Equal Opportunity Employer

Document 11

STATE OF ARKANSAS
DEPARTMENT OF FINANCE AND ADMINISTRATION

Office of Intergovernmental Services

September [illegible], 1992

Lt. Col. Gary Baumgartel
Chief of Environmental Planning Division
AFCEE/ESE
Brooks AFB TX 78235-5000

Dear Lt. Col. Baumgartel:

Re: Environmental Information Document (Draft EIS) Disposal and Reuse of Eaker Air Force Base, Arkansas

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,

[signature]
Joe Gillespie, Manager
State Clearinghouse

Enclosure
PC: Randy Young, ASWCC
JG/ph

07004-007

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Document 11

Arkansas Soil and Water Conservation Commission

101 EAST CAPITOL, SUITE 350, LITTLE ROCK, ARKANSAS 72201

J. Randy Young, P.E., Executive Director

MEMORANDUM

TO: Mr. Joe Gillespie, Jr., Manager, State Clearinghouse

FROM: J. Randy Young, P.E., Chairman, Technical Review Committee

SUBJECT: ENVIRONMENTAL INFORMATION DOCUMENT (DRAFT EIS) DISPOSAL AND REUSE OF EAKER AIR FORCE BASE, ARKANSAS

DATE: August 28, 1992

A consensus of the Technical Review Committee could not be reached on the proposed action stated in the Draft Environmental Impact Statement, which provides information on the potential impacts resulting from disposal and proposed reuse of Eaker Air Force Base. Since a consensus could not be reached, and in accordance with the Technical Review Committee process and procedure, comments and suggestions from members are enclosed.

The opportunity to comment is appreciated.

JRY:wdt
Enclosures
cc: Members of the Technical Review Committee

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Document 11

STATE OF ARKANSAS
DEPARTMENT OF FINANCE AND ADMINISTRATION

Office of Intergovernmental Services

RECEIVED
JUL 31 1992
SOIL AND WATER CONSERVATION COMMISSION

Memorandum

TO: All Technical Review Committee Members

FROM: Joe Gillespie, Manager - State Clearinghouse

DATE: July [illegible], 1992

SUBJECT: ENVIRONMENTAL INFORMATION DOCUMENT
DRAFT EIS - DISPOSAL AND REUSE OF EAKER AIR FORCE BASE, ARKANSAS

[illegible]

YOUR COMMENTS SHOULD BE RETURNED BY August 19, 1992 TO MR. RANDY YOUNG, CHAIRMAN - TECHNICAL REVIEW COMMITTEE, [illegible] Little Rock, Arkansas 72201.

IF WE HAVE NO REPLY BY THIS DATE, WE WILL ASSUME YOU HAVE NO COMMENTS AND WILL PROCEED WITH THE SIGNOFF.

- [ ] SUPPORT
- [ ] DO NOT SUPPORT (COMMENTS ATTACHED)
- [ ] COMMENTS ATTACHED
- [ ] SUPPORT WITH FOLLOWING CONDITIONS
- [x] NO COMMENTS
- [ ] NON-DEGRADATION CERTIFICATION ISSUED (APPLIES TO PSAC ONLY)

SIGNATURE: [signature] AGENCY: [illegible] DATE: [illegible]

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Document 11

ARKANSAS HISTORIC PRESERVATION PROGRAM

RECEIVED AUG 27 1992 SOIL AND WATER CONSERVATION COMMISSION

August 26, 1992

Lt. Colonel Gary Baumgartel
Chief of Environmental Planning Division
AFCEE/ESE
Brooks Air Force Base, Texas 78235-5000

RE: Mississippi County - Blytheville
Section 106 Review - USAF
"Draft Environmental Impact Statement, July 1992, Disposal and Reuse of Eaker Air Force Base, Arkansas"

Dear Colonel Baumgartel:

6
3.1 My staff has reviewed the referenced draft environmental impact statement. We have determined that the No-Action Alternative or the transfer of Eaker Air Force Base to another federal agency is the preferred course of action for the protection of historic properties. With either of these alternatives, the archeological sites on base would continue to be protected under the Archeological Resources Protection Act and other historic preservation legislation.

Archeological site 3MS105, a property determined eligible for inclusion in the National Register of Historic Places, is one of the largest and best preserved sites of its type in the southeastern United States. Additionally, the National Park Service and this office has determined that the site is nationally significant and will qualify as a National Historic Landmark (NHL), the highest rating of significance by the U.S. Department of the Interior.
8
16.5 We therefore encourage the Air Force to follow the Advisory Council on Historic Preservation's regulations (36 CFR Part 800.10) regarding the protection of NHLs.

7
4.1 We specifically recommend that Eaker Air Force Base be transferred to the National Park Service. The base could then be designated as a National Park or National Historic Site and also serve as an archeological research center and regional curation facility for archeological materials. The National Park Service in Atlanta, Georgia has indicated that grants and aid would be available for some programs. We do not believe that restrictive covenants or deed restrictions alone, as proposed in the various EIS alternatives, would protect the National Register eligible properties on base.

[illegible]

Document 11

Thank you for your interest and concern for the cultural heritage of Arkansas. If you have any questions, please contact George McCluskey of my staff at (501) 324-9346.

Sincerely,

Cathy Buford
State Historic Preservation Officer

CB:a

cc: Governor Bill Clinton
Advisory Council on Historic Preservation
U.S. National Park Service, Santa Fe
U.S. National Park Service, Atlanta
Ms. Joan Sagier
Arkansas Archeological Survey
Mr. Harold Sudbury
Arkansas Technical Review Committee

Document 11

STATE OF ARKANSAS
DEPARTMENT OF FINANCE AND ADMINISTRATION

RECEIVED JUL 31 1992 SOIL AND WATER CONSERVATION COMMISSION

MEMORANDUM

TO: All Technical Review Committee Members

FROM: Manager, State Clearinghouse

DATE: July 29, 1992

SUBJECT: ENVIRONMENTAL INFORMATION DOCUMENT
(DRAFT EIS) - DISPOSAL AND REUSE OF EAKER AIR FORCE BASE, ARKANSAS

[illegible]

YOUR COMMENTS SHOULD BE RETURNED BY August 18, 1992 TO MR. RANDY YOUNG, CHAIRMAN, TECHNICAL REVIEW COMMITTEE, ... Little Rock, Arkansas 72201

X SUPPORT
___ DO NOT SUPPORT (COMMENTS ATTACHED)
___ COMMENTS ATTACHED
___ SUPPORT WITH FOLLOWING CONDITIONS
___ NO COMMENTS
___ NON-DEGRADATION CERTIFICATION

SIGNATURE: [signature] AGENCY: Ark For Comm DATE: 7-30-92

Document 11

STATE OF ARKANSAS

RECEIVED AUG 4 1992 SOIL AND WATER CONSERVATION COMMISSION

MEMORANDUM

DATE: July 29, 1992

SUBJECT: ENVIRONMENTAL INFORMATION DOCUMENT
(DRAFT EIS) - DISPOSAL AND REUSE OF EAKER AIR FORCE BASE, ARKANSAS

YOUR COMMENTS SHOULD BE RETURNED BY August 18, 1992

X SUPPORT

SIGNATURE: [signature] AGENCY: AHC DATE: July 30 '92

Document 11

ARKANSAS GAME AND FISH COMMISSION
August 6, 1992

RECEIVED
AUG 7 1992
SOIL AND WATER CONSERVATION COMMISSION

MEMORANDUM TO: Randy Young, Chairman
Technical Review Committee

FROM: Craig K. Uyeda, Member
Technical Review Committee

In response to memorandums from the State Clearinghouse of July 29 and 31, 1992, and August 3 and 4, 1992, with attached Public Notices from the Memphis and Little Rock Districts, U.S. Corps of Engineers, this is to advise we have no objections to the following proposals:

- Environmental Information Document (Draft EIS) - Disposal and Reuse of Eaker Air Force Base, AR.

* * * *

Memphis District - USCE - Certain Clearing, Enlargement, Culvert Replacement and Bank Protection Along Ditch 67 in Mississippi County, AR.

* * * *

White River-340 - Arkansas Electric Cooperative Corporation, Mr. Curtis Q. Warner, Little Rock, AR - remove sediment obstructing an intake structure supplying cooling water to the existing generating station at approximate White River Mile 192.1L near Augusta, Arkansas.

* * * *

Permit ID #10703 - Darrel W. & Lynna Jo Davenport Flippin, AR - after-the-fact permit for the discharge of approximately 75 cu. yds. of fill material below the ordinary high-water mark of the White River on the right descending bank of the river at mile 607.9, Marion Co., AR

- Finding of No Significant Impact - City of Hutting, AR - Project #CS-050755-03 (Environmental Assessment). We have no objections provided that the 10-ft. right-of-way across AR Game & Fish Commission property is restored as specified by Levi Davis, District Wildlife Biologist. His address is Rt. 4, Box 44, Monticello AR 71655 (phone 367-9510).

Thank you for the opportunity to comment on the above proposals

CKU:DGC:ac
cc: State Clearinghouse
U.S. Fish & Wildlife Service
Memphis & Little Rock Districts, USCE, Permits Branches
- Levi Davis
- Don Akers

Document 11

RECEIVED
AUG 3 1992
SOIL AND WATER CONSERVATION COMMISSION

Division of Engineering
Arkansas Department of Health
4815 West Markham
Little Rock, AR 72205-3867

Document 11

STATE OF ARKANSAS

RECEIVED
AUG 6 1992
SOIL AND WATER CONSERVATION COMMISSION

RECEIVED
JULY 29 1992

TO: Technical Review Committee Members

FROM: Joe [illegible], Manager - State Clearinghouse

DATE: July 29, 1992

SUBJECT: ENVIRONMENTAL INFORMATION DOCUMENT

(DRAFT EIS) - DISPOSAL AND REUSE OF EAKER AIR FORCE BASE, ARKANSAS

YOUR COMMENTS SHOULD BE RETURNED BY: August 18, 1992 TO: [illegible]
MR. RANDY YOUNG, CHAIRMAN - TECHNICAL REVIEW COMMITTEE, 101 East Capitol, Suite 350, Little Rock, Arkansas 72201

☐ SUPPORT
☐ DO NOT SUPPORT COMMENTS ATTACHED
☐ COMMENTS ATTACHED
☐ SUPPORT WITH FOLLOWING CONDITIONS
☒ NO COMMENTS
☐ NON-DEGRADATION CERTIFICATION ISSUES (APPLIES TO PCBC ONLY)

SIGNATURE: [signature] AGENCY: AWFD DATE: 8-7-92

Document 11

STATE OF ARKANSAS

RECEIVED
AUG 17 1992
SOIL AND WATER CONSERVATION COMMISSION

TO: Technical Review Committee Members

FROM: Joe [illegible], Manager - State Clearinghouse

DATE: July 29, 1992

SUBJECT: ENVIRONMENTAL INFORMATION DOCUMENT

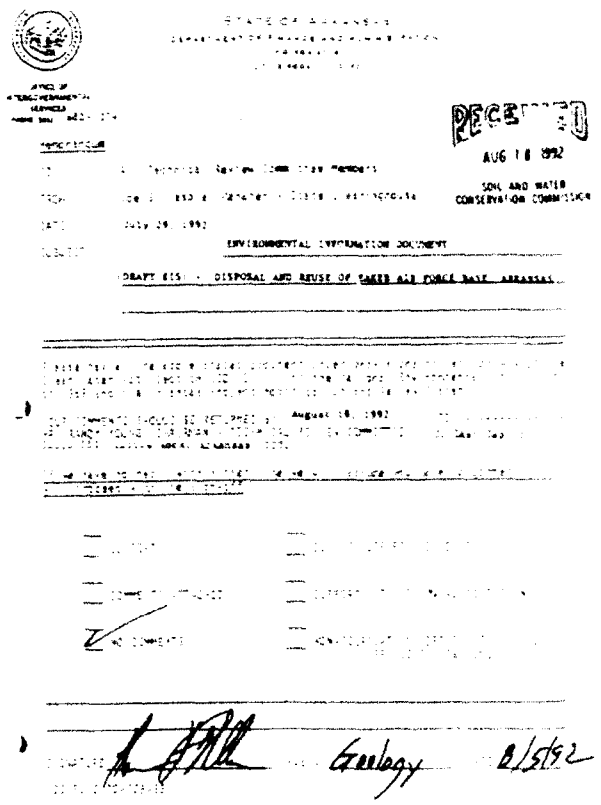
(DRAFT EIS) - DISPOSAL AND REUSE OF EAKER AIR FORCE BASE, ARKANSAS

YOUR COMMENTS SHOULD BE RETURNED BY: August 18, 1992 TO: [illegible]
MR. RANDY YOUNG, CHAIRMAN - TECHNICAL REVIEW COMMITTEE, 101 East Capitol, Suite 350, Little Rock, Arkansas 72201

☐ SUPPORT
☐ DO NOT SUPPORT COMMENTS ATTACHED
☐ COMMENTS ATTACHED
☐ SUPPORT WITH FOLLOWING CONDITIONS
☒ NO COMMENTS
☐ NON-DEGRADATION CERTIFICATION ISSUES (APPLIES TO PCBC ONLY)

SIGNATURE: [signature] AGENCY: ADPC&E DATE: 8-17-92

Document 11



RECEIVED
AUG 18 1992
SOIL AND WATER
CONSERVATION COMMISSION

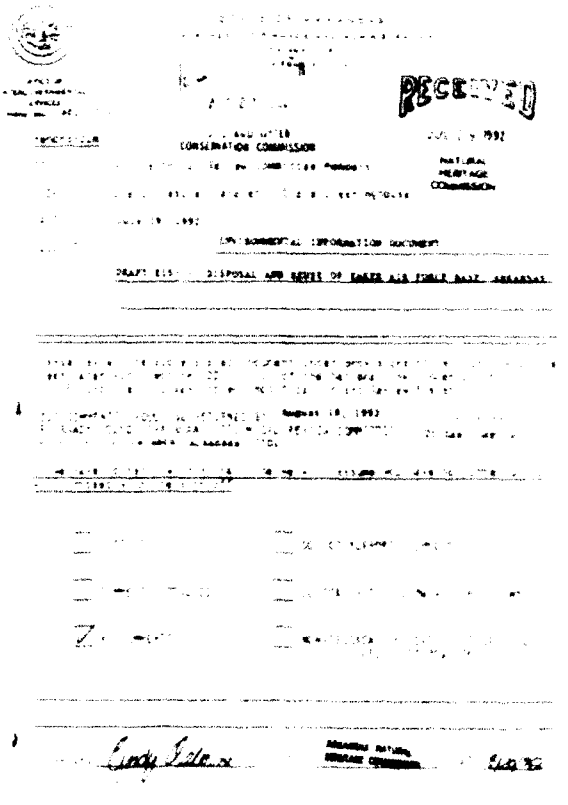
ENVIRONMENTAL INFORMATION DOCUMENT

DRAFT EIS - DISPOSAL AND REUSE OF EAKER AIR FORCE BASE, ARKANSAS

August 18, 1992

Geology 8/5/92

Document 11



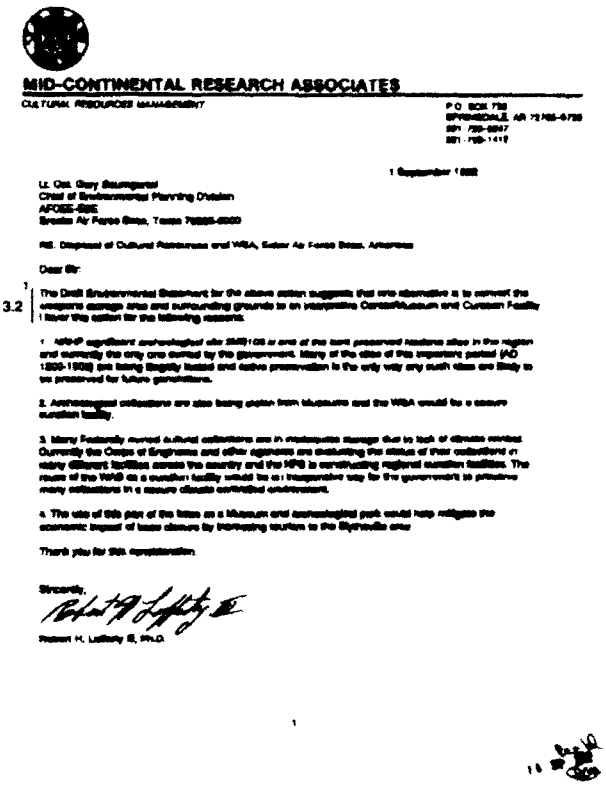
RECEIVED
CONSERVATION COMMISSION
NATURAL HERITAGE COMMISSION

ENVIRONMENTAL INFORMATION DOCUMENT

DRAFT EIS - DISPOSAL AND REUSE OF EAKER AIR FORCE BASE, ARKANSAS

August 18, 1992

Document 12



MID-CONTINENTAL RESEARCH ASSOCIATES
CULTURAL RESOURCES MANAGEMENT

P.O. BOX 758
SPRINGDALE, AR 72765-0758
501-756-0047
501-756-1418

1 September 1992

Lt. Col. Gary Baumgartel
Chief of Environmental Planning Division
AFOSE-ISE
Brooks Air Force Base, Texas 78235-5000

RE: Disposal of Cultural Resources and WMA, Eaker Air Force Base, Arkansas

Dear Sir:

3.2 The Draft Environmental Statement for the above action suggests that one alternative is to convert the cantonment storage area and surrounding grounds to an interpretive Curatorium and Museum Facility. I favor this option for the following reasons:

1. NRHP significant archaeological site 3MR108 is one of the best preserved Mississippian sites in the region and currently the only one owned by the government. Many of the sites of this important period (AD 1200-1500) are being illegally looted and active preservation is the only way any such sites are likely to be preserved for future generations.

2. Archaeological collections are also being stolen from Museums and the WMA would be a secure curation facility.

3. Many Federally owned cultural collections are in inadequate storage due to lack of climate control. Currently the Corps of Engineers and other agencies are evaluating the status of their collections in many different facilities across the country and the NPS is constructing regional curation facilities. The reuse of the WMA as a curation facility would be an inexpensive way for the government to preserve many collections in a secure climate controlled environment.

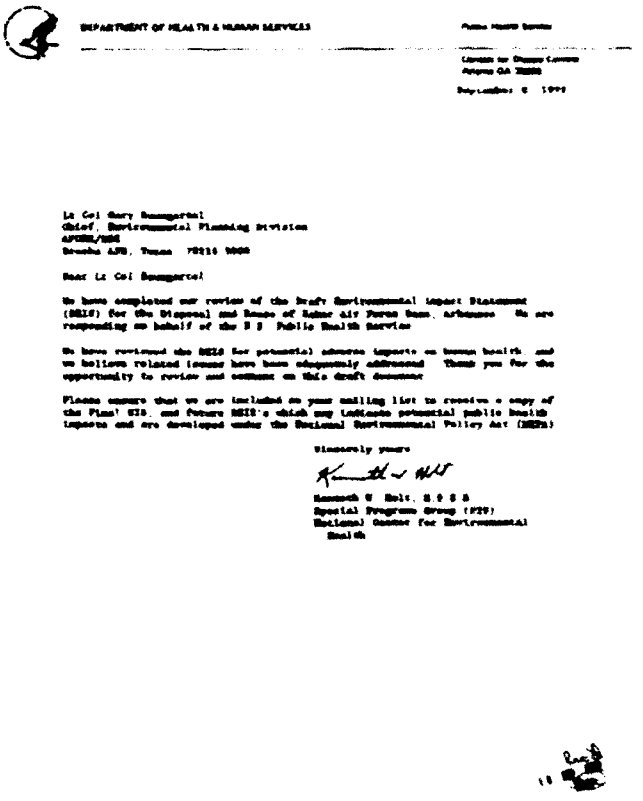
4. The site of this plan of the base as a Museum and archaeological park would help mitigate the economic impact of base closure by increasing tourism to the Stamps area.

Thank you for this consideration.

Sincerely,

Robert H. Lafferty III, Ph.D.

Document 13



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
Atlanta GA 30333

September 8 1992

Lt Col Gary Baumgartel
Chief, Environmental Planning Division
AFOSE/ISE
Brooks AFB, Texas 78235-5000

Dear Lt Col Baumgartel

We have completed our review of the Draft Environmental Impact Statement (DEIS) for the Disposal and Reuse of Eaker Air Force Base, Arkansas. We are responding on behalf of the U.S. Public Health Service.

We have reviewed the DEIS for potential adverse impacts on human health, and we believe related issues have been adequately addressed. Thank you for the opportunity to review and comment on this draft document.

Please ensure that we are included on your mailing list to receive a copy of the Final EIS, and future DEIS's which may indicate potential public health impacts and are developed under the National Environmental Policy Act (NEPA).

Sincerely yours

Kenneth W. Holt, D.V.M.
Special Programs Group (PSP)
National Center for Environmental Health

Document 14

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

SEP 14 1992

Lt Col Gary Baumgartel
Chief of Environmental Planning Division
AFCEE/ESE
Brooks Air Force Base, Texas 78235-5000

Dear Lt Col Baumgartel

In accordance with our responsibilities under Section 309 of the Clean Air Act, the National Environmental Policy Act (NEPA), and the Council on Environmental Quality Regulations for Implementing NEPA, the Region 6 Office of the U.S. Environmental Protection Agency (EPA) has completed the review of the Draft Environmental Impact Statement (EIS) for the proposed disposal and reuse of Eaker Air Force Base, Mississippi County, Arkansas.

Under The Defense Base Closure and Realignment Act of 1990, the 1991 Defense Base Closure and Realignment Commission recommended the closure of Eaker Air Force Base, Arkansas. The recommendation went to and was accepted by the President, then submitted to Congress. Since Congress did not disapprove the selection within the time frame allowed by the Act, the recommendation became law.

The EIS discusses four basic alternatives: 1) the "Proposed Action"; 2) the General Aviation Alternative; 3) the Non-Aviation Alternative, and 4) the No-Action Alternative. As a result of a study for both environmental and economical impacts, in conjunction with the wishes of the people in the area that will be affected by the closure of the base, the U.S. Air Force has chosen the Proposed Action.

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3.3

The Proposed Action will retain and improve the airfield as a General Aviation Airfield. It will also have a small percentage of commuter and air cargo traffic, pilot proficiency training, military operations, and weather alternative for cargo flights, aircraft maintenance and miscellaneous aviation support functions. There will be two areas for light industry, as well as institutional (including training for emergency response personnel), commercial, residential, public/recreational, archaeological/open space and agricultural sections.

Printed on Recycled Paper

Document 14

2

we are encouraged to read that the closure of Eaker is not expected to affect the ongoing Installation Restoration Program (IRP) activity. The IRP will continue in accordance with EPA, state and local regulations, under the U.S. Air Force Disposal Agency Operating Locations. With regards to economic benefits if the reuse plans are developed as outlined in the DEIS, they may contribute to the long term boost to an area that could otherwise suffer economically by the closing of the air base.

While our review of the DEIS has not identified any significant adverse environmental impacts with either the disposal or reuse options for the facility, we do note some minor deficiencies in the description of certain relevant issues. Therefore, EPA offers the following comments:

Storm Water

Under Section 402(p) of the 1987 Water Quality Act Amendments EPA is required to issue National Pollutant Discharge and Elimination System (NPDES) Permits for contaminated storm water discharges for industrial activities.

2
9.1

Final NPDES storm water application regulations, promulgated November 16, 1990, affects cities or unincorporated areas of counties with populations of 100,000 or more and storm water associated industrial activities. Industries are identified primarily by Standard Industrial Classification Codes. Industrial activities are included regardless of whether they are owned/operated by Federal, State or Municipal agencies.

The Final EIS should discuss the applicability of these storm water regulations to the disposal and reuse alternatives and any necessary permitting requirements.

Pollution Prevention

3
10.1

In agreement with the Pollution Prevention Act of 1990, EPA has launched a significant initiative to incorporate pollution prevention throughout all federal sector activities. We suggest that DOD describe pollution prevention and waste minimization policies and practices for the proposed action in the Final EIS.

General Comments

4
3.4

The proposed action and General Aviation Alternative assumes the closure of Blytheville Municipal Airport and relocating the general aviation functions to Eaker AFB. The Draft EIS does not explain the present need for closing the Blytheville Airport. Also, the generalized environmental impacts of closing the airport should be addressed in outline form. Clarification of this related action should be included in the Final EIS.

Document 14

3

5
1.1

A number of proposed mitigation measures are identified in the Draft EIS in order to minimize or compensate for unavoidable impacts. However, there are no assurances that these measures will be implemented once a final reuse option is selected. Some type of agreement or stipulation may be necessary with reuse recipients to insure that all mitigation measures and subsequent monitoring identified in the Draft EIS are carried out.

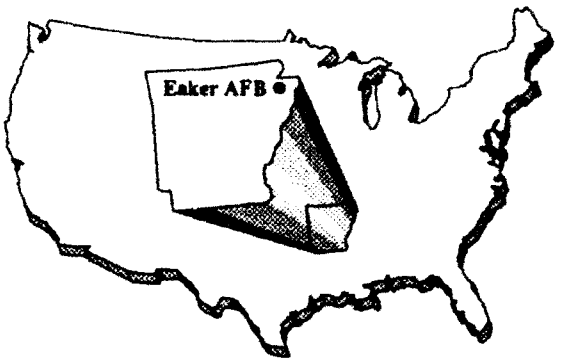
We classify your Draft EIS as Environmental Concerns-Insufficient Information (EC-2). Specifically, EPA has no objection to selecting the proposed action as described. However, we are requesting that additional information and analysis be provided in the Final EIS on: the possible need for NPDES Permits for storm water discharges associated with possible industrial activities, pollution prevention activities related to the disposal and reuse plan, the relationship of the proposed action to the closure of Blytheville Airport and the application of mitigation measures for each reuse option.

Our classification will be published in the Federal Register according to our responsibilities under Section 309 of the Clean Air Act.

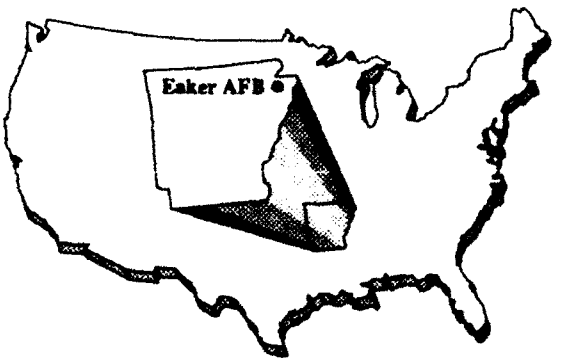
We appreciate the opportunity to review the Draft EIS. Please send our office one copy of the Final EIS at the same time it is sent to the Office of Federal Activities, U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460.

Sincerely yours,

B. J. Wynne
Regional Administrator



APPENDICES



APPENDIX A

APPENDIX A

GLOSSARY OF TERMS AND ACRONYMS/ABBREVIATIONS

APPENDIX A

GLOSSARY OF TERMS AND ACRONYMS/ABBREVIATIONS

GLOSSARY OF TERMS

A-Weighted Sound Level. A number representing the sound level which is frequency weighted according to a prescribed frequency response established by the American National Standards Institute (ANSI S1.4-1971) and accounts for the response of the human ear.

Acetone. Colorless, volatile, flammable, moderately toxic, liquid aromatic hydrocarbon, used as a solvent.

Acoustics. The science of sound which includes the generation, transmission, and effects of sound waves, both audible and inaudible.

Advisory Council on Historic Preservation. A 19-member body appointed, in part, by the President of the United States to advise the President and Congress and to coordinate the actions of federal agencies on matters relating to historic preservation, to comment on the effects of such actions on historic and archaeological cultural resources, and to perform other duties as required by law (Public Law 89-655; 16 U.S. Code 470).

Aesthetics. Referring to the perception of beauty.

Aircraft operation. A takeoff or landing at an airport.

Airport Traffic Area. Airspace within a radius of 5 statute miles of an airport with an operating control tower, encompassing altitudes between the surface and 3,000 feet AGL, in which an aircraft cannot operate without prior authorization from the control tower.

Alluvial. Composed of alluvium.

Alluvium. Clay, silt, sand, gravel or similar material deposited by running water.

Ambient Air Quality Standards. Standards established on a state or federal level that define the limits for airborne concentrations of designated "criteria" pollutants (nitrogen dioxide, sulfur dioxide, carbon monoxide, total suspended particulates, ozone and lead), to protect public health with an adequate margin of safety (primary standards) and to protect public welfare, including plant and animal life, visibility, and materials (secondary standards).

Aquifer. The water-bearing portion of subsurface earth material that yields or is capable of yielding useful quantities of water to wells.

Archaeology. A scientific approach to the study of human ecology, cultural history, and cultural process.

Arterial. Signalized street that serves primarily through-traffic and provides access to abutting properties as a secondary function.

Asbestos. A carcinogenic substance formerly used widely as an insulation material by the construction industry; often found in older buildings.

Association. Two or more soils occurring together in a characteristic pattern.

Attainment area. A region that meets the National Ambient Air Quality Standards for a criteria pollutant under the Clean Air Act.

Average Annual Daily Traffic (AADT). For a 1-year period, the total volume passing a point or segment of a highway facility in both directions, divided by the number of days in the year.

Benzene. Colorless, volatile, flammable, toxic liquid aromatic hydrocarbon.

Biophysical. Pertaining to the physical and biological environment, including the environmental conditions crafted by man.

Biota. The plant and animal life of a region.

Capacity. The maximum rate of flow at which vehicles can be reasonably expected to traverse a point or uniform segment of a lane or roadway during a specified time period under prevailing roadway, traffic, and control conditions.

Carbon disulfide. Colorless, flammable, poisonous liquid, used as a solvent.

Carbon monoxide (CO). A colorless, odorless, poisonous gas produced by incomplete fossil-fuel combustion. One of the six pollutants for which there is a national ambient standard. See criteria pollutants.

Chlorobenzene. Flammable, volatile, toxic liquid used as a solvent.

Class I, II, and III Areas. Under the Clean Air Act, clean air areas are divided into three classes. Very little pollution increase is allowed in Class I areas, some increase in Class II areas, and more in Class III areas. National parks and wilderness areas receive mandatory Class I protection. All other areas start out as Class II. States can reclassify Class II areas up or down, subject to federal requirements.

Commercial aviation. Aircraft activity licensed by state or federal authority to transport passengers and/or cargo for hire on a scheduled or nonscheduled basis.

Comprehensive Plan. A public document, usually consisting of maps, text, and supporting materials, adopted and approved by a local government legislative body, which describes future land uses, goals, and policies.

Contaminants. Undesirable substances rendering something unfit for use.

Control Zone. Controlled airspace with a normal radius of 5 statute miles from a primary airport plus any extensions needed to include instrument arrival and departure paths, encompassing altitudes between the surface and 14,449 feet MSL.

Convey. To deliver title of property to non-federal entity.

Council on Environmental Quality (CEQ). Established by the National Environmental Policy Act (NEPA), the CEQ consists of three members appointed by the President. CEQ regulations (40 CFR Parts 1500-1508, as of July 1, 1986) described the process for implementing NEPA, including preparation of environmental assessments and environmental impact statements, and the timing and extent of public participation.

Corrosive. A material that has the ability to cause visible destruction of living tissue and has a destructive effect on other substances. An acid or a base.

Criteria pollutants. The Clean Air Act required the Environmental Protection Agency to set air quality standards for common and widespread pollutants after preparing "criteria documents" summarizing scientific knowledge on their health effects. Today there are standards in effect for six "criteria pollutants": sulfur oxide (SO_2), carbon monoxide (CO), particulate matter less than 10 microns in diameter (PM_{10}), nitrogen dioxide (NO_2), ozone (O_3), and lead (Pb).

Cultural resources. Prehistoric and historic districts, sites, buildings, objects, or any other physical evidence of human activity considered important to a culture, subculture, or a community for scientific, traditional, religious, or any other reason.

Cumulative impacts. The combined impacts resulting from all activities occurring concurrently at a given location.

Day-Night Average Sound Level (DNL). The 24-hour average-energy sound level expressed in decibels, with a 10-decibel penalty added to sound levels between 10:00 p.m. and 7:00 a.m. to account for increased annoyance due to noise during night hours.

Decibel (dB). A unit of measurement on a logarithmic scale which describes the magnitude of a particular quantity of sound pressure or power with respect to a standard reference value.

Defense Environmental Restoration Account (DERA). DOD account from which IRP activities are funded.

Di-n-octyl phthalate. Clear, oily liquid, used in making vinyl.

Disposal. Orderly placement or distribution of property.

Easement. A right or privilege (agreement) that a person may have on another's property.

Effluent. Waste material discharged into the environment.

Endangered Species. A species that is threatened with extinction throughout all or a significant portion of its range.

Environmental Impact Analysis Process. The process of conducting environmental studies as outlined in Air Force Regulation 19-2.

Erosion. Wearing away of soil and rock by weathering and the action of streams, wind, and underground water.

Excess property. Property that is reported to GSA as no longer required by a federal agency. This property is then made available to all other federal agencies.

Ethylbenzene. Liquid aromatic hydrocarbon used as a solvent.

Faults. Fracture in earth's crust accompanied by a displacement of one side of the fracture with respect to the other and in direction parallel to the fracture.

Fault block. Crustal units bounded by faults.

Fleet mix. Combination of aircraft used by a given agency.

Frequency. The time rate (number of times per second) that the wave of sound repeats itself, or that a vibrating object repeats itself--now expressed in Hertz (Hz), formerly in cycles per second (cps).

Friable. Easily crumbled or reduced to powder.

Fungicide. Any substance which kills or inhibits the growth of fungi.

General aviation. All aircraft which are not commercial or military aircraft.

Geomorphic. Pertaining to the form of the earth or its surface features.

Groundwater. Water within the earth that supplies wells and springs.

Groundwater basin. Subsurface structure having the character of a basin with respect to collection, retention, and outflow of water.

Habituate. To become accustomed to frequent repetition or prolonged exposure.

Hazardous material. Generally, a substance or mixture of substances that has the capability of either causing or significantly contributing to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or posing a substantial present or potential risk to human health or the environment. Use of these materials is regulated by Department of Transportation (DOT), Occupational Safety and Health Administration (OSHA), and Superfund Amendments Reauthorization Act (SARA).

Hazardous waste. A waste, or combination of wastes, which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Regulated under the Resource Conservation and Recovery Act (RCRA).

Herbicide. A pesticide, either organic or inorganic, used to destroy unwanted vegetation, especially various types of weeds, grasses, and woody plants.

Hydrocarbons. Any of a vast family of compounds containing hydrogen and carbon. Used loosely to include many organic compounds in various combinations; most fossil fuels are composed predominately of hydrocarbons. When hydrocarbons mix with nitrogen oxides in the presence of sunlight, ozone is formed; hydrocarbons in the atmosphere contribute to the formation of ozone.

Impacts. An assessment of the meaning of changes in all attributes being studied for a given resource; an aggregation of all the adverse effects, usually measured using a qualitative and nominally subjective technique. In this EIS, as well as in the CEQ regulations, the word impact is used synonymously with the word effect.

Infrastructure. The basic installations and facilities on which the continuance and growth of a community, state, etc., depend, e.g., roads, schools, power plants, transportations, and communication systems, etc.

Interstate. The designated National System of Interstate and Defense Highways located in both rural and urban areas; they connect the East and West coasts and extend from points on the Canadian border to various points on the Mexican border.

L_{eq}. The equivalent steady state sound level which in a stated period of time would contain the same acoustical energy as time-varying sound level during the same period.

Liquefaction susceptibility. Potential for fluidization and loss of mechanical strength of saturated soils during an earthquake.

L_{max}. The highest A-weighted sound level observed during a single event of any duration.

Lead (Pb). A heavy metal used in many industries, which can accumulate in the body and cause a variety of negative effects. One of the six pollutants for which there is a national ambient air quality standard. See criteria pollutants.

Level of service (LOS). In transportation analyses, a qualitative measure describing operational conditions within a traffic stream and how they are perceived by motorists and/or passengers. In public services, a measure describing the amount of public services (e.g., fire protection and law enforcement services) available to community residents, generally expressed as the number of personnel providing the services per 1,000 population.

Lithic. Pertaining to stone material.

Loam, loamy. Rich, permeable soil composed of a mixture of clay, silt, sand, and organic matter.

Loudness. The qualitative judgement of intensity of a sound by a human being.

Magnitude. Richter scale logarithmic measurement of the energy released by an earthquake.

Masking. The action of bringing one sound (audible when heard alone) to inaudibility or to unintelligibility by the introduction of another sound.

Military Operations Areas (MOAs). Airspace areas of defined vertical and lateral limits established for the purpose of separating certain training activities, such as air combat maneuvers, air intercepts, and acrobatics, from other air traffic operating under instrument flight rules.

Mineral. Naturally occurring inorganic element or compound.

Mineral resources. Mineral deposits that may eventually become available, known deposits not recoverable at present or yet undiscovered.

Mitigation. A method or action to reduce or eliminate program impacts.

Multi-family housing. Townhouse or apartment units that accommodate more than one family though each dwelling unit is only occupied by one household.

National Ambient Air Quality Standards (NAAQS). Section 109 of the Clean Air Act requires EPA to set nationwide standards, the National Ambient Air Quality Standards, for widespread air pollutants. Currently, six pollutants are regulated by primary and secondary NAAQS: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter (PM_{10}), and sulfur dioxide. See criteria pollutants.

National Priority List. A list of sites (federal and state) that contain hazardous materials that may cause an unreasonable risk to the health and safety of individuals, property, or the environment.

National Register of Historic Places. A register of districts, sites, buildings, structures, and objects important in American history, architecture, archaeology, and culture, maintained by the Secretary of the Interior under authority of Section 2(b) of the Historic Sites Act of 1935 and Section 101(a)(1) of the National Historic Preservation Act of 1966, as amended.

Native Americans. Used in a collective sense to refer to individuals, bands, or tribes who trace their ancestry to indigenous populations of North America prior to Euro-American contact.

Native vegetation. Plant life that occurs naturally in an area without agricultural or cultivational efforts. It does not include species that have been introduced from other geographical areas and become naturalized.

National Environmental Policy Act (NEPA). Public Law 91-190, passed by Congress in 1969. The Act established a national policy designed to encourage consideration of the influences of human activities (e.g., population growth, high-density urbanization, industrial development) on the natural environment. NEPA also established the Council on Environmental Quality. NEPA procedures require that environmental information be made available to the public before decisions are made. Information contained in NEPA documents must focus on the relevant issues in order to facilitate the decision-making process.

Nitrogen dioxide (NO_2). Gas formed primarily from atmospheric nitrogen and oxygen when combustion takes place at high temperature. NO_2 emissions contribute to acid deposition and formation of atmosphere ozone. One of the six pollutants for which there is a national ambient standard. See Criteria Pollutants.

Nitrogen oxides (NO_x). Gases formed primarily by fuel combustion, which contribute to the formation of acid rain. Hydrocarbons and nitrogen oxides combine in the presence of sunlight to form ozone, a major constituent of smog.

Noise. Any sound that is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying (unwanted sound).

Noise attenuation. The reduction of a noise level from a source by such means as distance, ground effects, or shielding.

Noise contour. A curve connecting points of equal noise exposure on a map. Noise exposure is often expressed using the average day-night sound level, DNL.

Nonattainment area. An area that has been designated by the Environmental Protection Agency or the appropriate state air quality agency, as exceeding one or more National or State Ambient Air Quality Standards.

100-year flood zone. Land area having a 1-percent chance of being flooded during a given year.

Operating Location (OL). An organization established by the Air Force to ensure base resource protection, grounds maintenance, existing utilities operations as necessary, and building care.

Outlease. Contract by which government conveys real estate or facilities for a specified term and for a specified rent.

Ozone (ground level). A major ingredient of smog. Ozone is produced from reactions of hydrocarbons and nitrogen oxides in the presence of sunlight and heat. Some 68 areas, mostly metropolitan areas, did not meet a 31 December 1987 deadline in the Clean Air Act for attaining the ambient air quality standard for ozone.

PCB-contaminated equipment. Equipment which contains a concentration of PCBs from 50 to 499 ppm and regulated by the U.S. EPA.

PCB equipment. Equipment which contains a concentration of PCBs of 500 ppm or greater and regulated by the U.S. EPA.

PCB items. Equipment which contains a concentration of PCBs from 5 to 49 ppm and regulated by the State EPA.

Permeability. The capacity of a porous rock or sediment to transmit a fluid.

Pesticides. Any substance, organic or inorganic, used to destroy or inhibit the action of plant or animal pests; the term thus includes insecticides, herbicides, fungicides, rodenticides, miticides, fumigants, and repellents. All pesticides are toxic to humans to a greater or lesser degree. Pesticides vary in biodegradability.

Physiographic Province. A region in which all parts are similar in geologic structure and climate.

Pickled. Preserved for future use by cleaning out, etc.

Pitchblende. A mineral formed by radioactive decay, often found in sulfide-bearing veins.

Pleistocene. An earlier epoch of the Quaternary period during the "ice age" beginning approximately 3 million years ago and ending 10,000 years ago. Also refers to the rocks and sediments deposited during that time.

Plume. An elongated mass of contaminated fluid moving with the flow of groundwater.

Polychlorinated Biphenyls (PCBs). Any of a family of industrial compounds produced by chlorination of biphenyl. These compounds are noted chiefly as an environmental pollutant that accumulates in organisms and concentrates in the food chain with resultant pathogenic and teratogenic effects. They also decompose very slowly.

Potable water. Suitable for drinking.

Prehistoric. The period of time before the written record.

Prevention of Significant Deterioration (PSD). In the 1977 Amendments to the Clean Air Act, Congress mandated that areas with air cleaner than required by National Ambient Air Quality Standards must be protected from significant deterioration. The Clean Air Act's PSD program consists of two elements: requirements for best available control technology on major new or modified sources, and compliance with an air quality increment system.

Prevention of Significant Deterioration Area. A requirement of the Clean Air Act (160 et seq.) that limits the increases in ambient air pollutant concentrations in clean air areas to certain increments even though ambient air quality standards are met.

Prime farmland. Agricultural lands protected from irreversible conversion to other uses.

Primary roads. A consolidated system of connected main roads important to regional, statewide, and interstate travel; they consist of rural arterial routes and their extensions into and through urban areas of 5,000 or more population.

Quartz. Monzonite (basement corplex), coarse-grained igneous rock containing quartz, feldspar, and mafic minerals.

Recent. The geologic time period from approximately 10,000 years ago to the present and the rocks and sediment deposited during that time.

Sediment. Material deposited by wind or water.

Seismicity. Relative frequency and distribution of earthquakes.

Seismic Zone III. Area designated in the Uniform Building Code as a moderate risk zone for major earthquake damage and intensities of VI or more on the Modified Mercalli Scale in proximity to a major fault system.

Shrink/swell potential. Volume change possible upon wetting or drying.

Single-family housing. A conventionally built house consisting of a single dwelling unit occupied by one household.

Site. As it relates to cultural resources, any location where humans have altered the terrain or discarded artifacts.

Sludge. A heavy, slimy deposit, sediment, or mass resulting from industrial activity; solids removed from wastewater.

Soil Series. A group of soils having similar parent materials, genetic horizons, and arrangement in the soil profile.

Solvent. A substance that dissolves or can dissolve another substance.

State Historic Preservation Officer (SHPO). The official within each state, authorized by the state at the request of the Secretary of the Interior, to act as liaison for purposes of implementing the National Historic Preservation Act.

Sulfur dioxide (SO_2). A toxic gas that is produced when fossil fuels, such as coal and oil, are burned. SO_2 is the main pollutant involved in the formation of acid rain. SO_2 also can irritate the upper respiratory tract and cause lung damage. During 1980, some 27 million tons of sulfur dioxide were emitted in the U.S., according the Office of Technology Assessment. The major source of SO_2 in the U.S. is coal-burning electric utilities.

Surplus Property. Property designated as excess that is of no interest to any federal agency. These properties are made available to state, local or non-profit organizations or sold to private organizations.

Tectonic framework. Structural geologic elements of a region including the rising, stable, and subsiding areas.

Terminal Control Area (TCA). Controlled airspace extending upward from the surface or higher to specified altitudes, within which all aircraft are subject to operating rules (i.e., altitudes, direction of flight, etc.) and equipment requirements.

Tetrachlorobenzene. Liquid aromatic hydrocarbon used as a solvent.

Tetrachoroethene. Colorless corrosive liquid, used as a solvent.

Therm. A measurement of units of heat.

Threatened Species. Plant and wildlife species likely to become endangered in the foreseeable future.

Toluene. Liquid aromatic hydrocarbon used as solvent.

Total Suspended Particulates (TSP). The particulate matter in the ambient air. The previous national ambient air quality standard for particulates was based on TSP levels; it was replaced in 1987 by an ambient standard based on PM_{10} levels.

Transfer. Deliver title to another federal agency.

Transition Area. Controlled airspace extending 700 feet or more upward from the surface of the earth when designated in conjunction with an airport for which an approved instrument approach procedure has been prescribed; or from 1,200 feet or more above the surface of the earth when designated in conjunction with airway route structures or segments. Unless otherwise specified, transition areas terminate at the base of the overlying controlled airspace.

UNICOM. Special frequency for two-way radio communication between the ground (airport) and aircraft pilot to provide safe and orderly flow of traffic at smaller airports not controlled by the FAA. Each airport has its own frequency.

Unified Soil Classification System. A rapid method for identifying and grouping soils for military construction. Soils are grouped by grain-size, gradation, and liquid limit.

U.S. Environmental Protection Agency (U.S. EPA). The independent federal agency, established in 1970, that regulates environmental matters and oversees the implementation of environmental laws.

Wetlands. Areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil. This classification includes swamps, marshes, bogs, and similar areas.

Xylene. Liquid aromatic hydrocarbon used as a solvent.

Zoning. The division of a municipality (or county) into districts for the purpose of regulating land use, types of building, required yards, necessary off-street parking, and other prerequisites to development. Zones are generally shown on a map and the text of the zoning ordinance specifies requirements for each zoning category.

ACRONYMS/ABBREVIATIONS

AADT	average annual daily traffic
AAFES	Army-Air Force Exchange System
AAQS	Arkansas Air Quality Standards
ACA	Arkansas Code of 1987 annotated
ACBM	asbestos-containing building materials
ACM	asbestos-containing materials
ADPCE	Arkansas Department of Pollution Control and Ecology
AFB	Air Force Base
AFR	Air Force Regulation
af/yr	acre-feet per year
AHERA	Asbestos Hazard Emergency Response Act
AICUZ	Air Installation Compatible Use Zone
ALP	Airport Layout Plan
APE	Area of Potential Effect
APZ	Accident Potential Zone
AQCR	Arkansas Air Quality Control Region
ARTCC	Air Route Traffic Control Center
ASR	approach surveillance radar
ATC	air traffic control
AWOS	Automated Weather Observation Station
BACT	Best Available Control Technology
BCE	Base Civil Engineering
BGDA	Blytheville-Gosnell Development Authority
BOD	biological oxygen demand
CAA	Clean Air Act (federal)
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CMI	Corrective Measures Investigation
CO	carbon monoxide
COE	Corps of Engineers (U.S. Army)
CZ	Clear Zone
dB	decibel
DBCRA	Defense Base Closure and Realignment Act
DEIS	Draft Environmental Impact Statement
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DNL	Day-night average sound level
DOD	Department of Defense
DRMO	Defense Reutilization and Marketing Office

EDMS	Emissions and Dispersion Modeling System
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EOD	Explosive Ordnance Disposal
FAA	Federal Aviation Administration
FBO	fixed base operator
FEIS	Final Environmental Impact Statement
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FPMR	Federal Property Management Regulations
FPPA	Farmland Protection Policy Act
FPTA	Fire Protection Training Area
FS	Feasibility Study
FY	fiscal year
GSA	General Services Administration
HHS	U.S. Department of Health and Human Services
HMTA	Hazardous Materials Transportation Act
HUD	U.S. Department of Housing and Urban Development
HWMP	Hazardous Waste Management Plan
IFR	instrument flight rules
ILS	instrument landing system
INM	Integrated Noise Model
IR	IFR route
IRP	Installation Restoration Program
kV	kilovolt
L_{dn}	Day-Night Average Sound Level
L_{eq}	equivalent sound level
LESA	Land Evaluation and Site Assessment
L_{max}	A-weighted maximum sound level
LOS	level of service
MCEC	Mississippi County Electric Cooperative
MCL	maximum contaminant level
µg/l	micrograms per liter
µg/m³	micrograms per cubic meter
MGD	million gallons per day
MOA	Military Operations Area
mph	miles per hour
MSL	mean sea level
MTR	military training routes
MVA	megavolt ampere
MWH	megawatt-hours
NAAQS	National Ambient Air Quality Standards
NCP	National Contingency Plan
NEPA	National Environmental Policy Act of 1969

NESHAP	National Emissions Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NLR	noise level reduction
NO	Nitric oxide
N_2O	Nitrous oxide
N_2O_3	Nitrous anhydride
N_2O_5	Nitric anhydride
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NOI	Notice of Intent
NOISEMAP	Noise Exposure Model
NPDES	National Pollution Discharge Elimination System
NPI	nonprecision instrument
NPL	National Priorities List
NRHP	National Register of Historic Places
O_3	ozone
OL	Operating Location
OSHA	Occupational Safety and Health Administration
PA	Preliminary Assessment
PA/SI	Preliminary Assessment/Site Inspection
PCBs	polychlorinated biphenyls
pCi/l	picocuries per liter
P.L.	Public Law
PM_{10}	particulate matter less than 10 microns in diameter
POL	petroleum, oils, and lubricants
ppm	parts per million
PSD	Prevention of Significant Deterioration
psi	pounds per square inch
RA	Remedial Action
RAMP	Radon Assessment and Mitigation Program
RAPCON	Radar Approach Control
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RD/RA	Remedial Design/Remediation Action
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision (presented in Appendix B of this EIS)
ROG	reactive organic gases
ROI	Region of influence
RPZ	Runway Protection Zone
SAC	Strategic Air Command
SARA	Superfund Amendment and Reauthorization Act

SBC	Southern Building Code
SCS	Soil Conservation Service
SEL	sound exposure level
SH	State Highway
SHPO	State Historic Preservation Officer
SI	Site Inspection
SO_2	sulfur dioxide
SPCC	Spill Prevention Control and Countermeasures
TACAN	Tactical Air Navigation
TD	technology development
TDM	Transportation Demand Management
TRACON	Terminal Radar Approach Control
TSCA	Toxic Substances Control Act
TSD	treatment, storage, or disposal
TSP	total suspended particulate
TSS	total suspended solids
UIC	Underground Injection Control
U.S. #	U.S. Highway
USC	U.S. Code
U.S. DOT	U.S. Department of Transportation
U.S. EPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
UWOT	underground waste oil tanks
VFR	visual flight rules
VOC	volatile organic compound
VOR	very high frequency omnidirectional range
WSA	weapons storage area

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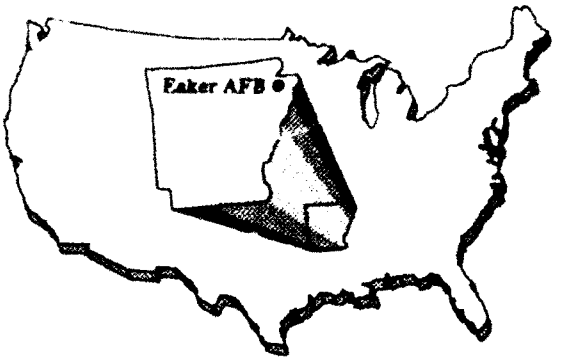

APPENDIX B

APPENDIX B

NOTICE OF INTENT

APPENDIX B

NOTICE OF INTENT

The following notice of intent was circulated and published by the Air Force in the October 9, 1991 Federal Register in order to provide public notice of the Air Force's intent to prepare an Environmental Impact Statement of disposal and reuse of Eaker Air Force Base. This Notice of Intent has been retyped for clarity and legibility.

Please note: The point of contact for information on the disposal and reuse environmental impact statment has been changed. The new point of contact is:

Lt. Colonel Gary Baumgartel
AFCEE/ESE
8106 Chennault Road
Brooks AFB, Texas 98235-5318

NOTICE OF INTENT
TO PREPARE ENVIRONMENTAL IMPACT STATEMENTS
FOR DISPOSAL AND REUSE OF THIRTEEN AIR FORCE BASES

The United States Air Force will prepare thirteen environmental impact statements (EISs) to assess the potential environmental impacts of disposal and reuse of the following Air Force bases recently directed to be closed under the provisions of the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510, Title XXIX):

Closing Base

Bergstrom AFB, Austin, Texas

Carswell AFB, Fort Worth, Texas

Castle AFB, Merced, California

Eaker AFB, Blytheville, Arkansas

England AFB, Alexandria, Louisiana

Grissom AFB, Peru, Indiana

Loring AFB, Limestone, Maine

Lowry AFB, Denver, Colorado

Myrtle Beach AFB, Myrtle Beach, South Carolina

Richards Gebaur ARS, Kansas City, Missouri

Rickenbacker AGB, Columbus, Ohio

Williams AFB, Chandler, Arizona

Wurtsmith AFB, Oscoda, Michigan

Each EIS will address the disposal of the property to public or private entities and the potential impacts of reuse alternatives. All available property will be disposed of in accordance with provisions of Public Law 101-510 and applicable federal property disposal regulations.

The Air Force plans to conduct a scoping and screening meeting within the local area for each base during October and November 1991. Notice of the time and place of each meeting will be made available to public officials and local news media outlets once it has been finalized. The purpose of each meeting is to determine the environmental issues and concerns to be analyzed for the base disposal and reuse in that area, to solicit comments on the proposed action and to solicit proposed disposal and reuse alternatives that should be addressed in the EIS for that base. In soliciting disposal and reuse inputs, the Air Force intends to consider all reasonable alternatives offered by any federal, state, or local government agency and any federally-sponsored or private entity or individual with an interest in acquiring available property at one of the listed closing bases. The

To ensure the Air Force will have sufficient time to consider public inputs on issues to be included in the EISs, and disposal alternatives to be included in the final disposal plans, comments and reuse proposals should be forwarded to the address listed below by December 1, 1991. However, the Air Force will accept comments at the address below at any time during the environmental impact analysis process.

For further information concerning the study of these base disposal and reuse EIS activities, contact:

Lt. Colonel Tom Bartol
AFCEE/ESE
Norton AFB, California 92409-6448

Note: Comment date was extended from December 1, 1991 to January 2, 1992 after processing and publication of this Notice of Intent.

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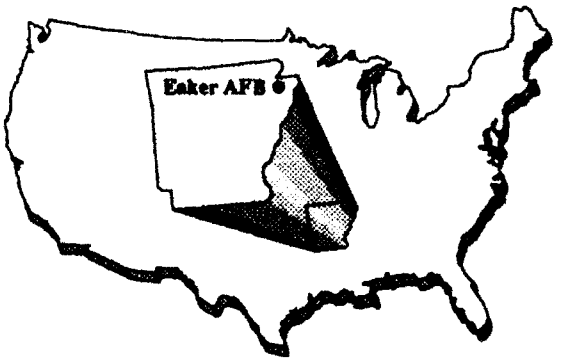


APPENDIX C

APPENDIX C

FINAL ENVIRONMENTAL IMPACT STATEMENT MAILING LIST

APPENDIX C

FINAL ENVIRONMENTAL IMPACT STATEMENT MAILING LIST

This list of recipients includes interested federal, state, and local agencies and individuals who have expressed an interest in receiving the document. This list also includes the governor of Arkansas, as well as United States senators and representatives and state legislators.

ELECTED OFFICIALS

Federal Officials

U.S. Senate

The Honorable Dale L. Bumpers
The Honorable David H. Pryor

U.S. House of Representatives

The Honorable Bill Alexander
The Honorable Beryl Anthony, Jr.
The Honorable John Hammerschmidt
The Honorable Ray Thorton

State of Arkansas Officials

Governor

The Honorable Bill Clinton

State Legislature

The Honorable Christene Brownlee
The Honorable Walter Day
The Honorable Larry Thomason
The Honorable Wayne Wagner

Local Officials

The Honorable Marke Cartee
Mayor of Hayti

The Honorable Debbie Cissell
Mayor of Keiser

Local Officials (Continued)

The Honorable James E. Conley
Mayor of Luxoria

The Honorable Joe Gude
Mayor of Blytheville

The Honorable Jim Johns
Mayor of Bassett

The Honorable Ervin Johnson
Mayor of Dell

The Honorable Robert Johnson
Mayor of Tyronza

The Honorable W.M. Johnson
Mayor of Maldin

The Honorable J. Warren Karsten, Jr.
Mayor of Kennett

The Honorable Dickie Kennemore
Mayor of Osceola

The Honorable Joe Lane
Mayor of Senath

The Honorable Billy Pilgrim
Mayor of Marie

The Honorable Dick Reams
Mayor of Gosnell

The Honorable Bill Revell
Mayor of Dyersburg

The Honorable Joe Saliba
Mayor of Steele

The Honorable Diane Sayre
Mayor of Caruthersville

The Honorable Chris Tompkins
Mayor of Burdette

Local Officials (Continued)

The Honorable Clifford Veach
Mayor of Manila

The Honorable Bill Welch
Mayor of Joiner

The Honorable Ralph Wells
Mayor of Leachville

The Honorable Mathlide Wesson
Mayor of Victoria

The Honorable Michael Wilson
Mayor of Wilson

The Honorable Edward Wooten
Mayor of Dyess

Leroy Meadows
Sheriff, Mississippi County

Stan Williams
Superintendent, Gosnell Public Schools

Don Dills
County Executive, Dyer County

Joe A. Gurley
Judge, Mississippi County

Mr. Van Hawkins, Jr.
Presiding Commissioner, Dunklin County

Frank Ladd
Superintendent, Blytheville Public Schools

James Thomas
Superintendent, Armorel Public Schools

JoAnn Morgan
Mississippi County Clerk

Clyde Southern
Presiding Commissioner, Pemiscot County

GOVERNMENT AGENCIES

Federal Agencies

Advisory Council on Historic Preservation

Center for Environmental Health and Injury Control
Center for Disease Control

Department of Agriculture
Environmental Coordination Office

Department of Commerce
Office of Intergovernmental Affairs

Department of Health and Human Services
Office of Environmental Affairs

Department of Housing and Urban Development
Community Management Division

Department of the Interior
Office of Environmental Affairs

Department of Labor
Intergovernmental Affairs

Department of Transportation
Federal Aviation Administration
Office of Environment and Energy

Department of Transportation
Federal Highway Administration

Department of Veterans Affairs
Mr. Allen Maurer

Environmental Protection Agency
Office of Federal Activities

General Services Administration
Office of Program Initiatives

Department of Defense

Department of Transportation
Federal Aviation Administration
Office of the Air Force Representative

Office of Economic Adjustment, Pentagon

Regional Offices of Federal Agencies

Advisory Council on Historic Preservation
Western Regional Office

Army Corps of Engineers
Little Rock District
Bob Dunn
Margaret Morehead

Army Corps of Engineers
Southwestern Division
Larry Banks

Department of Agriculture
Soil Conservation Service
Little Rock

Department of Commerce
Economic Development Administration
Austin Region

Department of Education
Region 6 Director

Department of Health and Human Services
Region 6 Director

Department of Housing and Urban Development
Region 6 Director

Department of the Interior
Fish and Wildlife Service
Region 4 Director

Department of Transportation
Federal Aviation Administration
Airports Division, Southwest Region

Regional Offices of Federal Agencies (Continued)

Department of Transportation
Federal Highway Administration
Region 6

Environmental Protection Agency
Chief, Federal Activities Branch
Region 6

Department of the Interior
National Park Service
Southwestern Region

State of Arkansas Agencies

Arkansas Archaeological Survey
Hester Davis, State Archaeologist
Dr. Dan Morse

Department of Human Services
Luther Davis

Education Department
Burton Elliott, Director

Forestry Commission
Edwin Waddell, Director

Game and Fish Commission
William Brewer, Chairman

Geology Commission
Norman Williams, Director

Health Department
Joycelyn Elders, Director

Highway Department
Joe Barnett, District Manager

Industrial Development Commission
Jane English
David Harrington

Labor Department
J.L. Terwilliger, Director

State of Arkansas Agencies (Continued)

Land Commissioner
Charlie Daniels

Arkansas National Guard
Jonesboro Battalion Headquarters

Office of Correspondence
Carole Sunner, Director

Office of the Governor
Richard McClure, Chief of Staff

Parks and Tourism Department
Richard Davies, Executive Director

Pollution Control and Ecology Department
Randall Mathis, Director

Soil and Water Conservation Department
J. Randy Young, Executive Director

State Clearing House
Tracy Copeland

State Historical Preservation Office
Kathy Buford, Director

State Librarian
John Murphy Jr.

State Police
Col. T.L. Goodwin, Chief

Veterans Affairs Department
Hershel Gober, Director

Local Government Agencies

Arkansas Association of Conservation Districts

Blytheville Chamber of Commerce

Blytheville Police Department
Captain Ralph Hill

Local Government Agencies (Continued)

Blytheville School System
Janet Taylor
Joe Musick

Caruthersville Chamber of Commerce

Dyersberg Chamber of Commerce

Gosnell Chamber of Commerce

Jonesboro Chamber of Commerce

Kennett Chamber of Commerce

Mississippi County Branch NAACP
Shirley M. Harvell, President

Mississippi County Courthouse
Karen Green

Osceola Chamber of Commerce

Piggott Chamber of Commerce

West Memphis Chamber of Commerce

Libraries

Arkansas State University
Blytheville Public
Leachville Public
Manila Public
Memphis State University
Mississippi County
University of Arkansas

OTHERS

Other Organizations/Individuals

Jonathan Abbott

Arkansas Power & Light
Shady Patton

Other Organizations/Individuals (Continued)

Associated Natural Gas
Steve Green, Operating Manager

Blytheville Board of Realtors

Blytheville Federal Credit Union
Ron Thomas

Blytheville-Gosnell Development Authority
Denise Green
Ronnie A. Ford

Blytheville Public Works
Dwain Painter, Superintendent

Blytheville Sewer Department
Jimmie Gee, Superintendent

Blytheville Water Works
Robert "Dink" White, Manager

Brewer Wholesale Supply Inc.
Bobby Brewer

Burge Shoe Center
Neil Burge

Marion Burton

Century 21 Don Smith Realty
Don Smith

Alvin Clay

Cotton Boll Technical Institute
Bill Nelson

Wallace Cupples

B.T. Dargan

Phil D. Darnell

Drainage District #17
Bill Jackson, Manager

Other Organizations/Individuals (Continued)

Eaker Committee
Mike Allette
Steve Bell
Jean Dixon
Jimmie Edwards
Alvin Huffman
Ed Ledden
Jolly Leggett
John Logan
John Mayes
Lonnie Middlebrook
Sharon Rauls
Dan Ritchey
Bill Tomlinson
Harry Whitaker

E & I Supply
Ronnie Goff

Environmental Protection Systems
Gene M. Bailey

Earl Ervin

Farmers Bank & Trust
Ron Dawson

First National Bank
Jim McMahan
Gaylon Rogers
Jerry Sims

Joshua Frierson

Terry Gabrielson

Bob Gardner

Bobby Garner

Garver & Garver
Terry L. Johnson

Joe Mack Hester

Other Organizations/Individuals (Continued)

Highland Industries
Roy Ledbetter

Holiday Inn of Blytheville
Don Houseworth

Mylas and Sue Jeffers

Idell Jenkins

KLCN Radio
Harold Sudbury, Jr

Lynn Kusy

Lucretia McDonald

Mississippi County Community College
L.D. Harris
Robin Myers
Dr. John Sullins, President
Dr. Gary Taylor
Debra Williams

Mississippi County EOC
Sam Scruggs

Mississippi County Electric Cooperative
Dean Hodges

Mississippi County Union Mission
Dr. Alvin McGill

Neel A. Moore

National Audubon Society

National Wildlife Federation

Nature Conservancy

Joe Payne

Johnnie M. Porter

Other Organizations/Individuals (Continued)

Reid, Burge & Prevallet
Richard Reid

River Rail Terminal Co.
Jim Norris

Sierra Club
Southeast Regional Office

Mr. Lloyd Snow

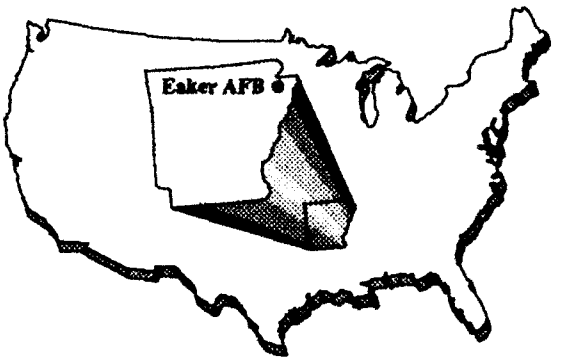
Southwestern Bell
Rhonda Cline, Area Manager

Sudbury Services
Harold L. Sudbury

Thomas, Speight & Noble
Jim Speight

Wayne Widener

Dr. John Williams



APPENDIX D

APPENDIX D

INSTALLATION RESTORATION PROGRAM BIBLIOGRAPHY

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INSTALLATION RESTORATION PROGRAM BIBLIOGRAPHY

Engineering-Science, 1985. IRP Records Search, August.

NUS Corporation, 1987. U.S. Air Force IRP Stage I Remedial Investigation (HAZWRAP), November.

NUS Corporation, 1990. U.S. Air Force IRP Site Investigation, 3 volumes (HAZWRAP), October.

NUS Corporation, 1991. Draft Technical Memorandum, Preliminary Development and Screening of Remedial Action Alternatives (HAZWRAP), March.

NUS Corporation, 1991. Hazardous Waste Remedial Action Program Annual Progress Report, FY91 (HAZWRAP).

NUS Corporation, 1991. U.S. Air Force IRP Receptor Study, Draft (HAZWRAP), January.

NUS Corporation, 1991. U.S. Air Force IRP Results of Groundwater Sampling and Analysis (HAZWRAP), July.

NUS Corporation, 1992. U.S. Air Force IRP Program Draft Work Plan for the Remedial Investigation/Feasibility Study (HAZWRAP), February.

U.S. Air Force, 1990. Environmental Impact Statement Proposed Closure of Eaker AFB, Arkansas, Draft, November.

U.S. Air Force, 1992. U.S. Air Force Installation Restoration Program Remedial Project Manager's Handbook, January.

U.S. Air Force Institute of Technology, 1990. Air Force IRP Management Guidance, March.

U.S. Government Printing Office, 1991. Defense Environmental Restoration Program, Annual Report to Congress for FY91.

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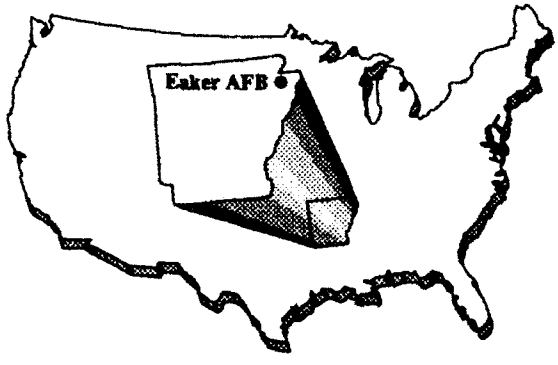

APPENDIX E

APPENDIX E

METHODS OF ANALYSIS

APPENDIX E

METHODS OF ANALYSIS

1.0 INTRODUCTION

This section describes the methods used in preparing this environmental impact statement (EIS). These methods were designed and implemented to evaluate the potential environmental impacts of disposal of Eaker Air Force Base (AFB) and incident reuse. Since future reuse of the site is uncertain in its scope, activities, and timing, the analysis considered several alternative reuse scenarios and evaluated their associated environmental impacts. The reuse scenarios analyzed in this EIS were defined for this study to span the anticipated range of reuse activities that are reasonably likely to occur due to disposal of the base. They were developed based on proposals put forth by affected local communities, interested individuals, and the Air Force, and considered general land use planning objectives.

The various analysis methods used to develop this EIS are summarized here by resource. In some instances, more detail is included in another appendix. These instances are noted for each resource in its respective subsection below.

2.0 LOCAL COMMUNITY

2.1 COMMUNITY SETTING

The section on community setting was developed to provide the context within which other biophysical impacts could be assessed. Community setting impacts were based on projected direct and secondary employment and resulting population changes related to reuse of Eaker AFB. These projections were used to quantify and evaluate changes in demand on community services, demand on transportation systems, air quality, and noise. A complete assessment of socioeconomic effects was conducted through a separate Socioeconomic Impact Analysis Study (SIAS) for the Disposal and Reuse of Eaker AFB, which is the source for baseline and projected statistics used in this EIS.

The SIAS used information from sources including the U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics, U.S. Council of Economic Advisors, and the cities of Blytheville and Gosnell. The analysis used the Regional Interindustry Multiplier System (RIMS II) model to generate demographic and economic projections associated with the Proposed Action and alternatives.

2.2 LAND USE AND AESTHETICS

Potential land use impacts were projected based on compatibility of land uses associated with the Proposed Action and alternatives with adjacent land uses and zoning; consistency with general plans and other land use plans and regulations; and effects of aircraft noise and safety restrictions on land uses.

The region of influence (ROI) for the majority of direct land use impacts for this study consisted of Eaker AFB, the cities of Blytheville and Gosnell surrounding the base, and unincorporated parcels of Mississippi County interspersed among those cities. Noise-related land use impacts were determined by the extent of noise contours created by reuse alternatives and potentially included the cities of Blytheville and Gosnell.

Maps and windshield surveys were used to characterize on- and off-base land uses. Applicable policies, regulations, and land use restrictions were identified from the available land use plans and ordinances of the city of Blytheville. The proposed and alternative reuse plans were compared to existing land use and zoning to identify areas of conflict, as well as to local subdivision regulations. The other land use concepts were also examined for compatibility with adjacent land uses and with the Proposed Action and alternatives using the same process.

Alternatives incorporating airfield uses were examined for consistency with FAA regulations and recommended land uses in the vicinity of airfields. Impacts of airfield generated noise were assessed by comparing the extent of noise-affected areas and receptors under different reuse alternatives against preclosure baseline conditions.

For the aesthetics analysis, the affected environment was described based upon the visual sensitivity of areas within and visible from the base. These areas were categorized as high, medium, and low sensitivity. The Proposed Action and alternatives were then evaluated to identify land uses to be developed, visual modifications that would occur, and new areas of visual sensitivity and determine whether modification of unique or otherwise irreplaceable visual resources would occur and detract from the visual qualities or setting. Consistency with applicable plans that protect visual resources was also examined.

2.3 TRANSPORTATION

Potential impacts to transportation due to the Proposed Action and alternative reuse plans for Eaker AFB focus on key roads, local airport use, and rail service in the area, including those segments of the transportation networks in the region that serve as direct or mandatory indirect linkages to the base, and those that are commonly used by Eaker AFB personnel. The

need for improvements to on-base roads, off-base access, and regional arterials was considered. The analysis was derived using information from state and local government agencies, including the Arkansas State Highway Department; local airport authorities; and railroad companies. Other data sources used for the roadway analysis include the Institute of Transportation Engineers and the Transportation Research Board. The ROI for the transportation analysis includes portions of Mississippi County with emphasis on the immediate area surrounding Eaker AFB.

The number of vehicle trips expected as a result of specific land uses on the site was estimated for 1993, 1998, 2003, and 2013 on the basis of direct on-site jobs and other attributes of on-site land uses (such as the number of dwelling units, projected airport passenger volume, commercial and industrial development, and other factors). Trip Generation Data from the Institute of Transportation Engineers was used to determine vehicle trips. Vehicle trips were then allocated to the local road network using prior patterns and expected destinations and sources of trips. When appropriate, the local road network was adjusted to account for changes over time from presently planned road capacity improvements and improvements required by the proposed reuse scenarios. Changes in work and associated travel patterns were derived by assigning or removing traffic to or from the most direct commuting routes. Freeway-bound traffic was determined as a percentage of total trips, then distributed to key regional roads based on trip length distribution. Changes in traffic volumes arising from reuse alternatives at Eaker AFB were estimated and resulting volume changes on key local, regional, and on-base roadway segments were then determined.

The transportation network in the ROI was then examined to identify potential impacts to levels of service (LOS) arising from future baseline conditions (caretaker status of Eaker AFB) and effects of reuse alternatives. Planning computations from the Highway Capacity Manual were used to determine the number of lanes required to provide for a given LOS. The planning application provided estimates of traffic and anticipated LOS where the amount of detail and accuracy of information was limited. The planning procedures used in this analysis were based on forecasts of average annual daily traffic and on assumed traffic, roadway, and control conditions. The results provided a basic assessment of whether or not capacity was likely to be exceeded for a given volume. Intersection analysis was then integrated into the planning capacity analysis for each roadway section analyzed and the results provided an estimate of the changes in LOS ratings expected as a result of traffic volume changes on key local, regional, and on-base roadway segments.

Airspace use in the vicinity of an airport is driven primarily by such factors as runway alignment, surrounding obstacles and terrain, air traffic control and navigational aid capabilities, proximity of other airports/airspace uses in the area, and noise considerations. These same factors normally apply

regardless of whether the airport is used for military or civilian aircraft operations. For this reason, a preclosure reference was used in characterizing these factors related to airspace use at Eaker AFB.

Historic data on military aircraft operations used to characterize airspace use at and around Eaker AFB were obtained from the base. Airport owners/operators were contacted to obtain information on civil airport use. Aviation forecasts were derived using a market potential approach and, where necessary, assumptions were made based on other similar airport operational environments.

Airspace ROI. The ROI selected for airspace is an area within a 40-nautical mile radius of Eaker AFB from the surface up to 14,500 feet mean sea level (MSL). The ROI encompasses the different airspace areas that were associated with preclosure operations at Eaker AFB as well as a portion of the Fagus Military Operations Area (MOA). Airspace within and immediately surrounding this ROI is under the jurisdiction of the Memphis Air Route Traffic Control Center (ARTCC) which is operated by the Federal Aviation Administration (FAA). In the vicinity of Eaker AFB, Eaker Radar Approach Control (RAPCON) has been delegated the responsibility of providing approach and departure control to all instrument flight rule (IFR) aircraft Aircraft operations within this ROI do not normally conflict with air traffic flows at other airfields due to the manner in which air traffic control airspace and procedures have been segregated for the surrounding airports. Airspace above 14,500 feet MSL is controlled by Memphis ARTCC and is not affected by operations with the ROI which are attributable to Eaker AFB.

The types and levels of aircraft operations projected for the Proposed Action and alternatives were evaluated and compared to the way airspace was configured and used under the preclosure reference. The capacity of the airport to accommodate the projected aircraft fleet and operations was assessed by calculating the airport service volume, using the criteria in the FAA Advisory Circular 150/5060-5. Potential effects on airspace use were assessed, based on the extent to which projected operations could (1) require modifications to the airspace structure or air traffic control systems and/or facilities; (2) restrict, limit, or otherwise delay other air traffic in the region; or (3) encroach on other airspace areas and uses. It was recognized throughout the analysis process that a more in-depth study would be conducted by the FAA, once a reuse plan is selected, to identify any impacts of the reuse activities and what actions would be required to support the projected aircraft operations. Therefore, this analysis was used only to consider the level of operations that could likely be accommodated under the existing airspace structure, and to identify potential impacts if operational capacities were exceeded.

Data addressing private, passenger, and cargo air service in the region were acquired directly from representatives of airports serving the area and air

transportation studies of the area. The effect of base closure on local airports was derived by subtracting current base-related enplanements from current total enplanements. For each reuse alternative, impacts on air transportation were determined by multiplying the ratio of enplanements to population by the projected future populations of the local airport service areas.

Information regarding existing rail transportation was obtained from the Arkansas Highway and Transportation Department. No projected effects from reuse alternatives on railroad transportation were evaluated because rail links were not incorporated into any reuse alternative.

2.4 UTILITIES

Utility usage was determined based on land uses and projected area population increases. The utility systems addressed in this analysis include the facilities and infrastructure used for potable water (pumping, treatment, storage, and distribution), wastewater (collection and treatment), solid waste (collection and disposal), and energy generation and distribution (electricity and natural gas). Historic consumption data, service curtailment data, peak demand characteristics, storage and distribution capacities, and related information for base utilities (including projections of future utility demand for each utility provider's particular service area) were extracted from various engineering reports and the Eaker AFB Comprehensive Plan. Information was also obtained from public and private utility purveyors and related county and city agencies.

The ROI for this analysis comprised the service areas of the local purveyors of potable water, wastewater treatment, and energy that serve Eaker AFB and the surrounding area. It was assumed that these local purveyors would provide services within the area of the existing base after disposal/reuse.

Potential impacts were evaluated based on long-term projections of demand and population. Projections of demand were not available from the various utility purveyors within the region (through 2013) for each of their respective service areas. For each case, historic consumption was evaluated and a per capita rate developed. The per capita rate and population forecasts were used to develop the future baseline for comparison with potential reuse alternatives.

The potential effects of reuse alternatives were evaluated by estimating and comparing the additional direct and indirect demand associated with each alternative to the existing and projected operating capabilities of each utility system. Estimates of direct utility demands on site were used to identify the effects of the reuse activities on site-related utility systems. It was assumed that the per-capita demand rates were representative of the reuse activities, based on assumed similarities between proposed land uses and

existing or projected uses in the local area. Projections in the utilities analysis include direct demand associated with activities planned on base property, as well as resulting changes in domestic demand associated with population changes in the local area.

3.0 HAZARDOUS MATERIALS AND HAZARDOUS WASTE MANAGEMENT

Two categories of hazardous materials and hazardous waste management issues were addressed for this analysis: (1) impacts of hazardous materials utilized and hazardous wastes generated by each reuse proposal and (2) residual impacts associated with past Air Force practices including delays due to Installation Restoration Program (IRP) site remediation. IRP sites were identified as part of the affected environment (Chapter 3), while remediation impacts associated with these sites were addressed as environmental consequences (Chapter 4). Impacts of wastes generated by each reuse proposal were also addressed in Chapter 4. Primary sources of data were existing published reports such as IRP documents, management plans for various toxic or hazardous substances (e.g., spill response, hazardous waste, asbestos), the Eaker closure DEIS, and survey results (e.g., radon). Pertinent federal, state, and local regulations and standards were reviewed for applicability to the Proposed Action and alternatives. Hazardous materials and waste management plans and inventories were obtained from Eaker AFB. Interviews with personnel associated with these on-base agencies provided the information necessary to fill any data gaps. City and county agencies were also contacted regarding regulations which would apply to both current and post-closure activities for Eaker AFB.

The ROI includes all geographical areas that have been affected by an on-base release of a hazardous material or hazardous waste. No known areas of concern were identified outside the base boundary.

Preclosure baseline conditions as defined for this study include current hazardous materials/waste management practices and inventories pertaining to the following areas: hazardous materials, hazardous waste, IRP sites, aboveground and underground storage tanks, asbestos, pesticides polychlorinated biphenyls (PCBs), radon, medical/biohazardous waste, and ordnance. The impact analysis considered (1) the amount and type of hazardous materials/waste currently associated with specific facilities and/or areas proposed under each reuse alternative; (2) the regulatory requirements or restrictions associated with property transfer and reuse; (3) delays to development due to IRP remediation activities; and (4) remediation schedules of specific hazardous materials/waste (i.e., PCBs, medical/biohazardous waste) currently used by the Air Force.

4.0 NATURAL ENVIRONMENT

4.1 SOILS AND GEOLOGY

Evaluation of soils impacts addressed erosion potential, construction related dust generation and other soils problems (low soil strength, expansive soils, etc.), and disturbance of unique soil types. Information was obtained from several federal, state, and local agencies. Assessment of potential impacts to geology from the reuse alternatives included evaluation of resource potential (especially aggregates), geologic hazards (particularly potential for seismicity, liquefaction, and subsidence), and flooding potential.

The soils analysis was based on a review of Soil Conservation Service (SCS) documents for soil properties. The soils in the ROI were then evaluated for erosion potential, permeability, evidence of hardpans, expansive soil characteristics, etc., as these relate to construction problems and erosion potential during construction. Mitigations were evaluated based on county ordinances and SCS recommendations. Common engineering practices were reviewed to determine poor soil characteristics and recommended mitigation measures.

The ROI for the geologic analysis included the region surrounding Eaker AFB relative to seismic activity, mineral resources, and flooding potential. The ROI for the soils analysis was limited to the base and specific areas designated for construction or renovation.

The geologic analysis was based on a review of existing literature for construction problems associated with geologic hazards, availability of construction aggregate, and whether reuse would impact the availability of known mineral resources.

4.2 WATER RESOURCES

Analysis of impacts of the reuse alternatives on water resources considered groundwater quality and quantity, surface water quality (effects from erosion or sedimentation and contamination), surface water drainage diversion, and non-point source surface runoff to the Pemiscot Bayou and Ditch 25. Impacts to water quality resources resulting from IRP activities were addressed under Hazardous Materials and Waste Management. Information was obtained from several federal, state, and local agencies. The ROI for water resources included the groundwater basin underlying the base, the surface drainage directly affected by runoff from the base, and the 100-year floodplain in the vicinity of the base.

Existing surface water conditions were evaluated for flood potential, non-point source discharge or transportation of contaminants and surface water quality. Groundwater resources were evaluated as they pertained to

adequate water supplies for each of the reuse alternatives. Groundwater quality and the potential as a potable water source for each reuse alternative was documented. The existing storm water drainage system was evaluated based on available literature, and the impacts to this system from each of the reuse alternatives were determined.

4.3 AIR QUALITY

The air quality resource is defined as the condition of the atmosphere, expressed in terms of the concentrations of air pollutants occurring in an area as the result of emissions from natural and/or man-made sources. Disposal/reuse alternatives have the potential to affect air quality depending on net changes in the release of both gaseous and particulate matter emissions. The impact significance of these emission changes were determined by comparing the resulting atmospheric concentrations to state and federal ambient air quality standards. This analysis drew from baseline-emission inventory information, construction scheduling information, project-related source information, and transportation data. Principal sources of these data were the U.S. En.ironmental Protection Agency, the Arkansas Department of Pollution Control and Energy, the Eaker AFB environmental coordinator, and the base civil engineer.

The ROI was determined by emissions from sources associated with construction and operation of the disposal/reuse alternatives. For inert pollutant emissions (all pollutants other than ozone and its precursors), the measurable ROI is limited to a few miles downwind from the source, (i.e., the immediate area of Eaker AFB). The ROI for ozone impacts from project emissions included Mississippi County.

Emissions predicted to result from the proposed disposal/reuse alternatives were compared to existing baseline emissions to determine the potential for adverse air quality impact. Impacts were also assessed by modeling, where appropriate, and compared to air quality standards. Appendix K contains the projected emissions inventory information and methods. Estimated background concentrations were added to the project impacts for comparison with the standards. Impacts were considered significant if project emissions would (1) increase an off-site ambient pollutant concentration from below to above a federal, state, or local standard; (2) expose sensitive receptors (such as schools or hospitals) to substantial pollutant concentrations. All other air quality impacts were considered insignificant.

4.4 NOISE

The noise analysis addressed potential noise impacts from reuse-generated aircraft operations, surface traffic, and other identified noise sources on communities surrounding Eaker AFB. Most of the data were obtained from

the aircraft operations and traffic data prepared for the reuse alternatives. Day-night levels (DNL) were used to determine noise impacts. A single-event noise analysis using sound exposure levels (SEL) was also performed. Scientific literature on noise effects was also referenced.

The ROI for noise was defined as the area within DNL 65 decibels (dB) contours based on land use compatibility guidelines developed from FAA regulations (Federal Aviation Administration, 1989). The ROI for surface traffic noise impacts incorporated key road segments identified in the Transportation Analysis.

Noise levels from aircraft operations were estimated using the FAA-developed and approved Integrated Noise Model (INM) 3.9 and FAA-approved Noise Exposure Model (NOISEMAP), version 6.0. Noise contours for DNL 65 dB and above were depicted. Noise levels due to surface traffic were estimated using the Federal Highway Administration's Highway Noise Model (Federal Highway Administration, 1978). Potential noise impacts were identified by overlaying the noise contours with land use and population information to determine the number of residents who would be exposed to DNL above 65 dB.

SELs related to reuse alternatives were provided for representative noise sensitive receptors exposed to aircraft noise from the Eaker airfield. The SELs presented were outdoor levels and took into account the location of the receptors relative to the various flight tracks and aircraft profiles used. Noise reduction effects for common construction were included in the sleep interference analysis; however, evaluation of noise reduction of specific structures was not performed.

Methods used to analyze noise impacts under each reuse scenario are presented in detail in Appendix I of this EIS.

4.5 BIOLOGICAL RESOURCES

Biological resources addressed in relation to disposal and reuse of Eaker AFB included vegetation, wildlife, threatened and endangered species, and sensitive habitats (e.g., wetlands). Primary data sources for the analysis included published literature and reports, field reconnaissance of the base, and contacts with agencies such as the U.S. Fish and Wildlife Service and the Arkansas Game and Fish Commission. The Eaker AFB boundary comprised the ROI for the biological resources assessment.

Vegetation and sensitive biological resources (e.g., wetlands and protected species) on the base were mapped using aerial photographs and field observations obtained during a reconnaissance survey of the base on April 13-17, 1992, to ground truth the photos. Wetlands on the base were delineated using the methods set forth in the "Federal Manual for Identifying

and Delineating Jurisdictional Wetlands" (Federal Interagency Committee for Wetland Delineation, 1989). Acreages for wetlands were determined from aerial photos using a digitizing area-line.

The impact analysis was performed by overlaying project land use maps for each alternative onto the biological resource maps using the GIS to calculate the overlap by land use. The figures were then used to estimate the amount of habitat that could be affected. The proportion of disturbance associated with each land use category was determined based on accepted land use planning concepts. It was assumed that disturbance could occur at one or more sites within the land use area, unless designated as vacant land on the project maps. Disturbance of each habitat type present was considered to be in direct proportion to the development factor. All other impacts were qualitatively assessed based on literature data and scientific expertise on the responses of plants and animals to project-related disturbances such as noise, landscaping, and vegetation maintenance.

4.6 CULTURAL RESOURCES

Cultural resources generally include three main categories: prehistoric resources, historic structures and resources, and traditional resources. For the purposes of this EIS, cultural resources were defined to also include paleontological resources: the fossil evidence of past plant and animal life. Prehistoric resources are places where human activity has measurably altered the earth or left deposits of physical remains. Historic structures and resources include standing structures and other physical remains of historic significance. Traditional resources are topographical areas, features, habitats, plants, animals, minerals, or archaeological sites that contemporary Native Americans or other groups value presently, or did so in the past, and consider essential for the persistence of their traditional culture. Cultural resources of particular concern include properties listed on the National Register of Historic Places (NRHP), properties potentially eligible for the NRHP, and sacred Native American sites and areas.

Data used to compile information on these resources were obtained from existing environmental documents; material on file at Eaker AFB; recent cultural resource reports pertaining to the base; interviews with individuals familiar with the history, archaeology, or paleontology of the Blytheville area; and records of the Arkansas Archaeological Survey. The ROI for cultural resources includes all areas within the boundaries of Eaker AFB. No off-base areas were included except where ground disturbing activities (such as road construction or widening) have been incorporated into potential reuse plans.

The EIS contains the most up-to-date information on the importance of cultural resources on Eaker AFB, based on existing information regarding evaluation of eligibility for the NRHP. Cultural resources for which eligibility

information was unavailable were assumed to be eligible for the National Register, as is stipulated in the National Historic Preservation Act (NHPA).

According to National Register criteria (36 CFR 60.4), the quality of significance is present in districts, sites, buildings, structures, and objects that:

(a) Are associated with events that have made a significant contribution to the broad patterns of history

(b) Are associated with the lives of persons significant in the past

(c) Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic value; or represent a significant and distinguishable entity whose components may lack individual distinction

(d) Have yielded, or may be likely to yield, information important in prehistory or history.

To be listed in or considered eligible for listing in the National Register, a cultural resource must meet at least one of the above criteria and must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. Integrity is defined as the authenticity of a property's historic identity, as evidenced by the survival of physical characteristics that existed during the property's historic or prehistoric occupation or use. If a resource retains the physical characteristics it possessed in the past, it has the capacity to convey information about a culture or people, historical patterns, or architectural or engineering design and technology.

Compliance with requirements of cultural resource laws and regulations ideally involves four basic steps: (1) identification of significant cultural resources that could be affected by the Proposed Action or its alternatives, (2) assessment of the impacts or effects of these actions, (3) determination of significance of potential historic properties within the ROI, and (4) development and implementation of measures to eliminate or reduce adverse impacts. The primary law governing cultural resources in terms of their treatment in an environmental analysis is the NHPA, which addresses the protection of historic and cultural properties. In compliance with the NHPA, the Air Force is in the process of consultation with the SHPO, as required under Section 106 of the Act.

There are no legally established criteria for assessing the importance of a Native Americans resource. These criteria are established through consultation with Native Americans according to the requirements of the American Indian Religious Freedom Act.

Adverse effects that may occur as a result of base reuse are those that have a negative impact on characteristics that make a resource eligible for listing on the NRHP. Actions that can diminish the integrity, research potential, or other important characteristics of a historic property include the following (36 CFR 800.9):

- Physical destruction, damage, or alteration of all or part of the property
- Isolating the property from its setting or altering the character of the property's setting when that character contributes to the property's qualification for the National Register
- Introduction of visual or auditory elements that are out of character with the property or that alter its setting
- Conveyance of a federally owned property without adequate conditions or restrictions regarding its preservation, maintenance, or use
- Neglect of a property, resulting in its deterioration or destruction.

Regulations for implementing Section 106 of the NHPA indicate that the transfer, conveyance, lease, or sale of a historic property are procedurally considered to be adverse effects, thereby ensuring full regulatory consideration in federal project planning and execution. However, effects of a project that would otherwise be found to be adverse may not be considered adverse if one of the following conditions exists:

- When the historic property is of value only for its potential contribution to archaeological, historical, or architectural research, and when such value can be substantially preserved through the conduct of appropriate research, and such research is conducted in accordance with applicable professional standards and guidelines
- When the undertaking is limited to the rehabilitation of buildings and structures and is conducted in a manner that preserves the historical and architectural value of the affected historic property through conformance with the Secretary's Standards for Rehabilitation and Guidelines for Rehabilitation of Historic Buildings
- When the undertaking is limited to the transfer, conveyance, lease, or sale of a historic property, and adequate restrictions or conditions are included to ensure preservation of the property's significant historic features.

The treatment of paleontological resources is governed by Public Law 74-292 (the National Natural Landmarks Program, implemented by 36 CFR 62). Only paleontological remains determined to be significant are subject to consideration and protection by a federal agency. Among the criteria used for National Natural Landmark designation are illustrative character, present condition, diversity, rarity, and value for science and education.

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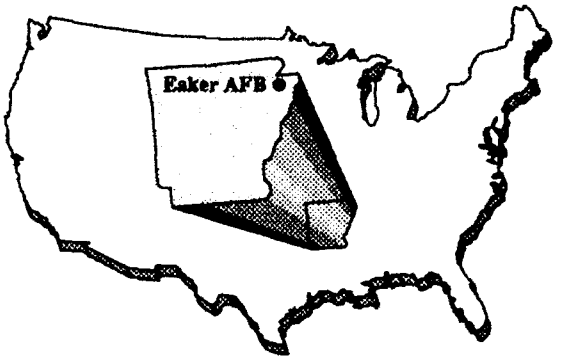

APPENDIX F

APPENDIX F

CURRENT PERMITS

APPENDIX F

CURRENT PERMITS

Permit No.	Permitted Facility/ Equipment	Issuing Agency	Original Date Issued	Date of Expiration
03-30268-1AFP	Radioactive material	U.S. Air Force Radioisotope Committee, Office of the Surgeon General	Oct. 15, 1991	Oct. 31, 1994
AR0020338	Wastewater without toxic or priority pollutants	U.S. EPA Region IV	Feb. 15, 1981	Feb. 14, 1986
AR0035726	Wastewater priority pollutant limits	U.S. EPA Region IV	June 8, 1975	June 7, 1980
S-0130	Solid waste	Department of Pollution Control and Ecology	May 26, 1978	
0266-AI	Incinerator	Department of Pollution Control and Ecology	Jan. 14, 1976	

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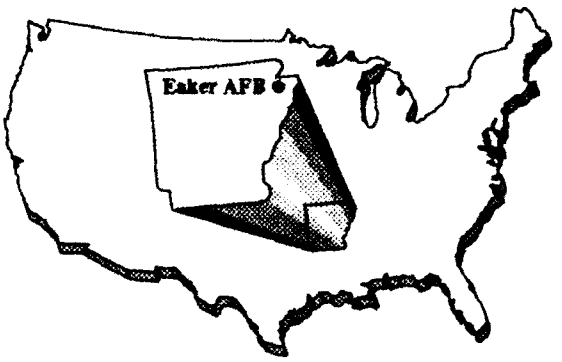


APPENDIX G

APPENDIX G

AIR FORCE POLICY
MANAGEMENT OF ASBESTOS AND BUILDINGS SURVEYED FOR ASBESTOS AT EAKER AIR FORCE BASE

APPENDIX G

AIR FORCE POLICY
MANAGEMENT OF ASBESTOS AND BUILDINGS SURVEYED FOR ASBESTOS AT EAKER AIR FORCE BASE

INTRODUCTION

Asbestos in building facilities is managed because of potential adverse human health effects. Asbestos must be removed or controlled if it is in a location and condition that constitutes a health hazard or a potential health hazard or it is otherwise required by law (e.g., schools). The hazard determination must be made by a health professional (in the case of the Air Force, a Bioenvironmental Engineer) trained to make such determinations. While removal is a remedy, in many cases management alternatives (such as encapsulation within the building) are acceptable and cost effective methods of dealing with asbestos. The keys to dealing with asbestos are knowing its location and condition and having a management plan to prevent asbestos containing materials that continue to serve their intended purpose from becoming a health hazard. There is no alternative to such management, because society does not have the resources to remove and dispose of all asbestos in all buildings in the United States. Most asbestos is not now nor will it become a health hazard if it is properly managed.

There are no laws applicable to the five closure bases that specifically mandate the removal or management of asbestos in buildings other than the law addressing asbestos in schools (P.L. 99-519). Statutory or regulatory requirements that result in removal or management of asbestos are based on human exposure or the potential for human exposure (i.e. National Emission Standards for Hazardous Air Pollutants (NESHAPS) = no visible emissions, OSHA = number of airborne fibers per cc). There are no statutory or other mandatory standards, criteria, or procedures for deciding what to do with asbestos. Thus, health professional judgement based on exposure levels or potential exposure levels must be the primary determinant of what should be done with asbestos. Apart from this professional and scientific approach, closing bases present the additional problem of obtaining an economic return to the Government for its property. Asbestos in closing base properties must also be analyzed to determine the most prudent course in terms of removal or remediation cost and the price that can be obtained as a result.

The following specific policies will apply to bases closed or realigned (so that there are excess facilities to be sold) under the Base Closure and Realignment Act, P.L. 100-526 and P.L. 101-510.

1. Asbestos will be removed if:

   (a) The protection of human health as determined by the Bioenvironmental Engineer requires removal (e.g., exposed friable asbestos within a building) in accordance with applicable health laws, regulations and standards

   (b) A building is unsalable without removal, or removal prior to sale is cost-effective; that is, the removal cost is low enough compared to value that would be received for a "clean" building that removal is a good investment for the Government. Prior to the decision to remove asbestos solely for economic reasons, an economic analysis will be conducted to determine if demolition, removal of some types of asbestos but not others, or asbestos removal and sale would be in the best interests of the Government.

   (c) A building is, or is intended to be, used as a school or child care facility.

2. When asbestos is present but none of the above applies, the asbestos will be managed using commonly accepted standards, criteria and procedures to assure sufficient protection of human health and the environment, in accordance with applicable and developing health standards.

3. A thorough survey for asbestos (including review of facility records, visual inspection, and where appropriate as determined by the Bioenvironmental Engineer and the Base Civil Engineer, intrusive inspection) will be conducted by the Air Force prior to sale.

4. Appraisal instructions, advertisements for sale, and deeds will contain accurate descriptions of the types, quantities, locations, and condition of asbestos in any real property to be sold or otherwise transferred outside the Federal Government. Appraisals will indicate what discount the market would apply if the building were to be sold with the asbestos in place.

5. Encapsulated asbestos in a building structure, friable or not, is not regarded as hazardous waste by the Air Force, nor does encapsulation within the structure of a building constitute "storing" or "disposing of" hazardous waste. Asbestos incorporated into a building as part of the structure has not been "stored" or "disposed of."

6. Friable asbestos, or asbestos that will probably become friable, that has been stored or disposed of underground or elsewhere on the property to be sold will be properly disposed of, unless the location is a landfill or other disposal facility property permitted for friable asbestos disposal.

7. The final Air Force determination regarding the disposition of asbestos will be dependent on the plan for disposal and any reuse of the building. Decisions will take into account the proposed community reuse plan and the economic analysis of alternatives (see para 4). The course of action to be followed with respect to asbestos at each closing installation will be analyzed in the Disposal and Reuse Environmental Impact Statement, and will be included in the record of decision (ROD). Any buildings or facilities where the proposed asbestos plan is controversial will be addressed in the ROD, whether individually or as a class of closely related facilities.

8. Since other considerations must be taken into account at bases that are continuing to operate, this policy does not apply to them, nor is it necessarily a precedent for asbestos removal policy on them.

This Air Force Policy on the Management of Asbestos at Closing Bases dated 1 May 1992 has been retyped for the purposes of clarity and legibility.

Table G-1. Facilities Surveyed for Asbestos, Eaker Air Force Base
Page 1 of 4

Facility Number	Facility Description	Construction Date	Size (square feet)
100	Fire Station	1955	15,717
103	Wing Headquarters	1956	12,195
105	Jet engine Maintenance Shop	1960	32,918
107	Weapons and Release Systems	1955	35,411
130	Organizational Maintenance	1959	21,189
150	Photo Lab	1955	3,775
160	Base Service Station	1970	4,299
201	Base Operations	1986	12,164
202	Squadron Operations	1956	6,548
203	Vehicle Fueling Station	1964	25
204	Water Supply Building	1959	677
205	Vehicle Maintenance Shop	1964	4,826
206	Squadron Operations	1956	10,839
207	Weapon System Management	1955	45,960
214	Storage Facility	1986	30,000
215	Supply & Equipment Warehouse	1956	22,551
218	Survey Equipment Shop	1955	9,728
220	Base Hazardous Storage	1955	1,000
222	Base Operations	1960	35
223	Storage Facility	1961	216
229	RAPCON Center	1974	7,636
231	Water pumping facility	1971	240
232	Wing Headquarters	1956	2,956
233	Communications Facility	1956	15,422
234	Dental Clinic	1955	5,249
237	Automobile Shop	1964	9,630
240	Traffic Management	1955	3,201
242	Family Housing Management Office	1975	1,650
250	Education Center	1956	14,041
320	Avionics Shop	1955	248
426	Supply & Equip. Warehouse	1961	8,000
427	Administration Office	1961	480
430	Supply & Equip. Warehouse	1955	9,648
431	Wing Headquarters	1955	9,048
432	Traffic Management	1955	9,048
433	Base Supply	1956	33,158
434	Flight Simulator Facility	1985	18,600
435	Commissary Storage	1961	3,195
436	Animal Clinic	1960	1,084
438	Form & Publication Facility	1955	9,048
439	Wing Headquarters	1955	8,932
440	Supply & Equip. Warehouse	1955	9,048
441	Base Engineering Administration	1981	48
442	Thrift Shop	1954	3,280
449	Non-Destructive Inspection Lab	1974	5,824
450	Aircraft Maintenance Dock	1959	21,186
451	Sanitary Latrine	1959	264

Table G-1. Facilities Surveyed for Asbestos, Eaker Air Force Base
Page 2 of 4

Facility Number	Facility Description	Construction Date	Size (square feet)
452	Aircraft Maintenance Dock	1959	20,453
453	Aircraft Maintenance Dock	1959	22,495
454	Sanitary Latrine	1959	264
455	Corrosion Control	1959	35,470
457	Aircraft Maintenance Dock	1962	14,863
459	Corrosion Control Storage	1976	64
463	Security Police Operations	1985	2,652
464	Security Police Control Center	1983	9,425
466	Vehicle Operations Administration	1963	2,503
467	Refueling Vehicle Shop	1962	2,032
468	Vehicle Maintenance Shop	1967	29,350
470	Aircraft Maintenance Shop	1962	11,300
471	Storage Facility	1962	5,961
473	Pavement & Grounds Facility	1959	960
475	Storage Facility	1956	2,560
477	Storage Facility	1977	4,000
478	Storage Shed	1974	296
479	Storage Facility	1977	3,200
480	Pump Station	1956	204
485	Storage Facility	1981	576
487	Storage Facility	1981	576
491	Water Pump Station	1955	213
492	Water Supply Building	1955	3,312
493	Water Pump Station	1955	264
494	Storage Shed	1979	84
495	Storage Facility	1981	240
502	Child Care Center	1956	3,007
511	Base Personnel Office	1961	25,101
512	Social Action Facility	1955	16,787
513	Disaster Preparedness	1955	11,836
514	Crew Readiness	1955	16,787
517	Bank Branch	1957	2,367
522	Recreation Center	1956	10,930
525	Chapel Center	1963	17,602
527	Child Care Center	1962	2,089
544	Wing Headquarters	1955	649
546	Swimmers/Bath Warehouse	1972	2,512
549	Swimming Pool Water Treatment	1972	159
550	Vehicle Maintenance Shop	1977	254
551	Base Theater	1956	5,411
552	Base Exchange	1956	32,925
555	Library	1968	5,989
556	Commissary	1959	38,575
558	Child Care Center	1982	8,365
560	Base Package Store	1954	3,370
570	Bowling Center	1961	12,601
601	Group Headquarters	1956	4,319

Table G-1. Facilities Surveyed for Asbestos, Eaker Air Force Base
Page 3 of 4

Facility Number	Facility Description	Construction Date	Size (square feet)
602	Administration/Office	1956	4,319
604	Squadron Operations	1956	12,584
608	Airmans Dormitory	1987	41,000
609	Airmans Dormitory	1984	41,000
613	Airmans Dormitory	1955	12,240
617	PLT Building Air Conditioning	1965	642
619	Airmans Dormitory	1984	41,000
620	Airmans Dormitory	1987	41,000
625	NCO Club	1956	15,980
630	Gymnasium	1955	30,627
640	Group Headquarters	1955	11,424
641	Wing Headquarters	1955	21,117
644	AFOSI Office	1986	1,650
645	Group Headquarters	1955	4,606
650	Base Hospital	1958	54,089
654	Electric Power Station	1986	768
696	Security Police Operations	1962	642
697	Traffic Check House	1978	71
700	Open Mess	1957	13,894
701	Visiting Officers Quarters	1962	3,414
702	Visiting Officers Quarters	1955	22,655
703	Family Housing	1962	3,414
704	Family Housing	1962	3,414
705	Sanitary Sewage Pump Station	1955	262
707	Swimming Pool Water Treatment	1966	82
708	Swimmers Bath House	1966	853
800	Base Engineering Administration	1956	13,641
820	Sanitary Sewage Pump Station	1962	315
854	Sanitary Sewage Pump Station	1954	160
899	Traffic Check House	1959	54
1003	Maintenance Shop	1969	960
1005	Water Pumping Station	1960	254
1006	Wastewater Treatment Building	1975	114
1007	Wastewater Treatment Building	1955	805
1014	Maintenance Shop	1976	960
1016	Wastewater Treatment Building	1980	1,003
1020	Liquid Fuel Pump Station	1959	1,470
1200	TACAN Station	1957	477
1201	Magazine Storage	1956	412
1202	Magazine Storage	1956	1,069
1203	Magazine Storage	1956	1,069
1204	Magazine Storage	1956	2,147
1205	Conventional Munitions Magazine Shop	1971	2,370
1206	Magazine Storage	1959	1,069
1207	Igloo Storage	1974	2,054
1208	Igloo Storage	1974	2,054
1209	Magazine Storage	1959	4,266

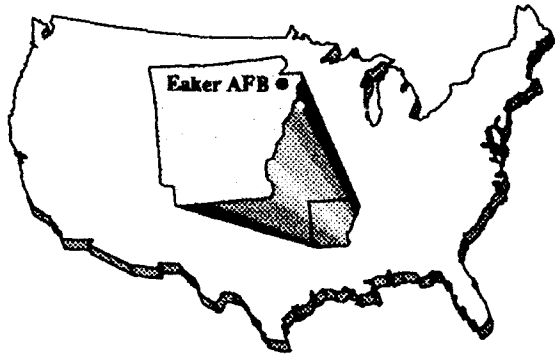
Table G-1. Facilities Surveyed for Asbestos, Eaker Air Force Base
Page 4 of 4

Facility Number	Facility Description	Construction Date	Size (square feet)
1210	Magazine Storage	1960	4,479
1211	Igloo Storage	1974	2,054
1212	Munitions Maintenance Administration	1959	2,098
1213	Surveillance Inspection Shop	1974	8,268
1214	WSA Entry Building	1959	1,773
1215	Kennel	1961	420
1218	Alert Support Facility	1980	1,341
1220	Receiver	1957	1,050
1222	Transmitter	1957	1,050
1225	Crew Readiness Facility	1960	28,891
1227	Entry Building	1960	168
1229	Golf Course Storage	1957	3,087
1231	MWR Storage	1964	960
1232	Liquid Fuel Pump Station	1959	1,470
1234	Liquid Fuel Pump Station	1959	1,470
1235	Petroleum Operation Building	1977	188
1236	Storage Liquid Oxygen	1964	1,295
1240	Waste Pump Station	1957	101
1241	Golf Clubhouse	1959	622
1244	Crew Readiness Facility	1957	2,600
1249	Maintenance Shop	1981	1,215
1252	Igloo Storage	1986	4,574
1253	Igloo Storage	1986	4,574
1255	Sanitary Sewage Pump Station	1985	30
1256	Sanitary Sewage Pump Station	1985	30
1261	Kennel		
1270	Igloo Storage	1985	4,864
1271	Igloo Storage	1985	4,864
1272	Igloo Storage	1985	4,864
1273	Igloo Storage	1985	4,864
1274	Igloo Storage	1985	4,864
1275	Igloo Storage	1985	4,864
1276	Igloo Storage	1985	4,864
1277	Igloo Storage	1985	4,864
1279	Maintenance Shop	1981	1,280
1280	Hazard Storage	1985	96
1284	Hazard Storage	1985	96
1285	Missile Assembly Shop	1985	32,336
1286	Inert Storage	1985	8,951
1287	Wastewater Pump Station	1985	1,195
1288	Storage Facility	1985	7,665
1303	Pavement Ground Facility	1960	4,685
1305	Maintenance Shop	1960	4,166
1307	Maintenance Building	1989	2,400
1308	Maintenance Building	1967	775
1320	Liquid Fuel Pump Station	1959	1,470

Table G-2. Military Family Housing Surveyed for Asbestos, Eaker Air Force Base

Physically Inspected Units	Visually Inspected Units	Number of Units	Unit Size (square feet)
1792B	1792A*	86	1,294
1777B	1777A*	130	1,440
1541B	1541A*	16	1,474
1543B	1550B*	16	1,474
1515A	1517B	80	1,631
1515B	1519B	80	1,631
1517A	1524A	80	1,631
1518A	1518B	40	1,803
1520A	1520B	40	1,803
1525B	1525A*	40	1,803
1500*	1531*	2	2,119
1501*		1	2,551
1527*	1577*	2	2,344
1406A	1406B*	284	1,592
1410B	1410A*	284	1,592
1414B	1414A*	284	1,592
1415B	1415A*	284	1,592
1419B	1419A	82	1,704
1423B	1423A	82	1,704
1436A	1436B*	82	1,704
1607A	1607B*	18	1,714
1620A	1620B*	18	1,714
1642A	1642B	18	1,714
1608A	1608B*	42	1,886
1613A	1613B*	42	1,886
1604A	1604B*	36	1,910
1606A	1606B*	36	1,910
1618B	1618A*	36	1,910
1503*	1504*	3	2,254
1506*		1	2,587
1641A*	1641B*	4	1,910
2001A	2001B*	100	1,510 to 1,607
	2001C*	100	1,510 to 1,607
	2001D*	100	1,510 to 1,607
2002D	2002A*	100	1,510 to 1,607
	2002B*	100	1,510 to 1,607
	2002C*	100	1,510 to 1,607
2004B	2004A	100	1,510 to 1,607
	2004C*	100	1,510 to 1,607
	2004D*	100	1,510 to 1,607
2007A	2007B*	100	1,510 to 1,670
	2007C*	100	1,510 to 1,670
	2007D*	100	1,510 to 1,670
2019A	2019B	100	1,510 to 1,670
	2019C*	100	1,510 to 1,670
	2019D*	100	1,510 to 1,670

* Denotes occupied units as of February 19, 1992.



APPENDIX H

APPENDIX H

FARMLAND CONVERSION IMPACT RATING, FORM AD-1006

U S Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)* — Date Of Land Evaluation Request: May 8, 1992

Name Of Project: Eaker Air Force Base - Reuse & Disposal — Federal Agency Involved: U.S. Air Force

Proposed Land Use: Industrial/Residential — County And State: Mississippi County, Arkansas

PART II *(To be completed by SCS)* — Date Request Received By SCS: 6-1-92

Does the site contain prime, unique, statewide or local important farmland? Yes X No — Acres Irrigated: Not Avg. 679

(If no, the FPPA does not apply — do not complete additional parts of this form)

Major Crop(s)	Farmable Land In Govt Jurisdiction		Amount Of Farmland As Defined In FPPA	
Cotton, Soybeans	Acres 549,670	92.2	Acres 549,670	92.2

Name Of Land Evaluation System Used: LESA — Name Of Local Site Assessment System: SCS — Date Land Evaluation Returned By SCS: 6-2-92

PART III *(To be completed by Federal Agency)*

	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	787.1	827.1	242.5	
B. Total Acres To Be Converted Indirectly	--	--	--	
C. Total Acres In Site	787.1	827.1	242.5	

PART IV *(To be completed by SCS)* Land Evaluation Information

A. Total Acres Prime And Unique Farmland	775.6	813.6	242.5
B. Total Acres Statewide And Local Important Farmland	0	0	0
C. Percentage Of Farmland In County Or Local Govt Unit To Be Converted	.001	.001	.001
D. Percentage Of Farmland In Govt Jurisdiction With Same Or Higher Relative Value	82.7	82.7	82.7

PART V *(To be completed by SCS)* Land Evaluation Criterion

Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	79.8	78.8	79.7

PART VI *(To be completed by Federal Agency)*

Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b))*	Maximum Points			
1. Area In Nonurban Use	15	10	10	10
2. Perimeter In Nonurban Use	10	6	6	6
3. Percent Of Site Being Farmed	20	2	2	2
4. Protection Provided By State And Local Government	20	0	0	0
5. Distance From Urban Builtup Area	15	0	0	0
6. Distance To Urban Support Services	15	0	0	0
7. Size Of Present Farm Unit Compared To Average	10	10	10	3
8. Creation Of Nonfarmable Farmland	10	2	2	2
9. Availability Of Farm Support Services	5	0	0	0
10. On-Farm Investments	20	0	0	0
11. Effects Of Conversion On Farm Support Services	10	0	0	0
12. Compatibility With Existing Agricultural Use	10	4	4	4
TOTAL SITE ASSESSMENT POINTS	160			

PART VII *(To be completed by Federal Agency)*

Relative Value Of Farmland *(From Part V)*	100	79.8	78.8	79.7
Total Site Assessment *(From Part VI above or a local site assessment)*	160	34	34	27
TOTAL POINTS *(Total of above 2 lines)*	260	113.8	112.8	106.7

Site Selected — Date Of Selection — Was A Local Site Assessment Used? Yes ☐ No ☒

Reason For Selection

STEPS IN THE PROCESSING THE FARMLAND CONVERSION IMPACT RATING FORM

Step 1 – Federal agencies involved in proposed projects that may convert farmland as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form.

Step 2 – Originator will send copies A, B and C together with maps indicating locations of site(s) to the Soil Conservation Service (SCS) local field office and retain copy D for their files. (Note: SCS has a field office in most counties in the U.S. The field office is usually located in the county seat. A list of field office locations are available from the SCS State Conservationist in each state).

Step 3 – SCS will, within 45 calendar days after receipt of form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland.

Step 4 – In cases where farmland covered by the FPPA will be converted by the proposed project, SCS field offices will complete Parts II, IV and V of the form.

Step 5 – SCS will return copy A and B of the form to the Federal agency involved in the project. (Copy C will be retained for SCS records).

Step 6 – The Federal agency involved in the proposed project will complete Parts VI and VII of the form.

Step 7 – The Federal agency involved in the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA and the agency's internal policies.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

Part I: In completing the "County And State" questions list all the local governments that are responsible for local land controls where site(s) are to be evaluated.

Part III: In completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them.

2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities) that will cause a direct conversion.

Part VI: Do not complete Part VI if a local site assessment is used.

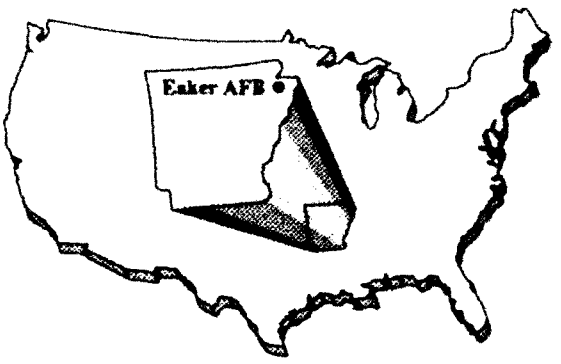
Assign the maximum points for each site assessment criterion as shown in §658.5(b) of CFR. In cases of corridor-type projects such as transportation, powerline and flood control, criteria #5 and #6 will not apply and will be weighed zero, however, criterion #8 will be weighed a maximum of 25 points, and criterion #11 a maximum of 25 points.

Individual Federal agencies at the national level, may assign relative weights among the 12 site assessment criteria other than those shown in the FPPA rule. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total weight points at 160.

In rating alternative sites, Federal agencies shall consider each of the criteria and assign points within the limits established in the FPPA rule. Sites most suitable for protection under these criteria will receive the highest total scores, and sites least suitable, the lowest scores.

Part VII: In computing the "Total Site Assessment Points", where a State or local site assessment is used and the total maximum number of points is other than 160, adjust the site assessment points to a base of 160. Example: if the Site Assessment maximum is 200 points; and alternative Site "A" is rated 180 points:

$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Site "A."}$$



APPENDIX I

APPENDIX I

NOISE

APPENDIX I

NOISE

1.0 DESCRIPTION OF PROPOSED ALTERNATIVES

1.1 PRECLOSURE

Typical noise sources on and around airfields usually include aircraft, surface traffic, and other human activities.

Military aircraft operations are the primary source of noise in the vicinity of Eaker Air Force Base (AFB). The air operations and noise contours for preclosure are taken from the *Draft Environmental Impact Statement-Proposed Closure of Eaker AFB, Arkansas* (1990). The contours for preclosure operations are shown in Figure 3.4-3 in the Affected Environment, Chapter 3 of this EIS. In airport analyses, areas with a Day-Night Average Sound Level (DNL) above 65 A-weighted decibels (dB) are considered in land use compatibility planning and impact assessment; therefore, the distances to areas with DNLs greater than 65 dB are of particular interest.

The baseline surface traffic noise levels in the vicinity of the base were established in terms of DNL by modeling the arterial roadways near the base using current traffic and speed characteristics. Annual average daily traffic (AADT) data were developed in the traffic engineering study presented in Section 3.2.3, Transportation, and were used to estimate preclosure noise levels. The traffic data used in the analysis are presented in Table I-1. The traffic mix was assumed based on a cursory survey performed during a recent site visit. Thirteen percent of the traffic was assumed to be nighttime traffic, based on information (Swing, 1975) and previous experience. The noise levels generated by surface traffic were predicted using the model published by the Federal Highway Administration (1978). The noise levels are estimated as a function of distance from the centerline of the nearest road.

1.2 CLOSURE BASELINE

At closure, it is assumed that there would be no aircraft activity. The noise levels projected for the closure baseline for surface traffic were calculated using the traffic projections at base closure. The AADTs used for the analysis are presented in Table I-1.

Table I-1. Surface Traffic Operations for Total Traffic Volumes (Project and Non-Project)

Alternative	Roadway	from/to	Annual Average Daily Traffic (AADT)	Speed Assumed (mph)	Road Width Assumed (Lanes)
Preclosure					
	U.S. 61	Highland to SH 150	3,570	45	2
	U.S. 61	Chickasawba to Highland	8,490	40	2
	SH 181	SH 150 to Main Gate	3,300	55	2
	SH 151	Main Gate to Gosnell City Limits South	14,000	35	4
	SH 151	Gosnell South to Pemiscot Bayou	11,800	50	4
	SH 151	Pemiscot Bayou to SH 18	11,800	50	4
	SH 18	SH 151 to US 61	8,645	35	4
	SH 18	SH 151 to SH 239	3,352	45	2
Closure					
	U.S. 61	Highland to SH 150	3,351	45	2
	U.S. 61	Chickasawba to Highland	7,537	40	2
	SH 181	SH 150 to Main Gate	2,740	55	2
	SH 151	Main Gate to Gosnell City Limits South	11,260	35	4
	SH 151	Gosnell South to Pemiscot Bayou	6,880	50	4
	SH 151	Pemiscot Bayou to SH 18	7,694	50	4
	SH 18	SH 151 to U.S. 61	3,552	35	4
	SH 18	SH 151 to SH 239	2,180	45	2

mph = miles per hour.

1.3 PROPOSED ACTION

The Proposed Action for the reuse of Eaker AFB would result in a comprehensive reuse plan centered around a civil aviation facility. Primary components of the aviation action include air passenger operations, air cargo operations, general aviation operations, training, and maintenance operations. Non-aviation land uses include industrial, institutional (educational), commercial, residential, agricultural, and public/recreational lands.

The fleet mix (type of aircraft) and annual aircraft operations for each of the modeled years are contained in Table I-2. The DNL contours for the proposed flight operations and the proposed flight tracks modeled are presented in Section 4.4.4, Noise. The day-night split for all aircraft

TABLE I-2a
SCENARIO: Proposed Action
MODELED YEAR: 1993

Type of Aircraft	Number of Operations	Percent of Category	Total for Category	Category Percent of Total
Military			1,000	3
C-130	1,000	100		
Air Taxi/Commuter			1,040	3
DHC-6	1,040	100		
Air Cargo			1,000	3
B-727-100	1,000	100		
General Aviation			27,700	86
COMSEP (composite single engine piston)	24,178	87		
Beech Baron 58P (twin engine piston)	3,022	11		
Cessna Conquest II (turboprop)	250	1		
Cessna Citation I (turbojet)	250	1		
Bell Model 212 (helicopter)	0	0		
Aircraft Maintenance			500	2
MD-81	250	50		
B-727-200	250	50		
Training			1,000	3
MD-81	1,000	100		
TOTAL			32,240	100

TABLE I-2b
SCENARIO: Proposed Action
MODELED YEAR: 1998

Type of Aircraft	Number of Operations	Percent of Category	Total for Category	Category Percent of Total
Military			1,000	2.5
C-130	1,000	100		
Air Taxi/Commuter			1,040	2.5
DHC-6	1,040	100		
Air Cargo			1,500	4
B-727-100	1,500	100		
General Aviation			34,800	86
COMSEP (composite single engine piston)	28,711	83		
Beech Baron 58P (twin engine piston)	3,589	10		
Cessna Conquest II (turboprop)	1,000	3		
Cessna Citation I (turbojet)	1,000	3		
Bell Model 212 (helicopter)	500	1		
Aircraft Maintenance			1,000	2.5
MD-81	500	50		
B-727-200	500	50		
Training			1,000	2.5
MD-81	1,000	100		
TOTAL			40,340	100

TABLE I-2c
SCENARIO: Proposed Action
MODELED YEAR: 2003

Type of Aircraft	Number of Operations	Percent of Category	Total for Category	Category Percent of Total
Military			1,000	2
C-130	1,000	100		
Air Taxi/Commuter			1,040	2
DHC-6	1,040	100		
Air Cargo			2,000	4
MD-81	2,000	100		
General Aviation			40,700	85
COMSEP (composite single engine piston)	31,733	78		
Beech Baron 58P (twin engine piston)	3,967	10		
Cessna Conquest II (turboprop)	1,750	4		
Cessna Citation I (turbojet)	1,750	4		
Bell Model 212 (helicopter)	1,500	4		
Aircraft Maintenance			1,500	3
MD-81	1,500	100		
Training			1,500	3
MD-81	1,500	100		
TOTAL			47,740	100

TABLE I-2d
SCENARIO: Proposed Action
MODELED YEAR: 2013

Type of Aircraft	Number of Operations	Percent of Category	Total for Category	Category Percent of Total
Military			1,000	2
C-130	1,000	100		
Air Taxi/Commuter			1,040	2
DHC-6	1,040	100		
Air Cargo			3,500	6
MD-81	3,500	100		
General Aviation			49 000	81
COMSEP (composite single engine piston)	35,556	72		
Beech Baron 58P (twin engine piston)	4,444	9		
Cessna Conquest II (turboprop)	2,750	6		
Cessna Citation I (turbojet)	2,750	6		
Bell Model 212 (helicopter)	3,500	7		
Aircraft Maintenance			3,000	5
MD-81	3,000	100		
Training			3,000	5
MD-81	3,000	100		
TOTAL			60,540	100

operations is shown in Table I-3. Stage lengths for aircraft operations are given in Table I-4.

Table I-3. Day-Night Split of Aircraft Operations for Proposed Action and Alternatives

Aircraft Type	Percent Daytime	Percent Nighttime
Air Passenger	100	0
General Aviation	100	0
Maintenance	100	0
Cargo	50	50
Military	100	0

Table I-4. Stage Lengths* Assumed for Aircraft Operations for Proposed Action and Alternatives

Group	1993	1998	2003	2013
Air Carrier	1	1	1	1
Commuter	1	1	1	1
General Aviation	1	1	1	1
Maintenance	1	1	1	1
Air Cargo	1	1	1	1

* Stage length may affect operational parameters such as takeoff or landing profiles, engine thrust settings, and aircraft speed of some aircraft; these parameters may, in turn, affect aircraft noise exposure. Stage lengths correspond to the distance flown in increments designated by the FAA (e.g., stage length 1 corresponds to flights between 1 and 500 miles, stage length 2 corresponds to flights between 500 and 1,000 miles, etc.) The maximum stage length used in modeling is 7, which corresponds to flights over 4,500 miles.

Engine runup operations were assumed to occur at the north end of the west apron. The number of runup operations is presented in Table I-5. During typical runup operations, the engines would run for 20 minutes at idle power and 5 minutes at departure power. It was assumed that no noise suppression facilities would be available. The aircraft direction for engine runups is south-southwest (approximately 225° compass direction) to allow for obstruction clearance and safety clearance for high power/thrust settings during engine runups.

Table I-5. Number of Daily Engine Runup Operations for the Proposed Action and Alternatives

Alternative	1993	1998	2003	2013
Proposed Action	.14	.19	.27	.41
General Aviation Alternative	0	0	0	0

General aviation operations for the Proposed Action were divided into five types:

- Single-engine - A composite single-engine propeller plane (COMSEP) was modeled.
- Multi-engine - Beech Baron 58P was assumed to be a typical multi-engine propeller plane.
- Turboprop - Cessna Conquest II was assumed to be a typical turboprop.
- Turbofan - Cessna Citation I was assumed to be a typical turbofan.
- Helicopter - Bell Model 212 was assumed to be a typical helicopter.

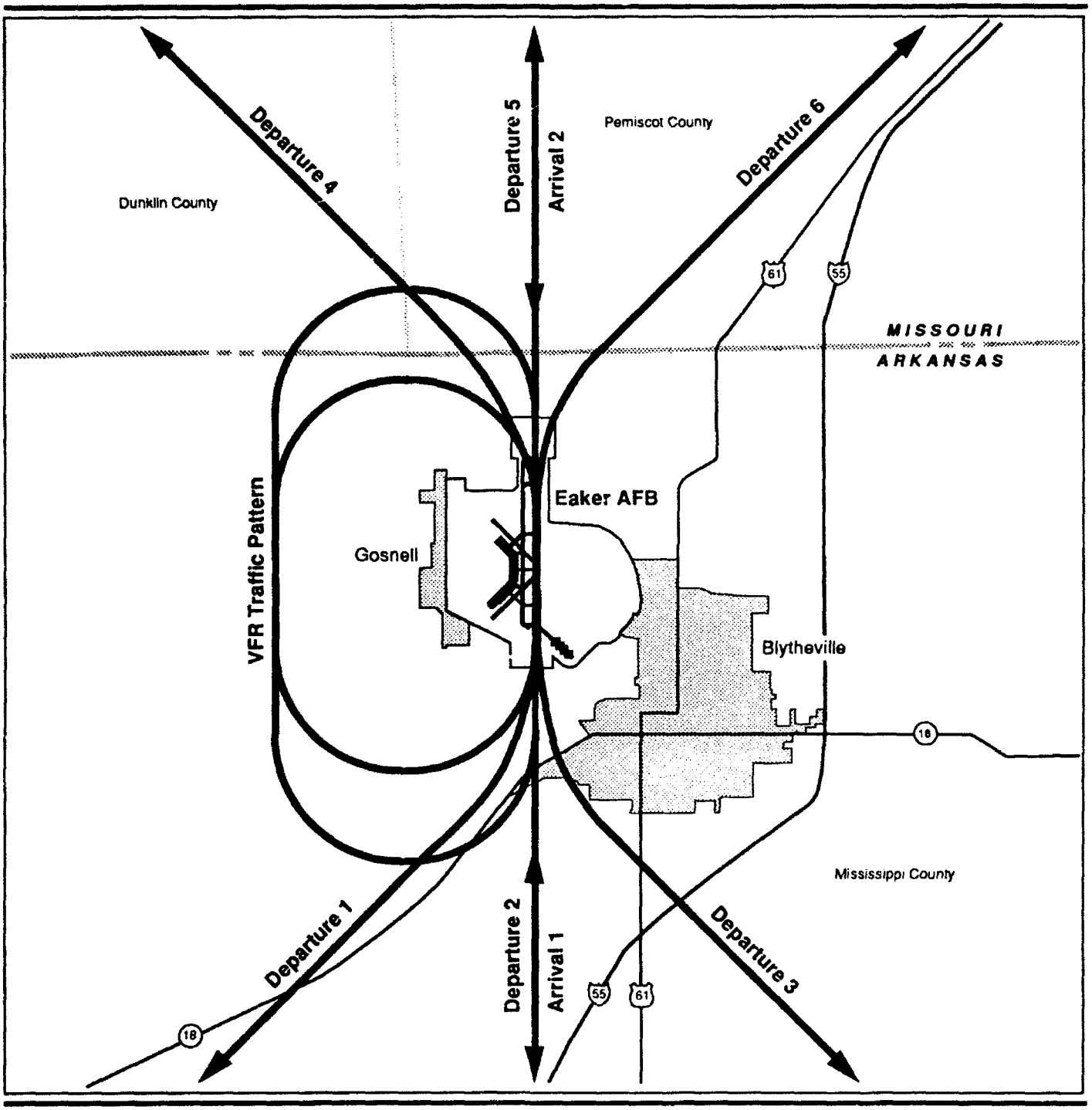
The touch-and-go patterns and the initial departure and final approach flight tracks used in the modeling are shown in Figure I-1. The departure, arrival, and touch-and-go flight tracks used are based on those in common usage at airports of similar size and purpose. The flight tracks are toward the north and south. Touch-and-go operations were assumed to consist of approximately 25 percent of all operations and were split on six tracks, three for each runway. The operations were then dispersed according to 65 percent usage of Runway 18 and 35 percent on Runway 36, based on the distribution of operations of the active airfield. Daily operations assigned to each flight track and time period for the Proposed Action are provided in Table I-6 for each of the study years. Assignments were made in a similar way for the other alternatives.

A standard 3-degree glide slope and the takeoff profiles provided by the Federal Aviation Administration's (FAA) Integrated Noise Model (INM) Database 3.9 were assumed for all fixed wing aircraft. Helicopter profiles were based on the FAA Helicopter Noise Model.

Surface traffic data used in the modeling were developed from the project traffic study presented in the Transportation Section, 4.2.3, and are shown in Table I-7.

1.4 GENERAL AVIATION AIRPORT ALTERNATIVE

Under the General Aviation Alternative, as in the Proposed Action, the base airfield would be converted to civilian use, but would include only general aviation operations. The airport layout would remain unchanged.



EXPLANATION

Direction of Travel on Flight Path

Primary Flight Tracks - All Aviation Alternatives

0 1/2 1 2 Miles

Figure I-1

Table I-6a. Assignment of Operations for the Proposed Action
Modeled Year: 1993

Aircraft	Arrival Flight Tracks				Departure Flight Tracks											
	A1		A2		D1		D2		D3		D4		D5		D6	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
DHC-6	0.93	-	0.50	-	0.42	-	0.09	-	0.42	-	0.25	-	0.25	-	-	-
MD-81	0.22	-	0.12	-	-	-	0.22	-	-	-	-	-	0.12	-	-	-
B-727-200	0.22	-	0.12	-	-	-	0.22	-	-	-	-	-	0.12	-	-	-
B-727-100	0.89	-	0.48	-	-	-	0.89	-	-	-	-	-	0.48	-	-	-
Cessna Citation I	0.22	-	0.12	-	0.07	-	0.07	-	0.07	-	0.04	-	0.04	-	0.04	-
Cessna 441 Conquest	0.22	-	0.12	-	0.07	-	0.07	-	0.07	-	0.04	-	0.04	-	0.04	-
Beech Baron 58P	2.29	-	1.23	-	0.76	-	0.76	-	0.76	-	0.41	-	0.41	-	0.41	-
Comp. Sgl. Eng. Piston	16.15	-	8.69	-	5.38	-	5.38	-	5.38	-	2.90	-	2.90	-	2.90	-
C-130	0.04	-	0.02	-	-	-	0.03	-	0.02	-	0.01	-	0.01	-	-	-
Total	21.18	-	11.40	-	6.70	-	7.73	-	6.72	-	3.65	-	4.37	-	3.39	-

Day - 7:00 a.m. to 10:00 p.m.
Night - 10:00 p.m. to 7:00 a.m.

Table I-6a. Assignment of Operations for the Proposed Action
Modeled Year: 1993

Aircraft	Touch and Go Flight Tracks											
	18C10		18A		18B		36C10		36A		36B	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
DHC-6	-	-	-	-	-	-	-	-	-	-	-	-
MD-81	1.78	-	-	-	-	-	0.96	-	-	-	-	-
B-727-200	-	-	-	-	-	-	-	-	-	-	-	-
B-727-100	-	-	-	-	-	-	-	-	-	-	-	-
Cessna Citation I	-	-	-	-	-	-	-	-	-	-	-	-
Cessna 441 Conquest	-	-	-	-	-	-	-	-	-	-	-	-
Beech Baron 58P	-	-	0.16	-	0.65	-	-	-	0.09	-	0.35	-
Comp. Sgl. Eng. Piston	-	-	2.15	-	8.62	-	-	-	1.16	-	4.64	-
C-130	1.70	-	-	-	-	-	0.92	-	-	-	-	-
Total	3.48	-	2.31	-	9.27	-	1.88	-	1.25	-	4.99	-

Day - 7:00 a.m. to 10:00 p.m.
Night - 10:00 p.m. to 7:00 a.m.

Table I-6b. Assignment of Operations for the Proposed Action
Modeled Year: 1998

Aircraft	Arrival Flight Tracks				Departure Flight Tracks											
	A1		A2		D1		D2		D3		D4		D5		D6	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
DHC-6	0.93	-	0.50	-	0.42	-	0.09	-	0.42	-	0.25	-	0.25	-	-	-
MD-81	0.45	-	0.24	-	-	-	0.44	-	-	-	-	-	0.24	-	-	-
B-727-200	0.45	-	0.24	-	-	-	0.44	-	-	-	-	-	0.24	-	-	-
B-727-100	0.89	0.45	0.48	0.24	-	-	0.89	0.45	-	-	-	-	0.48	0.24	-	-
Cessna Citation I	0.89	-	0.48	-	0.30	-	0.30	-	0.30	-	0.16	-	0.16	-	0.16	-
Cessna 441 Conquest	0.89	-	0.48	-	0.30	-	0.30	-	0.30	-	0.16	-	0.16	-	0.16	-
Beech Baron 58P	2.72	-	1.46	-	0.81	-	0.81	-	0.81	-	0.49	-	0.49	-	0.49	-
Comp. Sgl. Eng. Piston	19.17	-	10.32	-	6.39	-	6.39	-	6.39	-	3.44	-	3.44	-	3.44	-
Bell Model 212 Heli	0.42	-	0.23	-	0.14	-	0.14	-	0.14	-	0.08	-	0.08	-	0.08	-
C-130	0.04	-	0.02	-	-	-	0.03	-	0.02	-	0.01	-	0.01	-	-	-
Total	26.85	0.45	14.45	0.24	8.46	-	9.93	0.45	8.48	-	4.58	-	5.55	0.24	4.33	-

Day - 7:00 a.m. to 10:00 p.m.
Night - 10:00 p.m. to 7:00 a.m.

Table I-6b. Assignment of Operations for the Proposed Action
Modeled Year: 1998

Aircraft	Touch and Go Flight Tracks											
	18C10		18A		18B		36C10		36A		36B	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
DHC-6	-	-	-	-	-	-	-	-	-	-	-	-
MD-81	1.78	-	-	-	-	-	0.96	-	-	-	-	-
B-727-200	-	-	-	-	-	-	-	-	-	-	-	-
B-727-100	-	-	-	-	-	-	-	-	-	-	-	-
Cessna Citation I	-	-	-	-	-	-	-	-	-	-	-	-
Cessna 441 Conquest	-	-	-	-	-	-	-	-	-	-	-	-
Beech Baron 58P	-	-	0.19	-	0.77	-	-	-	0.10	-	0.42	-
Comp. Sgl. Eng. Piston	-	-	2.56	-	10.23	-	-	-	1.38	-	5.51	-
Bell Model 212 Heli	-	-	0.01	-	0.03	-	-	-	-	-	0.02	-
C-130	1.70	-	-	-	-	-	0.92	-	-	-	-	-
Total	3.48	-	2.76	-	11.03	-	1.88	-	1.48	-	5.95	-

Day - 7:00 a.m. to 10:00 p.m.
Night - 10:00 p.m. to 7:00 a.m.

Table I-6c. Assignment of Operations for the Proposed Action
Modeled Year: 2003

Aircraft	Arrival Flight Tracks				Departure Flight Tracks											
	A1		A2		D1		D2		D3		D4		D5		D6	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
DHC-6	0.93	-	0.50	-	0.46	-	-	-	0.46	-	0.25		0.25			
MD-81 (maintenance)	1.34	-	0.72	-	-	-	1.34	-	-	-	-	-	0.72	-		
MD-81 (cargo)	0.89	0.89	0.48	0.48	-	-	0.89	0.89	-	-	-	-	0.48	0.48	-	-
Cessna Citation I	1.56	-	0.84	-	0.52	-	0.52	-	0.52	-	0.28	-	0.28	-	0.28	-
Cessna 441 Conquest	1.56	-	0.84	-	0.52	-	0.52	-	0.52	-	0.28	-	0.28	-	0.28	-
Beech Baron 58P	3.00	-	1.62	-	1.00	-	1.00	-	1.00	-	0.54	-	0.54	-	0.54	-
Comp. Sgl. Eng. Piston	21.19	-	11.41	-	7.06	-	7.06	-	7.06	-	3.80	-	3.80	-	3.80	-
Bell Model 212 Heli.	1.27	-	0.68	-	0.42	-	0.42	-	0.42	-	0.23	-	0.23	-	0.23	-
C-130	0.04	-	0.02	-	-	-	0.03	-	0.02	-	0.01	-	0.01	-		
Total	31.78	0.89	17.11	0.48	~~9.84~~ 9.96	-	11.78	0.89	10.00	-	5.39	-	6.59	0.48	5.13	-

Day - 7:00 a.m. to 10:00 p.m.
Night - 10:00 p.m. to 7:00 a.m.

Table I-6c. Assignment of Operations for the Proposed Action
Modeled Year: 2003

Aircraft	Touch and Go Flight Tracks											
	18C10		18A		18B		36C10		36A		36B	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
DHC-6	-	-	-	-	-	-	-	-	-	-	-	-
MD-81 (maintenance)	2.68	-	-	-	-	-	1.44	-	-	-	-	-
MD-81 (cargo)	-	-	-	-	-	-	-	-	-	-	-	-
Cessna Citation I	-	-	-	-	-	-	-	-	-	-	-	-
Cessna 441 Conquest	-	-	-	-	-	-	-	-	-	-	-	-
Beech Baron 58P	-	-	0.21	-	0.85	-	-	-	0.11	-	0.46	-
Comp. Sgl. Eng. Piston	-	-	2.83	-	11.30	-	-	-	1.52	-	6.09	-
Bell Model 212 Heli.	-	-	0.03	-	0.10	-	-	-	0.01	-	0.06	-
C-130	1.70	-	-	-	-	-	0.92	-	-	-	-	-
Total	4.38	-	3.07	-	12.25	-	2.36	-	1.64	-	6.61	-

Day - 7:00 a.m. to 10:00 p.m.
Night - 10:00 p.m. to 7:00 a.m.

Table I-6d. Assignment of Operations for the Proposed Action
Modeled Year: 2013

Aircraft	Arrival Flight Tracks				Departure Flight Tracks											
	A1		A2		D1		D2		D3		D4		D5		D6	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
DHC-6	0.93	-	0.50	-	0.46	-	-	-	0.46	-	0.25	-	0.25	-	-	-
MD-81 (maintenance)	2.68	-	1.44	-	-	-	2.87	-	-	-	-	-	1.44	-	-	-
MD-81 (cargo)	1.56	1.56	0.84	0.84	-	-	1.56	1.56	-	-	-	-	0.84	0.84	-	-
Cessna Citation I	2.45	-	1.32	-	0.82	-	0.82	-	0.82	-	0.44	-	0.44	-	0.44	-
Cessna 441 Conquest	2.45	-	1.32	-	0.82	-	0.82	-	0.82	-	0.44	-	0.44	-	0.44	-
Beech Baron 58P	3.36	-	1.81	-	1.12	-	1.12	-	1.12	-	0.60	-	0.60	-	0.60	-
Comp. Sgl. Eng. Piston	23.74	-	12.79	-	7.91	-	7.91	-	7.91	-	4.26	-	4.26	-	4.26	-
Bell Model 212 Heli.	2.96	-	1.59	-	0.99	-	0.99	-	0.99	-	0.53	-	0.53	-	0.53	-
C-130	0.04	-	0.02	-	-	-	0.03	-	0.02	-	0.01	-	0.01	-	-	-
Total	40.17	1.56	21.63	0.84	12.12	-	15.92	1.56	12.14	-	6.53	-	8.81	0.84	6.27	-

Day - 7:00 a.m. to 10:00 p.m.
Night - 10:00 p.m. to 7:00 a.m.

Table I-6d. Assignment of Operations for the Proposed Action
Modeled Year: 2013

Aircraft	Touch and Go Flight Tracks											
	18C10		18A		18B		36C10		36A		36B	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
DHC-6	-	-	-	-	-	-	-	-	-	-	-	-
MD-81 (maintenance)	5.34	-	-	-	-	-	2.88	-	-	-	-	-
MD-81 (cargo)	-	-	-	-	-	-	-	-	-	-	-	-
Cessna Citation I	-	-	-	-	-	-	-	-	-	-	-	-
Cessna 441 Conquest	-	-	-	-	-	-	-	-	-	-	-	-
Beech Baron 58P	-	-	0.24	-	0.96	-	-	-	0.13	-	0.52	-
Comp. Sgl. Eng. Piston	-	-	3.17	-	12.67	-	-	-	1.71	-	6.82	-
Bell Model 212 Heli.	-	-	0.06	-	0.25	-	-	-	0.03	-	0.13	-
C-130	1.70	-	-	-	-	-	0.92	-	-	-	-	-
Total	7.04	-	3.47	-	13.88	-	3.80	-	1.87	-	7.47	-

Day - 7:00 a.m. to 10:00 p.m.
Night - 10:00 p.m. to 7:00 a.m.

Table I-7. Surface Traffic Operations for Total Traffic Volumes (Project and Non-Project)

Alternative	Roadway	from/to	Annual Average Daily Traffic AADT 1998	2003	2013	Speed Assumed (mph)	Road Width Assumed (Lanes)
Proposed Action							
	U.S. 61	Highland to SH 150	3,203	3,789	4,678	45	2
	U.S. 61	Chickasawba to Highland	7,234	8,641	10,660	40	2
	SH 181	SH 150 to Main Gate	2,747	3,674	5,369	55	2
	SH 151	Main Gate to Gosnell City Limits South	11,476	15,999	24,512	35	4
	SH 151	Gosnell South to Perniscot Bayou	7,521	12,131	2,309	50	4
	SH 151	Perniscot Bayou to SH 18	8,053	11,930	19,423	50	4
	SH 18	SH 151 to U.S. 61	3,947	6,568	11,817	35	4
	SH 18	SH 151 to SH 239	2,256	3,258	5,172	45	2
General Aviation Alternative							
	U.S. 61	Highland to SH 150	3,161	3,591	5,115	45	2
	U.S. 61	Chickasawba to Highland	7,082	7,893	10,744	40	2
	SH 181	SH 150 to Main Gate	2,622	3,198	5,223	55	2
	SH 151	Main Gate to Gosnell City Limits South	10,712	12,649	19,518	35	4
	SH 151	Gosnell South to Perniscot Bayou	6,711	8,832	16,396	50	4
	SH 151	Perniscot Bayou to SH 18	7,393	9,120	15,264	50	4
	SH 18	SH 151 to U.S. 61	3,487	4,701	9,037	35	4
	SH 18	SH 151 to SH 239	2,085	2,527	4,100	45	2
Non-Aviation Alternative							
	U.S. 61	Highland to SH 150	3,224	3,612	4,304	45	2
	U.S. 61	Chickasawba to Highland	7,180	7,866	9,131	40	2
	SH 181	SH 150 to Main Gate	2,802	3,542	4,739	55	2
	SH 151	Main Gate to Gosnell City Limits South	11,932	15,999	22,490	35	4
	SH 151	Gosnell South to Perniscot Bayou	8,106	12,667	19,765	50	4
	SH 151	Perniscot Bayou to SH 18	8,489	12,124	17,856	50	4
	SH 18	SH 151 to U.S. 61	4,295	6,916	10,993	35	4
	SH 18	SH 151 to SH 239	2,362	3,281	4,742	45	2

The fleet mix and annual operations for each of the modeled years are contained in Table I-8. The DNL contours for the proposed flight operations are presented in Section 4.4.4, Noise. The proposed flight tracks modeled are the same as for the Proposed Action. No nighttime aircraft operations were forecasted for this alternative. Runup operations were also not forecasted. Stage lengths for air operations are given in Table I-4.

General aviation operations would be divided into the same five aircraft types as in the Proposed Action. It was assumed that 21 percent of the general aviation operations would be touch-and-go (or closed loop) activities.

A standard 3-degree glide slope and the takeoff profiles provided by the FAA's INM Database 3.9 were assumed for all aircraft.

Surface traffic data used in the modeling were developed from the project traffic study and are shown in Table I-7.

1.5 NON-AVIATION ALTERNATIVE

This alternative includes only non-aviation land uses. The airfield would be replaced with industrial use. Other land uses include commercial, institutional, residential, and recreational. Surface traffic data used in the modeling were developed from the project traffic study and are presented in Table I-7.

The firing range, located in the institutional (educational) grounds at the north side of the base as shown in Figure 2.3-3, was assumed to remain in its current location and operate from 8 a.m. to 7 p.m. The noise levels due to the firing range were estimated based on measurements taken at the Los Angeles Police Academy (Acentech, 1991). The firing range was assumed to be a point source, i.e., noise would decrease at 6 dB per doubling of distance. Barrier effects and outdoor propagation characteristics were taken from Miller (1982). The predicted DNL was adjusted upward by 5 dB to account for the increased annoyance of impulsive sounds (U.S. Environmental Protection Agency, 1974).

1.6 NO-ACTION ALTERNATIVE

The No-Action Alternative would result in the Air Force retaining ownership of the property after closure. The property would not be put to further use.

A disposal management team would be provided to ensure base security and maintain the grounds and physical assets, including the existing utilities and structures. There would be no military activities/missions performed on the property identified for disposal. Surface traffic data used in the

TABLE I-8a
SCENARIO: General Aviation Alternative
MODELED YEAR: 1993

Type of Aircraft	Number of Operations	Percent of Category	Total for Category	Category Percent of Total
General Aviation			32,000	100
COMSEP (composite single engine piston)	25,600	80		
Beech Baron 58P (twin engine piston)	3,200	10		
Cessna Conquest II (turboprop)	1,600	5		
Cessna Citation I (turbojet)	1,600	5		
TOTAL			32,000	100

TABLE I-8b
SCENARIO: General Aviation Alternative
MODELED YEAR: 1998

Type of Aircraft	Number of Operations	Percent of Category	Total for Category	Category Percent of Total
General Aviation			36,400	100
COMSEP (composite single engine piston)	28,100	77		
Beech Baron 58P (twin engine piston)	3,900	11		
Cessna Conquest II (turboprop)	2,100	6		
Cessna Citation I (turbojet)	2,300	6		
TOTAL			36,400	100

TABLE I-8c
SCENARIO: General Aviation Alternative
MODELED YEAR: 2003

Type of Aircraft	Number of Operations	Percent of Category	Total for Category	Category Percent of Total
General Aviation			40,400	100
COMSEP (composite single engine piston)	30,000	74		
Beech Baron 58P (twin engine piston)	4,700	12		
Cessna Conquest II (turboprop)	2,700	7		
Cessna Citation I (turbojet)	3,000	7		
TOTAL			40,400	100

TABLE I-8d
SCENARIO: General Aviation Alternative
MODELED YEAR: 2013

Type of Aircraft	Number of Operations	Percent of Category	Total for Category	Category Percent of Total
General Aviation			46,100	100
COMSEP (composite single engine piston)	33,000	72		
Beech Baron 58P (twin engine piston)	5,800	13		
Cessna Conquest II (turboprop)	3,400	7		
Cessna Citation I (turbojet)	3,900	8		
TOTAL			46,100	100

modeling were developed from the project traffic study and are presented in Table I-7.

2.0 NOISE METRICS

Noise, as used in this context, refers to sound pressure variations audible to the ear. The audibility of a sound depends on the amplitude and frequency of the sound and the individual's capability to hear the sound. Whether the sound is judged as noise depends largely on the listener's current activity and attitude toward the sound source, as well as the amplitude and frequency of the sound. The range in sound pressures which the human ear can comfortably detect encompasses a wide range of amplitudes, typically a factor larger than a million. To obtain convenient measurements and sensitivities at extremely low and high sound pressures, sound is measured in units of the dB. The dB is a dimensionless unit related to the logarithm of the ratio of the measured level to a reference level.

Because the logarithmic nature of the dB unit, sound levels cannot be added or subtracted directly. However, the following shortcut method can be used to combine sound levels:

Difference between two dB values	Add the following to the higher level
0 to 1	3
2 to 3	2
4 to 9	1
10 or more	0

The ear is not equally sensitive at all frequencies of sound. At low frequencies, characterized as a rumble or roar, the ear is not very sensitive while at higher frequencies, characterized as a screech or a whine, the ear is most sensitive. The A-weighted level was developed to measure and report sound levels in a way which would more closely approach how people perceive the sound. All sound levels reported herein are in terms of A-weighted sound levels.

Environmental sound levels typically vary with time. This is especially true for areas near airports where noise levels will increase substantially as the aircraft passes overhead and afterwards diminish to typical community levels. Both the Department of Defense and the FAA have specified the following three noise metrics to describe aviation noise.

Day-Night Average Sound Level (DNL) is the 24-hour energy average A-weighted sound level with a 10 dB weighting added to those levels occurring between 10 p.m. and 7 a.m. the following morning. The 10 dB weighting is a penalty representing the added intrusiveness of noise during normal sleeping hours. DNL is used to determine land use compatibility

with noise from aircraft and surface traffic. The expression L_{dn} is often used in equations to designate day-night average sound level.

Maximum Sound Level is the highest instantaneous sound level observed during a single noise event no matter how long the sound may persist (see Figure I-2).

Sound Exposure Level (SEL) value represents the A-weighted sound level integrated over the entire duration of the event and referenced to a duration of 1 second. Hence, it normalizes the event to a 1-second event. Typically, most events (aircraft flyover) last longer than 1 second, and the SEL value will be higher than the maximum sound level of the event. Figure I-2 illustrates the relationship between the maximum sound level and SEL.

3.0 NOISE MODELS

3.1 AIR TRAFFIC

The FAA-approved INM Version 3.9 is a computerized overflight noise prediction model originally developed by the Transportation Systems Center of the U.S. Department of Transportation. This model has been specified by the FAA as one of two models acceptable for FAA funder Part 1[illegible]oise studies. The model accounts for separate aircraft flying along flight tracks defined as straight-line or curved segments, during an annually average 24-hour period at an airport. These flight tracks are coupled with separate tables in the computer program's data base relating to the noise, velocity, distance, and engine thrust for each district aircraft type selected. The individual aircraft noise exposures are then summed for each location on a grid around the airport. The cumulative values of noise exposure at each grid location may then be used to interpolate equal noise exposure contours for preselected DNL values.

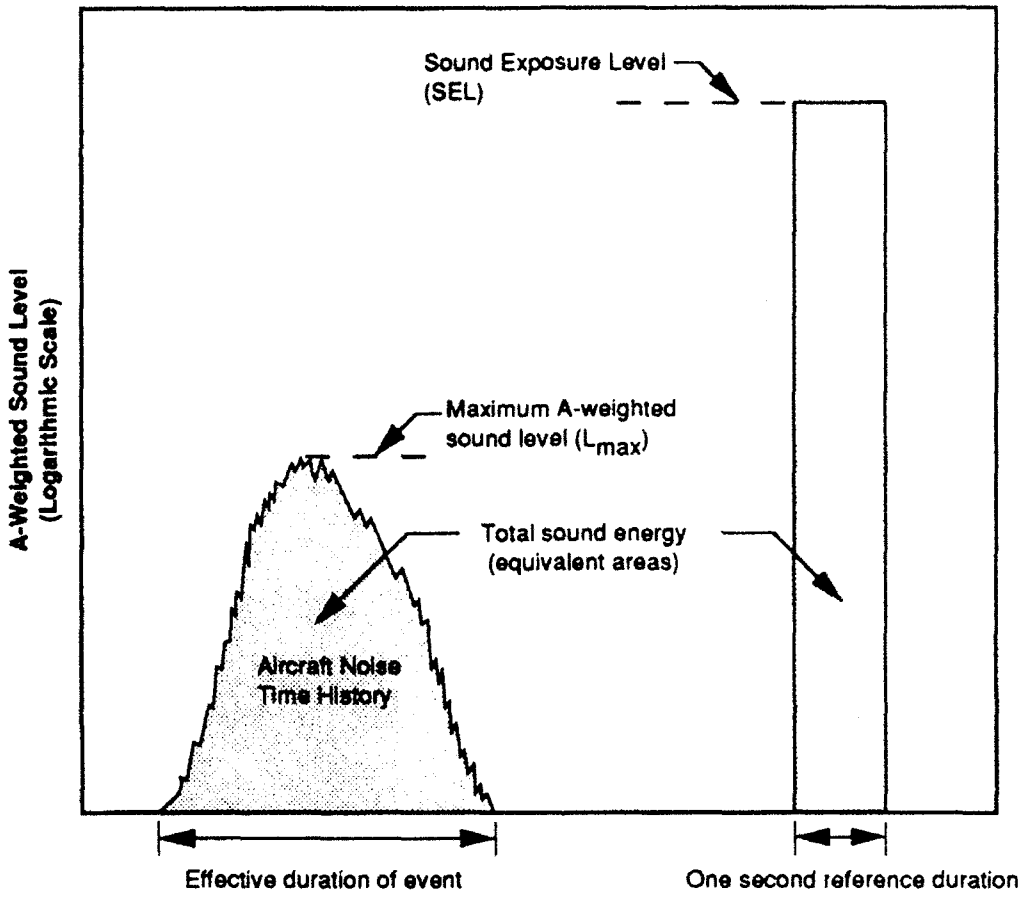
The FAA-approved noise exposure model (NOISEMAP), version 6.0, was used to calculate noise levels associated with engine runup activity.

3.2 SURFACE TRAFFIC

The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Noise Model was used to predict surface traffic noise. The model uses traffic volumes, vehicular mix, traffic speed, traffic distribution, and roadway length to estimate traffic noise levels.

4.0 ASSESSMENT CRITERIA

Criteria for assessing the effects of noise include annoyance, speech interference, sleep disturbance, noise-induced hearing loss, possible nonauditory health effects, reaction by animals, and land use compatibility.



Sound Exposure Level and Comparison to Aircraft Noise Time History

Figure I-2

These criteria are often developed using statistical methods. The validity of generalizing statistics devised from large populations are suspect when applied to small sample sizes as we have in the affected areas near Eaker AFB. Caution should be employed when interpreting the results of the impact analysis.

4.1 ANNOYANCE DUE TO SUBSONIC AIRCRAFT NOISE

Noise-induced annoyance is an attitude or mental process with both acoustic and nonacoustic determinants (Fidell et al., 1988). Noise-induced annoyance is perhaps most often defined as a generalized adverse attitude toward noise exposure. Noise annoyance is affected by many factors including sleep and speech interference and task interruption. The level of annoyance may also be affected by many nonacoustic factors.

In communities in which the prevalence of annoyance is affected primarily by noise, reductions in exposure can be expected to lead to reductions in prevalence of annoyance. In communities in which the prevalence of annoyance is controlled by nonacoustic factors, such as odor, traffic congestion, etc., there may be little or no reduction in annoyance associated with reductions in exposure. The intensity of community response to noise exposure may even, in some cases, be essentially independent of physical exposure. In the case of community response to actions, such as airport siting or scheduling of supersonic transport aircraft, vigorous reaction has been encountered at the mere threat of exposure, or minor increases in exposure.

The standard method for determining the prevalence of annoyance in noise-exposed communities is by attitudinal survey. Surveys generally solicit self-reports of annoyance through one or more questions on the form: "How bothered or annoyed have you been by the noise of (noise source) over the last (time period)?" Respondents are typically constrained in structured interviews to select one of a number of response alternatives, often named categories such as "Not At All Annoyed," "Slightly Annoyed," "Moderately Annoyed," "Very Annoyed," or "Extremely Annoyed." Other means are sometimes used to infer the prevalence of annoyance from survey data (for example, by interpretation of responses to activity interference questions or by construction of elaborate composite indices), with varying degrees of face validity and success.

Predictions of the prevalence of annoyance in a community can be made by extrapolation from an empirical dosage-effect relationship. Based on the results of a number of sound surveys, Schultz (1978) developed a relationship between percent highly annoyed and DNL:

$$\%\ Highly\ Annoyed = 0.8553\ DNL - 0.0401\ DNL^2 + 0.00047\ DNL^3$$

Note that this relationship should not be evaluated outside the range of DNL = 45 to 90 dB. Figure I-3 presents this equation graphically. Less than 15 to 20 percent of the population would be predicted to be annoyed by DNL values less than 65 dB, whereas over 37 percent of the population would be predicted to be annoyed from DNL values greater than 75 dB. The relationship developed by Schultz is presented in the *Guidelines for Preparing Environmental Impact Statements on Noise* (National Academy of Sciences, 1977).

These results were recently reviewed (Fidell et al., 1989) and the original findings updated with results of more recent social surveys, bringing the number of data points used in defining the relationship to over 400. The findings of the new study differ only slightly from those of the original study.

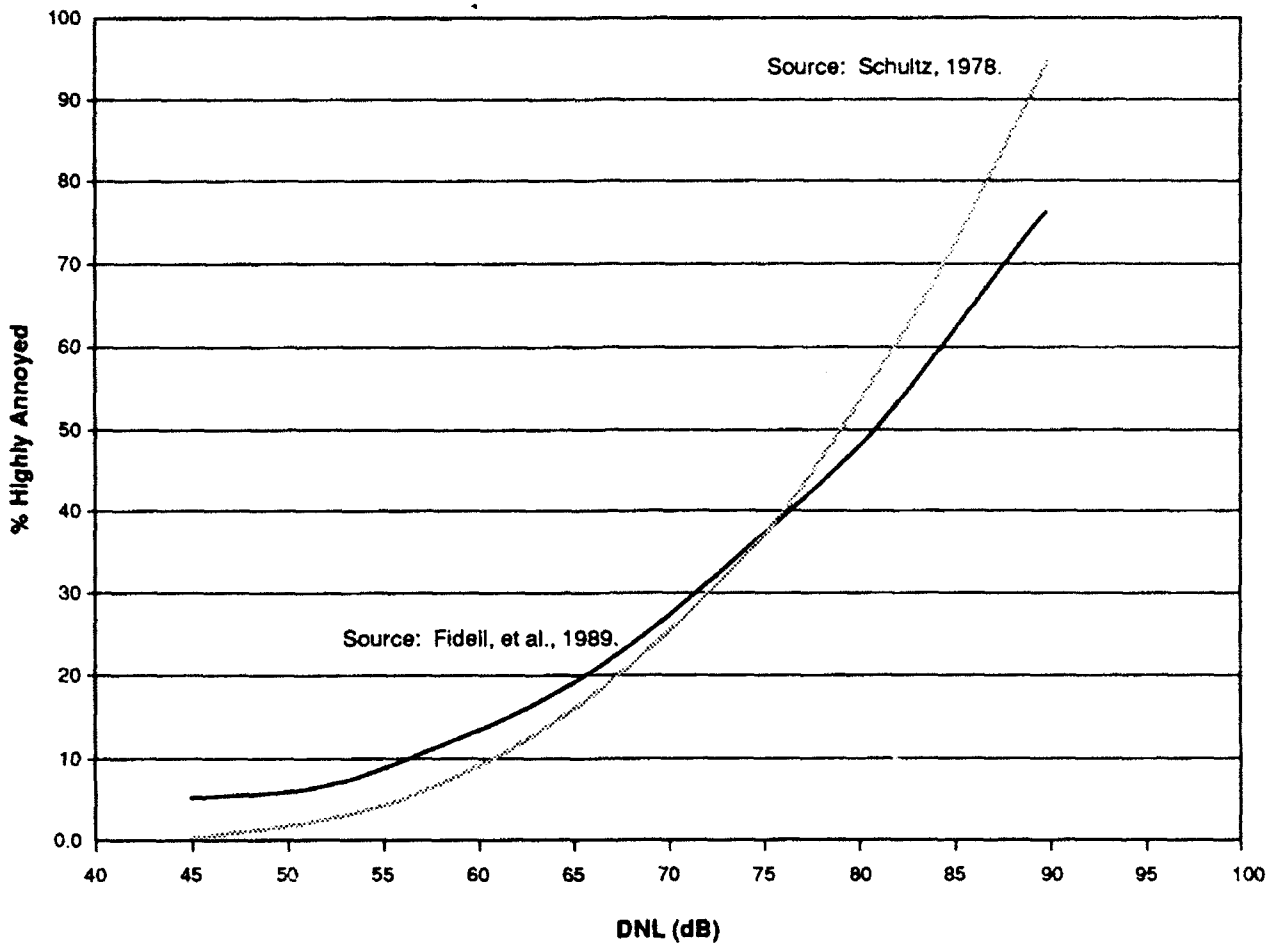
4.2 SPEECH INTERFERENCE AND RELATED EFFECTS DUE TO AIRCRAFT FLYOVER NOISE

One of the ways that noise affects daily life is by preventing or impairing speech communication. In a noisy environment, understanding of speech is diminished by masking of speech signals by intruding noises. Speakers generally raise their voices or move closer to listeners to compensate for masking noise in face-to-face communications, thereby increasing the level of speech at the listener's ear. As intruding noise levels rise higher and higher, speakers may cease talking altogether until conversation can be resumed at comfortable levels of vocal effort after noise intrusions end.

If the speech source is a radio or television, the listener may increase the volume during a noise intrusion. If noise intrusions occur repeatedly, the listener may choose to set the volume at a high level so that the program material can be heard even during noise intrusions.

In addition to losing information contained in the masked speech material, the listener may lose concentration because of the interruptions and thus become annoyed. If the speech message is some type of warning, the consequences could be serious.

Current practice in quantifying the magnitude of speech interference and predicting speech intelligibility ranges from metrics based on A-weighted sound pressure levels of the intruding noise alone to more complex metrics requiring detailed spectral information about both speech and noise intrusions. There are other effects of the reduced intelligibility of speech caused by noise intrusions. For example, if the understanding of speech is interrupted, performance may be reduced, annoyance may increase, and learning may be impaired.



Community Noise Annoyance Curves

Figure I-3

As the noise level of an environment increases, people automatically raise their voices. The effect does not take place, however, if the noise event were to rise to a high level very suddenly.

4.2.1 Speech Interference Effects from Time-Varying Noise

Most research on speech interference due to noise has included the study of steady state noise. As a result, reviews and summaries of noise effects on speech communications concentrate on continuous or at least long duration noises (Miller, 1974). However, noise intrusions are not always continuous or of long duration, but are frequently transient in nature. Transportation noise generates many such noise intrusions, consisting primarily of individual vehicle pass-bys, such as aircraft flyovers. Noise emitted by other vehicles (motorboats, snowmobiles, and off-highway vehicles) is also transient in nature.

It has been shown, at least for aircraft flyover noise, that accuracy of predictors of speech intelligibility are ranked in a similar fashion for both steady state and time-varying or transient sounds (Williams et al., 1971; Kryter and Williams, 1966). Of course, if one measures the noise of a flyover by the maximum A-level then intelligibility associated with this level would be higher than for a steady noise of the same value, simply because the level is less than the maximum for much of the duration of the flyover.

4.2.2 Other Effects of Noise Which Relate to Speech Intelligibility

Aside from the direct effects of reduction in speech intelligibility, related effects may occur that tend to compound the loss of speech intelligibility itself.

Learning. One environment in which speech intelligibility plays a critical role is the classroom. In classrooms of schools exposed to aircraft flyover noise, speech becomes masked or the teacher stops talking altogether during an aircraft flyover (Crook and Langdon, 1974). Pauses begin to occur when instantaneous flyover levels exceed 60 dB (A-weighted). Masking of the speech of teachers who do not pause starts at about the same level.

At levels of 75 dB some masking occurs for 15 percent of the flyovers and increases to nearly 100 percent at 82 dB. Pauses occur for about 80 percent of the flyovers at this noise level. Since a marked increase in pauses and masking occurs when levels exceed 75 dB, this level is sometimes considered as one above which teaching is impaired due to disruption of speech communication. The effect that this may have on learning is unclear at this time. However, one study (Arnoult et al., 1986) could find no effect of noise on cognitive tasks from jet or helicopter noise over a range from 60 to 80 dB even though intelligibility scores indicated a continuous decline starting at the 60 dB level. In a Japanese study (Ando et

al., 1975) researchers failed to find differences in mental task performance among children from communities with different aircraft noise exposure.

Although there seems to be no proof that noise from aircraft flyovers affects learning, it is reported by Mills (1975) that children are not as able to understand speech in the presence of noise as are adults. It is hypothesized that part of the reason is due to the increased vocabulary which the adult can draw on as compared to the more limited vocabulary available to the young student. Also, when one is learning a language, it is more critical that all words be heard rather than only enough to attain 95 percent sentence intelligibility, which may be sufficient for general conversations. It was mentioned above that when the maximum A-level for aircraft flyovers heard in a classroom exceeds 75 dB, masking of speech increases rapidly. However, it was also noted that pausing during flyovers and masking of speech for those teachers who continue to lecture during a flyover start at levels around 60 dB (Bennett and Pearsons, 1981).

Annoyance. Klatt, Stevens, and Williams (1969) studied the annoyance of speech interference by asking people to judge the annoyance of aircraft noise in the presence and absence of speech material. The speech material was composed of passages from newspaper and magazine articles. In addition to rating aircraft noise on an acceptability scale (unacceptable, barely acceptable, acceptable, and of no concern), the subjects were required to answer questions about the speech material. The voice level was considered to represent a raised voice level (assumed to be 68 dB). In general, for the raised voice talker, the rating of barely acceptable was given to flyover noise levels of 73 to 76 dB. However, if the speech level was reduced, the rating of the aircraft tended more toward unacceptable. The results suggested that if the speech level were such that 95 percent or better sentence intelligibility was maintained, then a barely acceptable rating or better acceptability rating could be expected. This result is in general agreement with the finding in schools that teachers pause or have their speech masked at levels above 75 dB (Crook and Langdon, 1974).

Hall, Taylor, and Birnie (1985) recently tried to relate various types of activity interference in the home, i.e., speech and sleep, to annoyance. The study found that there is a 50 percent chance that people's speech would be interfered with at a level of 58 dB. This result is in agreement with the other results, considering that the speech levels in the school environment of the Cook study are higher than the levels typically used in the home.

Also, in a classroom situation the teacher raises his or her voice as the flyover noise increases in intensity.

4.2.3 Predicting Speech Intelligibility and Related Effects Due to Aircraft Flyover Noise

It appears, from the above discussions, that when aircraft flyover noises exceed approximately 60 dB, speech communication may be interfered with either by masking or by pausing on the part of the talker. Increasing the level of the flyover noise to 80 dB would reduce the intelligibility to zero even if a loud voice is used by those attempting to communicate.

The levels mentioned above refer to noise levels measured indoors. The same noises measured outdoors would be 15 to 25 dB higher than these indoor levels during summer (windows open) and winter months (windows closed), respectively. These estimates are taken from the U.S. Environmental Protection Agency (EPA) reviews of available data (U.S. Environmental Protection Agency, 1974).

Levels of the aircraft noise measured inside dwellings and schools near the ends of runways at airports may exceed 60 dB inside (75 dB outside). During flyovers, speech intelligibility would be degraded. However, since the total duration is short, no more than a few seconds during each flyover, only a few syllables may be lost. People may be annoyed, but the annoyance may not be due to loss in speech communication, but rather due to startle or sleep disturbance as discussed below.

4.3 SLEEP DISTURBANCE DUE TO NOISE

The effects of noise on sleep have long been a concern of parties interested in assuring suitable residential noise environments. Early studies noted background levels in people's bedrooms in which sleep was apparently undisturbed by noise. Various levels between 25 and 50 dB (A-weighted) were observed to be associated with an absence of sleep disturbance. The bulk of the research on noise effects on which the current relationship is based was conducted in the 1970s. The tests were conducted in a laboratory environment in which awakening was measured either by a verbal response or by a button push, or by brain wave recordings (EEG) indicating stages of sleep (and awakening). Various types of noise were presented to the sleeping subjects throughout the night. These noises consisted primarily of transportation noises including those produced by aircraft, trucks, cars, and trains. The aircraft noises included both flyover noises as well as sonic booms. Synthetic noises, including laboratory-generated sounds consisting of shaped noises and tones, were also studied.

Lukas (1975) and Goldstein and Lukas (1980) both reviewed data available in the 1970s on sleep-stage changes and waking effects of different levels of noise. Since no known health effects were associated with either waking or sleep-stage changes, either measure was potentially useful as a metric of sleep disturbance. However, since waking, unlike sleep-stage changes, is

simple to quantify, it is often selected as the metric for estimating the effects of noise on sleep. These two reviews showed great variability in the percentage of people awakened by exposure to noise. The variability is not merely random error, but reflects individual differences in adaptation or habituation, and also interpretation of the meaning of the sounds. Such factors cannot be estimated from the purely acoustic measures in noise exposure.

Another major review, by Griefahn and Muzet (1978), provided similar information for effects of noise on waking. However, Griefahn and Muzet's results suggested less waking for a given level of noise than predicted by Lukas.

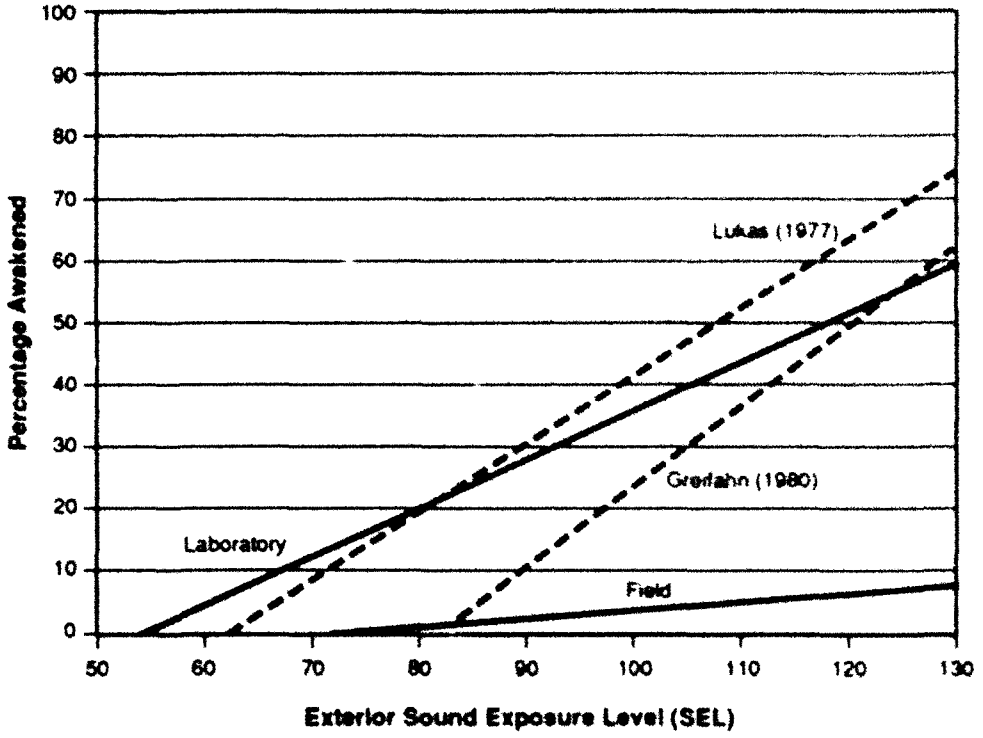
A recent review (Pearsons et al., 1989) of the literature related to sleep disturbance demonstrated that the relationship, based exclusively on laboratory studies, predicts greater sleep disturbance than that likely to occur in a real-life situation in which some adaptation has occurred. The prediction relationships developed in this review should not be considered to yield precise estimates of sleep disturbance because of the great variability in the data sets from which they were developed. The relationships include only the duration and level components of "noise exposure." Increasing the precision of prediction would depend on quantification of some of the nonacoustic factors. Further, a recent review of field, as well as laboratory studies, suggests that habituation may reduce the effect of noise on sleep (Pearsons et al., 1989).

Noise must penetrate the home to disturb sleep. Interior noise levels are lower than exterior levels due to the attenuation of the sound energy by the structure. The amount of attenuation provided by the building is dependent on the type of construction and whether the windows are open or closed. The approximate national average attenuation factors are 15 dB for open windows and 25 dB for closed windows (U.S. Environmental Protection Agency, 1974).

Incorporating these attenuation factors, the percent awakened relationships previously discussed under summer conditions are presented in Figure I-4. In conclusion, the scientific literature does not provide a consensus on sleep disturbance. There is no recognized criteria or standard which provides guidance to assess sleep disturbance due to noise.

4.4 NOISE-INDUCED HEARING LOSS

Hearing loss is measured in decibels and refers to the permanent auditory threshold shift of an individual's hearing in an ear. Auditory threshold refers to the minimum acoustic signal that evokes an auditory sensation, i.e., the quie.est sound a person can hear. When a threshold shift occurs, a person's hearing is not as sensitive as before and the minimum sound that a



Source: Pearsons, et al.,1989

Sleep Disruption (Awakening)

Figure I-4

person can hear must be louder. The threshold shift which naturally occurs with age is called presbycusis. Exposure to high levels of sound can cause temporary and permanent threshold shifts usually referred to as noise-induced hearing loss. Permanent hearing loss is generally associated with destruction of the hair cells of the inner ear.

The EPA (1974) and the Committee on Hearing, Bioacoustics, and Biomechanics (National Academy of Sciences, 1981) have addressed the risk of outdoor hearing loss. They have concluded that hearing loss would not be expected for people living outside the noise contour of 75 DNL. Several studies of populations near existing airports in the United States and the United Kingdom have shown that the possibility for permanent hearing loss in communities near intense commercial takeoff and landing patterns is remote. An FAA-funded study compared the hearing of the population near the Los Angeles International Airport to that of the population in a quiet area away from aircraft noise (Parnel et al., 1972). A similar study was performed in the vicinity of London Heathrow Airport (Ward et al., 1972). Both studies concluded that there was no significant difference between the hearing loss of the two populations, and no correlation between the hearing level with the length of time people lived in the airport neighborhood.

4.5 NONAUDITORY HEALTH EFFECTS OF RESIDENTIAL AIRCRAFT NOISE

Based on summaries of previous research in the field (Thompson, 1981; Thompson and Fidell, 1989), predictions of nonauditory health effects of aircraft noise cannot be made. A valid predictive procedure requires: (1) evidence for causality between aircraft noise exposure and adverse nonauditory health consequences and (2) knowledge of a quantitative relationship between amounts of noise exposure (dose) and specific health effects. Because results of studies of aircraft noise on health are equivocal, there is no sound scientific basis for making adequate risk assessments.

Alleged nonauditory health consequences of aircraft noise exposure which have been studied include birth defects, low birth weight, psychological illness, cancer, stroke, hypertension, sudden cardiac death, myocardial infarction, and cardiac arrhythmias. Of these, hypertension is the most biologically plausible effect of noise exposure. Noise appears to cause many of the same biochemical and physiological reactions, including temporary elevation of blood pressure, as do many other environmental stressors. These temporary increases in blood pressure are believed to lead to a gradual resetting of the body's blood pressure control system. Over a period of years, permanent hypertension may develop (Peterson et al., 1984).

Studies of residential aircraft noise have produced contradictory results. Early investigations indicated that hypertension was from two to four times higher in areas near airports than in areas located away from airports

(Karagodina et al., 1969). Although Meecham and Shaw (1988) continue to report excessive cardiovascular mortality among individuals 75 years or older living near the Los Angeles International Airport, their findings cannot be replicated (Frerichs et al., 1980). In fact, noise exposure increased over the years while there was a decline in all cause, age-adjusted death rates and inconsistent changes in age-adjusted cardiovascular, hypertension, and cerebrovascular disease rates.

Studies which have controlled for multiple factors have shown no, or a very weak, association between noise exposure and nonauditory health effects. This observation holds for studies of occupational and traffic noise as well as for aircraft noise exposure. In contrast to the early reports of two- to six-fold increases in hypertension due to high industrial noise (Thompson and Fidell, 1989), the more rigorously controlled studies of Talbott et al. (1985) and van Dijk et al (1987) show no association between hypertension and prolonged exposure to high levels of occupational noise.

In the aggregate, studies indicate no association exists between street traffic noise and blood pressure or other cardiovascular changes. Two large prospective collaborative studies of heart disease are of particular interest. To date, cross-sectional data from these cohorts offer contradictory results. Data from one cohort show a slight increase in mean systolic blood pressure (2.4 mm Hg) in the noisiest compared to the quietest area; while data from the second cohort show the lowest mean systolic blood pressure and highest high-density lipoprotein cholesterol (lipoprotein protective of heart disease) for men in the noisiest area (Babisch and Gallacher, 1990). These effects of traffic noise on blood pressure and blood lipids were more pronounced in men who were also exposed to high levels of noise at work.

It is clear from the foregoing that the current state of technical knowledge cannot support inference of a causal or consistent relationship, nor a quantitative dose-response, between residential aircraft noise exposure and health consequences. Thus, no technical means are available for predicting extra-auditory health effects of noise exposure. This conclusion cannot be construed as evidence of no effect of residential aircraft noise exposure on nonauditory health. Current findings, taken in sum, indicate only that further rigorous studies are needed.

4.6 DOMESTIC ANIMALS AND WILDLIFE

A recent study was published on the effects of aircraft noise on domestic animals which provided a review of the literature and a review of 209 claims pertinent to aircraft noise over a period spanning 32 years (Bowles et al., 1990). Studies since the late 1950s were motivated both by public concerns about what was at that time a relatively novel technology, supersonic flight, and by claims leveled against the U. S. Air Force for damage done to farm animals by very low-level subsonic overflights. Since

that time over 40 studies of aircraft noise and sonic booms, both in the U.S. and overseas, have addressed acute effects, including effects of startle responses (sheep, horses, cattle, fowl), and effects on reproduction and growth (sheep, cattle, fowl, swine), parental behaviors (fowl, mink), milk letdown (dairy cattle, dairy goats, swine), and egg production.

The literature on the effects of noise on domestic animals is not extensive, and most of the studies have focused on the relation between dosages of continuous noise and effects. Chronic noises are not a good model for aircraft noise, which lasts only a few seconds, but which is often very startling. The review of claims suggests that a major source of loss (i.e., death or loss of productivity) was panic induced in naive animals which are not habituated to noise.

Aircraft noise may have effects because it might trigger a startle response, a sequence of physiological and behavioral events that once helped animals avoid predators. There are good dose-response relations describing the tendency to startle to various levels of noise, and the effect of habituation on the startle response.

The link between startles and serious effects, i.e., effects on productivity, is less certain. Here, we will define an effect as any change in a domestic animal that alters its economic value, including changes in body weight or weight gain, numbers of young produced, weight of young produced, fertility, milk production, general health, longevity, or tractability. At this point, changes in productivity are usually considered an adequate indirect measure of changes in well being, at least until objective legal guidelines are provided.

Recent focus on the effects on production runs counter to a trend in the literature toward measuring the relation between noise and physiological effects, such as changes in corticosteroid levels, and in measures of immune system function. As a result, it is difficult to determine the relation between dosages of noise and serious effects using only physiological measures. The experimental literature is inadequate to document long-term or subtle effects resulting from exposure to aircraft noise.

4.7 LAND USE COMPATIBILITY GUIDELINES

Widespread concern about the noise impacts of aircraft noise essentially began in the 1950s which saw the major introduction of high power jet aircraft into military service. The concern about noise impacts in the communities around airbases, and also within the airbases themselves, led the Air Force to conduct major investigations into the noise properties of jets, methods of noise control for test operations, and the effects of noise from aircraft operations in communities surrounding airbases. These studies established an operational framework of investigation and identified the

basic parameters affecting community response to noise. These studies also resulted in the first detailed procedures for estimating community response to aircraft noise (Stevens and Pietrasanta, 1957).

Although most attention was given to establishing methods of estimating residential community response to noise (and establishing the conditions of noise "acceptability" for residential use), community development involves a variety of land uses with varying sensitivity to noise. Thus, land planning with respect to noise requires the establishment of noise criteria for different land uses. This need was met with the initial development of aircraft noise compatibility guidelines for varied land uses in the mid-1960s (Bishop, 1964).

In residential areas, noise intrusions generate feelings of annoyance on the part of individuals. Increasing degrees of annoyance lead to the increasing potential for complaints and community actions (most typically, threats of legal actions, drafting of noise ordinances, etc.). Annoyance is based largely upon noise interference with speech communication, listening to radio and television, and sleep. Annoyance in the home may also be based upon dislike of "outside" intrusions of noise even though no specific task is interrupted.

Residential land use guidelines have developed from consideration of two related factors:

(a) Accumulated case history experience of noise complaints and community actions near civil and military airports;

(b) Relationships between environmental noise levels and degrees of annoyance (largely derived from social surveys in a number of communities).

In the establishment of land use guidelines for other land uses, the prime consideration is task interference. For many land uses, this translates into the degree of speech interference, after taking into consideration the importance of speech communication and the presence of non-aircraft noise sources related directly to the specific land use considered. For some noise-sensitive land uses where any detectable noise signals which rise above the ambient noise are unwanted (such as music halls), detectability may be the criterion rather than speech interference.

A final factor to be considered in all land uses involving indoor activities is the degree of noise insulation provided by the building structures. The land use guideline limits for unrestricted development within a specific land use assume noise insulation properties provided by typical commercial building construction. The detailed land use guidelines may also define a range of higher noise exposure where construction or development can be undertaken, provided a specified amount of noise insulation is included in

the buildings. Special noise studies, undertaken by architectural or engineering specialists, may be needed to define the special noise insulation requirements for construction in these guideline ranges.

Estimates of total noise exposure resulting from aircraft operations, as expressed in DNL values, can be interpreted in terms of the probable effect on land uses. Suggested compatibility guidelines for evaluating land uses in aircraft noise exposure areas were originally developed by the FAA as presented in Section 3.4.4, Noise. Part 150 of the FAA regulations prescribes the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs. It prescribes the use of yearly DNL in the evaluation of airport noise environments. It also identifies those land use types which are normally compatible with various levels of noise exposure. Compatible or incompatible land use is determined by comparing the predicted or measured DNL level at a site with the values given in the table. The guidelines reflect the statistical variability of the responses of large groups of people to noise. Therefore, any particular level might not accurately assess an individual's perception of an actual noise environment.

While the FAA guidelines specifically apply to aircraft noise, it should be noted that DNL is also used to describe the noise environment due to other community noise sources, including motor vehicles and railroads. The use of DNL is endorsed by the scientific community to assess land use compatibility as it pertains to noise (American National Standards Institute, 1990). Hence, the land use guidelines presented by the FAA can also be used to assess the noise impact from community noise sources other than aircraft.

REFERENCES

Acentech, 1991. Measurements made for the Los Angeles Police Academy, May 13.

American National Standards Institute, 1990. Sound Level Descriptors for Determination of Compatible Land Use, ANSI S12.40-1990.

Ando, Y., Y. Nakane, and J. Egawa, 1975. Effects of Aircraft Noise on the Mental Work of Pupils, Journal of Sound and Vibration, 43(4), pp. 683-691.

Anton-Guirgis, H., B. Culver, S. Wang, and T. Taylor, 1986. Exploratory Study of the Potential Effects of Exposure to Sonic Boom on Human Health, Vol 2: Epidemiological Study, Report No. AAMRL-TR-86-020.

Arnoult, M. D., L. G. Gillfillan, and J. W. Voorhees, 1986. Annoyingness of Aircraft Noise in Relation to Cognitive Activity, Perceptual and Motor Skills, 63, pp. 599-616.

Babisch, W., and J. Gallacher, 1990. Traffic Noise, Blood Pressure and Other Risk Factors - The Caerphilly and Speedwell Collaborative Heart Disease Studies. Noise '88: New Advances in Noise Research pp. 315-326, Council for Building Research Stockholm, Sweden, Swedish.

Bennett, R.L., and Pearsons, K.S., 1981. Handbook of Aircraft Noise Metrics, National Aeronautics and Space Administration, Report No. NASA CR-3406, Washington, DC.

Bishop, D. E., 1964. Development of Aircraft Noise Compatibility for Varied Land Uses, FAA SRDS Report RD-64-148, II.

Bowles, A. E., P. K. Yochem, and F. T. Awbrey, 1990. The Effects of Aircraft Overflights and Sonic Booms on Domestic Animals, NSBIT Technical Operating Report No. 13, BBN Laboratories Inc.

Crook, M. A., and F. J. Langdon, 1974. The Effects of Aircraft Noise on Schools around London Airport, Journal of Sound and Vibration, 34(2), pp. 221-232.

Dodson, Tom and Associates, 1991. Final Environmental Impact Report Pharris Preannexation Agreement, prepared for the city of Redlands, April.

Federal Aviation Administration, 1982. Integrated Noise Model Version 3.9 User's Guide, Report No. FAA-EE-81-17.

Federal Highway Administration, 1978. Highway Traffic Noise Prediction Model, Report No. FHWA-RD-77-118.

Fidell, S., D. Barker, and T. Schultz, 1989. Updating a dosage-effect relationship for the prevalence of annoyance due to general transportation noise, in Noise and Sonic Boom Impact Technology, Human Systems Division, Air Force Systems Command, Brooks Air Force Base, Texas (HSD-TR-89-009).

Fidell, S., T. J. Schultz, and D. M. Green, 1988. A Theoretical Interpretation of the Prevalence Rate of Noise-Induced Annoyance in Residential Populations, Journal of the Acoustical Society of America, 84(6).

Frerichs, R. R., B. L. Beeman, and A. H. Coulson, 1980. Los Angeles Airport Noise and Mortality - Faulty Analysis and Public Policy, American Journal of Public Health, 70, pp. 357-362.

Goldstein, J., and J. Lukas, 1980. Noise and Sleep: Information Needs for Noise Control, Proceedings of the Third International Congress on Noise as a Public Health Problem, ASHA Report No. 10, pp 442-448.

Griefahn, B., 1980. Research on Noise-Disturbed Sleep Since 1973, Proceedings of the Third International Congress on Noise as a Public Health Problem, ASHA Report 10, pp. 377-390, Frelburg, West Germany.

Griefahn, B., and A. Muzet, 1978. Noise-Induced Sleep Disturbances and Their Effect on Health, Journal of Sound and Vibration, 59(1), pp. 99-106.

Hall, F., S. Taylor, and S. Birnie, 1985. Activity Interference and Noise Annoyance, Journal of Sound and Vibration, 103(2).

Karagodina, I. L., S. A. Soldatkina, I. L. Vinokur, and A. A. Klimukhin, 1969. Effect of Aircraft Noise on the Population Near Airports, Hygiene and Sanitation, 34, pp. 182-187.

Klatt, M., K. Stevens, and C. Williams, 1969. Judgments of the Acceptability of Aircraft Noise in the Presence of Speech, Journal of Sound and Vibration, 9(2), pp. 263-275.

Kryter, K. D., and C. E. Williams, 1966. Masking of Speech by Aircraft Noise, Journal of the Acoustical Society of America, 39, pp. 138-150.

Lukas, J., 1975. Noise and Sleep: A Literature Review and a Proposed Criterion for Assessing Effect, Journal of the Acoustical Society of America, 58(6).

Lukas, J., 1977. Measures of Noise Level: Their Relative Accuracy in Predicting Objective and Subjective Responses to Noise During Sleep, EPA-600/1-77-0100, Office of Health and Ecologic Effects, Office of Research and Development, U.S. Environmental Protection Agency, Washington DC. 20460.

Meecham, W. C., and N. A. Shaw, 1988. Increase in Disease Mortality Rates Due to Aircraft Noise. Proceedings of the International Congress of Noise as a Public Health Problem, Swedish Council for Building Research, Stockholm, Sweden, 21-25 August.

Miller, J. D., 1974. Effects of Noise on People. Journal of the Acoustical Society of America, 56(3), pp. 729-764.

Miller, L. N., 1992. Noise Control for Buildings and Manufacturing Plants, BBN Laboratories Inc., Cambridge, Massachusetts.

Mills, J. H., 1975. Noise and Children: a Review of Literature, Journal of the Acoustical Society of America, 58(4), pp. 767-779.

Moulton, C. L., 1990. Air Force Procedure for Predicting Aircraft Noise Around Airbases: Noise Exposure Model (NOISEMAP) User's Manual, Report AAMRL-TR-90-011, Human Systems Division/Air Force Systems Command, Wright-Patterson Air Force Base, Ohio, February.

National Academy of Sciences, 1977. Guidelines for Preparing Environmental Impact Statements on Noise, Report of Working Group on the Committee on Hearing, Bioacoustics, and Biomechanics, National Research Council, Washington, DC.

National Academy of Sciences, 1981. The Effects on Human Health from Long-Term Exposure to Noise, Report of Working Group 81, Committee on Hearing, Bioacoustics and Biomechanics, The National Research Council, Washington, DC.

Parnel, Nagel, and Cohen, 1972. Evaluation of Hearing Levels of Residents Living Near a Major Airport, Report FAA-RD-72-72.

Pearsons, K., D. Barber, and B. Tabachnick, 1989. Analyses of the Predictability of Noise-Induced Sleep Disturbance, Report No. HSD-TR-89-029, CA BBN Systems and Technologies Corporation, Canoga Park.

Peterson, E. A., J. S. Augenstein, and C. L. Hazelton, 1984. Some Cardiovascular Effects of Noise, Journal of Auditory Research, 24, 35-62.

Schultz, T. J., 1978. Synthesis of Social Surveys on Noise Annoyance, Journal of the Acoustical Society of America, 64(2), pp. 377-405.

Stevens, K. N., and A. C. Pietrasanta, 1957. Procedures for Estimating Noise Exposure and Resulting Community Reactions from Air Base Operations, WADC TN-57-10, Wright Air Development Center, Wright-Patterson Air Force Base, Ohio.

Swing, J.W., 1975. Estimation of Community Noise Exposure in Terms of Day Night Average Level Noise Contours (draft), Office of Noise Control, State of California, Department of Health.

Talbott, E., J. Helmkamp, K. Matthews, L. Kuller, E. Cottington, and G. Redmond, 1985. Occupational Noise Exposure, Noise-Induced Hearing Loss, and the Epidemiology of High Blood Pressure, American Journal of Epidemiology, 121, pp. 501-515.

Thompson, S. J., 1981. Epidemiology Feasibility Study: Effects of Noise on the Cardiovascular System, Report No. EPA 550/9-81-103.

Thompson, S., and S. Fidell, 1989. Feasibility of Epidemiologic Research on Nonauditory Health Effects of Residential Aircraft Noise Exposure, BBN Report No. 6738, BBN Systems and Technologies, Canoga Park, California.

U.S. Department of Transportation, 1980. Guidelines for Considering Noise in Land Use Planning and Control, Federal Interagency Committee on Urban Noise, June

U.S. Environmental Protection Agency, 1973. Public Health and Welfare Criteria for Noise, Report No. NCD 73.1, Washington, DC, July.

U.S. Environmental Protection Agency, 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, Publication No. 550/9-74-004, Washington, DC, March.

Van Dijk, F. J. H., A. M. Souman, and F. F. de Fries, 1987. Nonauditory Effects of Noise in Industry, Vol. I: A Final Field Study in Industry, International Archives of Occupational and Environmental Health, 59, pp. 133-145.

Ward, Cushing, and Burns, 1972. TTS from Neighborhood Aircraft Noise, Journal of the Acoustical Society of America, 55(1).

Williams, C. E., K. S. Pearsons, and M. H. L. Hecker, 1971. Speech Intelligibility in the Presence of Time-Varying Aircraft Noise, Journal of the Acoustical Society of America, 56(3).

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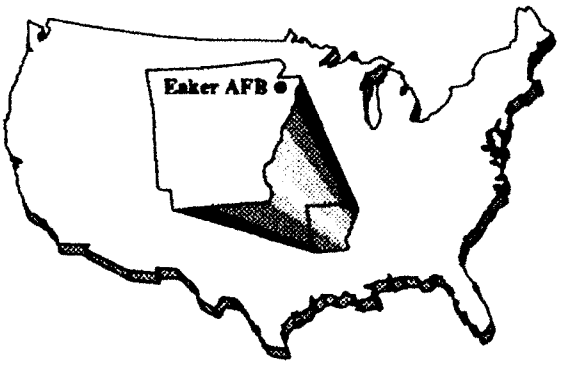

APPENDIX J

APPENDIX J

CULTURAL RESOURCES

APPENDIX J

CULTURAL RESOURCES

INTRODUCTION

Of the 22 sites recorded on base, 13 are prehistoric, 5 are historic and 4 have both prehistoric and historic components. A brief description of each site is given below.

Prehistoric Sites:

3MS548 - A 3M x 8M ceramic scatter of light artifact density. Although small, the site suggests a sophisticated ceramic industry.

3MS550 - A 320M x 80M ceramic scatter of moderate artifact density. Ceramics indicate a long and varied occupation at the site.

3MS551 - A 250M x 100M ceramic and lithic scatter with a moderate to heavy density.

3MS552 - A 70M x 30M ceramic scatter of light artifact density.

3MS553 - A 500M x 200M ceramic scatter of moderate artifact density. One lithic flake, originating from the Ozark Plateau, suggests trade.

3MS555 - A 300M x 100M ceramic scatter of heavy artifact density, with middens present. This large prehistoric site has the highest density of artifacts outside of 3MS105.

3MS556 - A 110M x 120M ceramic and lithic scatter of light artifact density. A Poverty Point object found at the site suggests an earlier occupation than the other sites on base.

3MS557 - A 150M x 110M ceramic and lithic scatter of moderate artifact density.

3MS559 - A 30M x 30M ceramic scatter of light artifact density.

3MS560 - A 30M x 45M ceramic scatter of light artifact density. An isolated historic bottle was found among the scatter.

3MS561 - A 500M x 300M ceramic and lithic scatter of light to moderate artifact density.

3MS525 - A 50M x 50M lithic scatter of light artifact density.

3MS526 - A 200M x 100M ceramic scatter of light artifact density.

Prehistoric/Historic Sites:

3MS549 - A 300M x 120M prehistoric ceramic scatter and historic trash scatter of heavy artifact density. Ceramic assemblage indicates a long and varied occupation at the site.

3MS558 - A 50M x 20M prehistoric ceramic and lithic scatter and historic trash scatter of light artifact density. [The small trash scatter indicates late 19th to early 20th century occupation.]

3MS524 - A 700M x 300M prehistoric ceramic and lithic scatter and historic landfill with associated trash. Both components have a heavy artifact concentration.

3MS105 - A 75-acre multicomponent prehistoric village with an historic component [late 1800 origin]. The prehistoric village has heavy artifact density and includes subsurface deposits of houses, burials, palisade trenches, storage pits, and mound remnants. Testing has determined the site eligible for the National Register of Historic Places.

Historic Sites:

3MS547 - A 90M x 60M trash scatter of moderate artifact density. Artifacts suggest a mid-20th century dwelling.

3MS554 - A 30M x 30M trash scatter of light density. Artifacts suggest a late 19th century occupation which does not extend into the 20th century.

3MS531 - A 60M x 30M trash scatter of light artifact density. Possible origins in the 19th century.

3MS195 - A 250M x 120M trash scatter of moderate artifact density. Mid-20th century occupation.

Survey
I-#1 - A 49M x 36M trash scatter of light to modertate artifact density. Possible late 19th century association.

Public Disclosure of cultural resource locations is prohibited by law (ARPA 16 U.S. Code §470hh, and 36 CFR 296).

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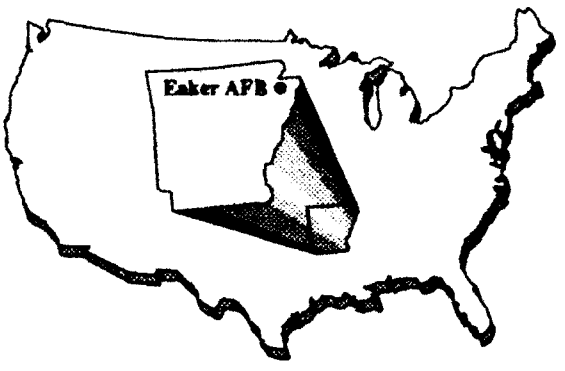

APPENDIX K

APPENDIX K

AIR EMISSIONS INVENTORY

APPENDIX K

AIR EMISSIONS INVENTORY

INTRODUCTION

The following tables contain the daily pollutant emissions associated with the Proposed Action and other potential reuse alternatives. Emissions are provided for four categories; construction, aircraft operations, Fire Protection Training Area (FPTA), and other activities.

Construction emissions are based on acreage of land being developed each day. There are two components in construction emissions: fugitive dust and combustive emissions. Fugitive dust would be greatest during site clearing and grading activities. Uncontrolled fugitive dust (particulate matter) emissions from ground-disturbing activities would be emitted at a rate of 1.2 tons per acre per month (U.S. Environmental Protection Agency, 1985a). The PM_{10} fraction of the total fugitive dust emissions is assumed to be 50 percent, or 0.6 tons per acre per month. It is assumed that on the average there are 230 working days per year (accounting for weekends, weather, and holidays), that half of these days (115) would be used for site preparation, and that four working days would be required to complete site preparation for each acre of land.

In order to calculate the combustive emissions from heavy construction equipment, emission factors developed as part of a large-scale community plan impact assessment are utilized (Riverside County Planning Department, 1992). The emission factors are based on the assumption that it would take a total expenditure of 250,000 brake-horsepower hours of energy with diesel-powered internal combustion engines to completely demolish and redevelop 1 acre of land. Emission factors for this amount of energy expenditure were calculated to be 460 pounds per acre for ROG, 1,720 pounds per acre for CO, 4,980 pounds per acre for NO_x (as NO_2), 400 pounds per acre for particulate matter (equivalent to approximately 384 pounds per acre for PM_{10} emissions from diesel combustion), and 120 pounds per acre for SO_2.

Emissions from the aircraft operation category are calculated separately based directly on the fleet mix information predicted for the particular reuse alternative. These emissions are predicted by the Emissions and Dispersion Modeling System (EDMS) model (U.S. Department of Transportation, 1988) based on the estimated frequency of flight operations projected for each type of aircraft. The EDMS model contains a built-in data base of U.S. Environmental Protection Agency's AP-42 emission factors for various types of aircraft.

The FPTA emissions are based on estimates of the expected total annual use of No. 2 diesel fuel and emission factors developed by the U.S. Air Force for the open burning of JP-4 during fire fighting training (Fagin, 1988). JP-4 emission factors were used because factors for No. 2 diesel are not available. Emission factors for No. 2 diesel would be expected to be somewhat higher than JP-4 factors because of the fuel property differences.

The emissions for other activities (i.e., fuel combustion, waste burning, solvent use, petroleum storage and transfer, industrial processes, miscellaneous processes, and vehicles) are developed assuming that the ratio of reuse alterative emissions to reuse alternative population is proportional to the ratio of the 1987 Mississippi County emission levels to the total population of Mississippi County.

The basic equation used to develop the reuse alternative emission inventory data is: Reuse Emissions = (Mississippi County Emissions/Mississippi County Population) x Incremental Reuse Population Increase.

Table K-1. Eaker AFB - Emissions Inventory for Particulate Matter (tons/day)

	Proposed Action				General Aviation Alternative				Non-Aviation Alternative			
Source	1993	1998	2003	2013	1993	1998	2003	2013	1993	1998	2003	2013
Construction Activities	0.052	0.028	0.056	-	0.097	0.048	0.086	-	0.018	0.014	0.019	-
Aircraft Activities	0.001	0.002	0.001	0.002	0.001	0.001	0.001	0.002	-	-	-	-
FPTA	0.071	0.071	0.071	0.071	-	-	-	-	-	-	-	-
Other Activities	0.078	2.357	5.446	11.163	0.078	1.928	3.534	6.811	0.078	2.098	3.808	7.018
Total	0.202	2.458	5.574	11.236	0.176	1.977	3.621	6.813	0.096	2.112	3.827	7.018

FPTA = Fire Protection Training Area.

Table K-2. Eaker AFB - Emissions Inventory for Sulfur Dioxide (tons/day)

	Proposed Action				General Aviation Alternative				Non-Aviation Alternative			
Source	1993	1998	2003	2013	1993	1998	2003	2013	1993	1998	2003	2013
Construction Activities	0.009	0.005	0.009	-	0.016	0.008	0.014	-	0.006	0.005	0.006	-
Aircraft Activities	0.002	0.004	0.004	0.008	0.000	0.001	0.001	0.001	-	-	-	-
FPTA	0.000	0.000	0.000	0.000	-	-	-	-	-	-	-	-
Other Activities	0.002	0.064	0.149	0.305	0.002	0.053	0.097	0.186	0.002	0.057	0.104	0.192
Total	0.013	0.073	0.162	0.313	0.018	0.062	0.112	0.187	0.008	0.062	0.110	0.192

FPTA = Fire Protection Training Area.

Table K-3. Eaker AFB - Emissions Inventory for Carbon Monoxide (tons/day)

	Proposed Action				General Aviation Alternative				Non-Aviation Alternative			
Source	1993	1998	2003	2013	1993	1998	2003	2013	1993	1998	2003	2013
Construction Activities	0.122	0.065	0.130	-	0.226	0.113	0.201	-	0.090	0.070	0.093	-
Aircraft Activities	0.406	0.490	0.529	0.610	0.436	0.507	0.583	0.691	-	-	-	-
FPTA	0.31	0.31	0.31	0.31	-	-	-	-	-	-	-	-
Other Activities	0.044	1.312	3.032	6.215	0.044	1.073	1.968	3.792	0.044	1.168	2.120	3.907
Total	0.882	2.177	4.001	7.135	0.706	1.693	2.752	4.483	0.134	1.238	2.213	3,907

FPTA = Fire Protection Training Area.

Table K-4. Eaker AFB - Emissions Inventory for Reactive Organic Compounds (tons/day)

	Proposed Action				General Aviation Alternative				Non-Aviation Alternative			
Source	1993	1998	2003	2013	1993	1998	2003	2013	1993	1998	2003	2013
Construction Activities	0.033	0.017	0.035	-	0.061	0.030	0.054	-	0.024	0.019	0.025	-
Aircraft Activities	0.011	0.016	0.017	0.023	0.010	0.013	0.016	0.019	-	-	-	-
FPTA	0.180	0.180	0.180	0.180	-	-	-	-	-	-	-	-
Other Activities	0.018	0.541	1.250	2.562	0.018	0.442	0.811	1.563	0.018	0.481	0.874	1.610
Total	0.242	0.754	1.482	2.765	0.089	0.485	0.881	1.582	0.042	0.500	0.899	1.610

FPTA = Fire Protection Training Area.

Table K-5. Eaker AFB - Emissions Inventory for Oxides of Nitrogen (tons/day)

	Proposed Action				General Aviation Alternative				Non-Aviation Alternative			
Source	1993	1998	2003	2013	1993	1998	2003	2013	1993	1998	2003	2013
Construction Activities	0.355	0.187	0.378	-	0.655	0.327	0.581	-	0.260	0.203	0.268	-
Aircraft Activities	0.027	0.046	0.062	0.115	0.002	0.003	0.004	0.004	-	-	-	-
FPTA	0.002	0.002	0.002	0.002	-	-	-	-	-	-	-	-
Other Activities	0.015	0.438	1.011	2.073	0.015	0.358	0.656	1.265	0.015	0.389	0.707	1.303
Total	0.399	0.673	1.453	2.190	0.672	0.688	1.241	1.269	0.275	0.592	0.975	1.30( )

FPTA = Fire Protection Training Area.

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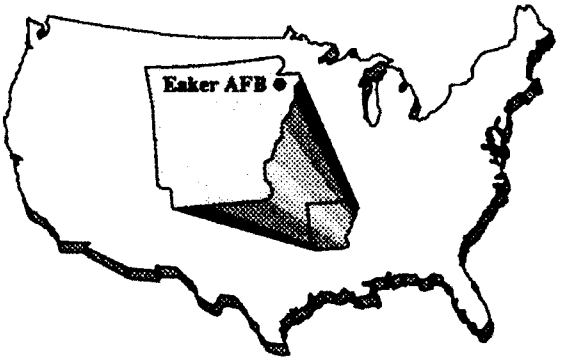

APPENDIX L

APPENDIX L

AGENCY LETTERS AND CERTIFICATIONS

United States Department of the Interior
FISH AND WILDLIFE SERVICE
900 Clay Street, Room 235
Vicksburg, Mississippi 39180

May 29, 1992

Lt. Col. Gary P. Baumgartel
Department of the Air Force
Air Force Center for Environmental Excellence
Brooks Air Force Base, Texas 78235-5000

Dear Lt. Col. Baumgartel:

The Fish and Wildlife Service has reviewed the biological assessment for the reuse of Eaker Air Force Base, Mississippi County, Arkansas dated May 22, 1992. Our comments are provided in accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et.seq.) and the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

The proposed project consists of the redevelopment of Eaker Air Force Base property for an expanded civilian general aviation facility. This facility would include an airfield, aviation support, industrial, institutional, educational, commercial, residential, public/recreational, open space, and agricultural areas. As discussed in the biological assessment, the endangered bald eagle (*Haliaeetus leucocephalus*), is known to occur in the project area during the winter season. Therefore, the proposed development incorporates features to avoid adverse impacts to eagles. The Department of the Air Force has determined that the proposed project, including features to protect bald eagles and other large birds, will not adversely impact any endangered or threatened species. The Fish and Wildlife Service concurs with this determination and no further consultation in accordance with Section 7 of the Endangered Species act will be required for this project.

We appreciate your interest in the protection of endangered and threatened species.

Sincerely,

Charles A. McCabe
Acting Field Supervisor

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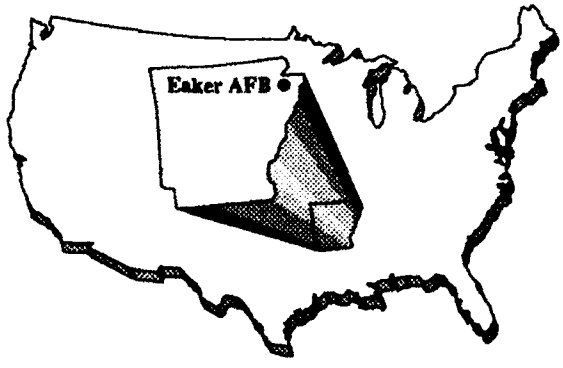

APPENDIX M

APPENDIX M

INFLUENCING FACTORS AND IMPACTS BY LAND USE PARCEL

APPENDIX M

INFLUENCING FACTORS AND IMPACTS BY LAND USE PARCEL

INTRODUCTION

This Environmental Impact Statement contains an analysis of the environmental consequences of disposal and reuse for the entire base property available for disposal. The impacts over the life span of the full project form the basis of this analysis. References to specific land use categories, locations, or activities are provided within Chapter 4, where necessary, to provide further context in describing environmental impacts.

In order to support the parcelization and disposal process, this appendix presents the influencing factors and impacts that each land use parcel would contribute to the total project impacts described in Chapter 4. The incremental effects of each land use parcel could be used by the decision maker to further understand the potential environmental consequences of future disposal-related decisions for portions of the base property.

For the purpose of analysis, land use parcels are defined as the land use boundaries presented in each conceptual reuse alternative. These land use parcels may not reflect the ultimate disposal parcelization, as that process is ongoing.

Because the specific development and activities for each land use parcel are not currently known, the land use parcel activities and impacts are based on the conceptual land uses described in Chapter 2, using the analytic methods presented in Appendix E.

The incremental number of jobs, on-site population, ground disturbance, traffic generation, and utility demands associated with each land use parcel were estimated either by specific known demands or as a proportion of area or development density attributable to the parcel for a given land use category within each reuse alternative. For example, if an industrial land use parcel represented 60 percent of the total base area designated for industrial uses, it would contribute about 60 percent of jobs estimated for the entire proposed industrial land use category under that reuse alternative.

Issues related to hazardous materials and wastes were identified for each land use parcel based on the type and location of material or contaminant and its potential constraints to reuse activities. Impacts to natural resources (soils, water, noise, biological, and cultural) associated with each land use parcel were based on the resource location and the potential for disturbance by reuse activities.

Tables M-1 through M-4 summarize the influencing factors and impacts associated with each land use parcel for the Proposed Action, alternatives, and other land use concepts. The Parcel Identification Numbers identified in the summary tables for each alternative are referenced to parcel locations shown in Figures M-1 through M-4.

Table M-1. Influencing Factors and Impacts by Land Use Parcel - Proposed Action*
Page 1 of 7

Resource Category	Parcel ID			
	A-1	AS-1	IND-1	IND-2
Acreage	998	232	204	125
Community Setting	0 direct jobs	1,850 direct jobs	397 direct jobs	245 direct jobs
Land Use	No conflict	No conflict	No conflict	No conflict
Transportation (Peak Hour Volume)	59,540 civilian flight operations. 1,000 military flight operations	669 vehicles/hour	219 vehicles/hour	134 vehicles/hour
Utilities				
Water (gallons/day)	Negligible	89,000	18,970	11,608
Wastewater (gallons/day)	Negligible	71,200	15,176	9,286
Solid Waste (tons/day)	Negligible	2.85	2.51	1.53
Electricity (MWH/day)	Negligible	21.44	10.89	6.69
Natural Gas (therms/day)	Negligible	839	537	330
Hazardous Materials/Waste	Possible property disposal delays due to remediation of IRP sites and removal of USTs	Possible land use restrictions and property disposal delays due to remediation of IRP sites and UST removals. Facilities may contain ACM	Possible land use restrictions and property disposal delays due to remediation of IRP sites and UST removals. Facilities may contain ACM	Facilities may contain ACM.
Soils and Geology	0 acres disturbed	73 acres disturbed	35 acres disturbed	22 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	443 acres exposed to DNL 65 dB or above	7 acres exposed to DNL 65 dB or above	No impact	No impact
Biological Resources	2.2 acres of wetland present	2.4 acres of wetland present.	No adverse impact	No adverse impact
Cultural Resources	36.2 acres subject to impact	No impact	0.3 acre subject to impact	11.2 acres subject to impact

Table M-1. Influencing Factors and Impacts by Land Use Parcel - Proposed Action*
Page 2 of 7

Resource Category	Parcel ID			
	IND-3	IND-4	INT(E)-1	INT(E)-2
Acreage	90	82	91	37
Community Setting	175 direct jobs	160 direct jobs	12 direct jobs	157 direct jobs; 900 students living on site
Land Use	Incompatible with adjacent residential land use	No conflict	Incompatible with adjacent residential land use	No conflict
Transportation (Peak Hour Volume)	96 vehicles/hour	88 vehicles/hour	Negligible traffic	116 vehicles/hour
Utilities				
Water (gallons/day)	8,364	7,636	3,600	980
Wastewater (gallons/day)	6,691	6,109	2,880	784
Solid Waste (tons/day)	1.1	1.01	0.88	0.36
Electricity (MWH/day)	4.80	4.38	Unknown	9.00
Natural Gas (therms/day)	237	216	Unknown	352
Hazardous Materials/Waste	Possible property disposal delays due to remediation of AAFES Service Station; facilities may contain ACM	Possible property disposal delays due to UST removals; facilities may contain ACM	Possible property disposal delays due to remediation of landfill No. 2, and UST removal; facilities may contain ACM	Possible property disposal delays due to UST removals; facilities may contain ACM
Soils and Geology	16 acres disturbed	14 acres disturbed	23 acres disturbed	9 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	0.2 acres of wetland present	No adverse impact	No adverse impact	No adverse impact
Cultural Resources	No impact	2.4 acres subject to impact	No impact	No impact

Table M-1. Influencing Factors and Impacts by Land Use Parcel - Proposed Action*
Page 3 of 7

Resource Category	Parcel ID			
	C-1	C-2	C-3	C-4
Acreage	80	28	28	6
Community Setting	431 direct jobs	151 direct jobs	150 direct jobs	30 direct jobs
Land Use	No conflict	No conflict	Incompatible with adjacent residential land use	No conflict
Transportation (Peak Hour Volume)	605 vehicles/hour	212 vehicles/hour	211 vehicles/hour	42 vehicles/hour
Utilities				
Water (gallons/day)	6,370	2,235	2,219	447
Wastewater (gallons/day)	5,096	1,788	1,775	358
Solid Waste (tons/day)	4.50	1.57	1.57	0.35
Electricity (MWH/day)	6.88	2.41	2.39	0.48
Natural Gas (therms/day)	233	82	81	16
Hazardous Materials/Waste	Possible property disposal delays due to UST removals; facilities may contain ACM	Possible property disposal delays due to UST removals; fcilities may contain ACM	Possible property disposal delays due to UST removals; fcilities may contain ACM	Possible property disposal delays due to UST removals; fcilities may contain ACM
Soils and Geology	46 acres disturbed	16 acres disturbed	16 acres disturbed	3 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Cultural Resources	No impact	No impact	No impact	No impact

Table M-1. Influencing Factors and Impacts by Land Use Parcel - Proposed Action*
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Resource Category	Parcel ID			
	R-1	R-2	PR-1	PR-2
Acreage	120	91	214	119
Community Setting	686 on-site population	412 on-site population	5 direct jobs	16 direct jobs
Land Use	Incompatible with adjacent industrial use	Incompatible with adjacent industrial and commercial land use	No conflict	Incompatible with adjacent institutional land use
Transportation (Peak Hour volume)	229 vehicles/hour	174 vehicles/hour	5 vehicles/hour	18 vehicles/hour
Utilities				
Water (gallons/day)	139,050	94,050	Negligible	Negligible
Wastewater (gallons/day)	111,240	75,240	Negligible	0
Solid Waste (tons/day)	6.76	5.15	Negligible	0.41
Electricity (MWH/day)	.01	.01	Negligible	Negligible
Natural Gas (therms/day)	5	1	0	0
Hazardous Materials/Waste	Facilities may contain ACM	Facilities may contain ACM	Possible land use restrictions and property disposal delays due to remediation of Landfill No. 4	Possible land use restrictions and property disposal delays due to remediation of Landfill No. 2
Soils and Geology	49 acres disturbed	37 acres disturbed	28 acres disturbed	15 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	No adverse impact	No adverse impact	10.8 acres of wetland present	14.6 acres of wetland present
Cultural Resources	No impact	No impact	90 acres subject to impact	0.3 acre subject to impact

Table M-1. Influencing Factors and Impacts by Land Use Parcel - Proposed Action*
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Resource Category	Parcel ID			
	PR-3	PR-4	PR 5	PR 6
Acreage	98	89	65	53
Community Setting	14 direct jobs	13 direct jobs	0 direct jobs	0 direct jobs
Land Use	No conflict	No conflict	No conflict	No conflict
Transportation (Peak Hour Volume)	16 vehicles/hour	14 vehicles/hour	0 vehicles/hour	0 vehicles/hour
Utilities				
Water (gallons/day)	Negligible	Negligible	0	0
Wastewater (gallons/day)	0	0	0	0
Solid Waste (tons/day)	0.34	Negligible	0	0
Electricity (MWH/day)	Negligible	Negligible	0	0
Natural Gas (therms/day)	0	0	0	0
Hazardous Materials/Waste	Facilities may contain ACM	Facilities may contain ACM	No impact	No impact
Soils and Geology	13 acres disturbed	11 acres disturbed	8 acres disturbed	7 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	No adverse impact	3.0 acres of wetland present	No adverse impact	2.4 acres of wetland present
Cultural Resources	No impact	0.9 acre subject to impact	50.2 acres subject to impact	37.2 acres subject to impact

Table M-1. Influencing Factors and Impacts by Land Use Parcel - Proposed Action*
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	Parcel ID			
ource Category	PR-7	PR-8	PR-9	PR-10
reage	49	37	34	14
mmunity Setting	7 direct jobs	0 direct jobs	0 direct jobs	0 direct jobs
d Use	No conflict	No conflict	No conflict	No conflict
nsportation ak Hour Volume)	8 vehicles/hour	0 vehicles/hour	0 vehicles/hour	0 vehicles/hour
lities				
Water (gallons/day)	Negligible	0	0	0
Wastewater (gallons/day)	0	0	0	0
Solid Waste (tons/day)	0.16	0	0	0
Electricity (MWH/day)	Negligible	0	0	0
Natural Gas (therms/day)	0	0	0	0
zardous terials/Waste	Possible property disposal delays due to remediation of Fire Protection Training Area and Small Arms Firing Range	Facilities may contain ACM	Possible land use restrictions and property disposal delays due to remediation of Landfill No. 4	No impact
ils and Geology	6 acres disturbed	5 acres disturbed	4 acres disturbed	2 acres disturbed
ter Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Quality	NA	NA	NA	NA
se	No impact	No impact	No impact	No impact
logical Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
ltural Resources	7.4 acres subject to impact	No impact	No impact	No impact

Table M-1. Influencing Factors and Impacts by Land Use Parcel - Proposed Action*
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Resource Category	Parcel ID			
	PR-11	PR-12	PR-13	AG-1
Acreage	12	11	5	275
Community Setting	0 direct jobs	0 direct jobs	1 direct job	0 direct jobs
Land Use	No conflict	No conflict	No conflict	No conflict
Transportation (Peak Hour Volume)	0 vehicles/hour	0 vehicles/hour	1 vehicle/hour	0 vehicles/hour
Utilities				
Water (gallons/day)	0 G/day	0 G/day	Negligible G/day	0 G/day
Wastewater (gallons/day)	0 G/day	0 G/day	0 G/day	0 G/day
Solid Waste (tons/day)	0 T/day	0 T/day	0.02 T/day	0 T/day
Electricity (MWH/day)	0 MWH/day	0 MWH/day	Negligible MWH/day	0 MWH/day
Natural Gas (therms/day)	0 Therms/day	0 Therms/day	0 Therms/day	0 Therms/day
Hazardous Materials/Waste	No impact	Possible land use restrictions and property disposal delays due to remediation of Landfill No. 3	Facilities may contain ACM	Possible property disposal delays due to remediation of Landfill No. 2
Soils and Geology	2 acres disturbed	1 acre disturbed	1 acre disturbed	0 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	No adverse impact	No adverse impact	No adverse impact	1.0 acre of wetland present
Cultural Resources	No impact	0.5 acre subject to impact	No impact	5.3 acres subject to impact

* Influencing factors and impacts are relative to closure baseline conditions except for aircraft noise contours which show total noise levels.
AAFES = Army-Air Force Exchange System.
ACM = Asbestos-containing material.
DNL = Day-night average sound level.
IRP = Installation Restoration Program.
MWH = megawatt-hours.
NA = not applicable.
USTs = Underground storage tanks.

Table M-2. Influencing Factors and Impacts by Land Use Parcel - General Aviation Alternative*
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Resource Category	Parcel ID			
	A-1	AS-1	AS-2	IND-1
Acreage	754	49	26	159
Community Setting	0 direct jobs	12 direct jobs	7 direct jobs	440 direct jobs
Land Use	No conflict	No conflict	No conflict	Incompatible with adjacent residential land use
Transportation (Peak Hour Volume)	46,000 civilian flight operations	9 vehicles/hour	5 vehicles/hour	191 vehicles/hour
Utilities				
Water (gallons/day)	Negligible	550	0	35,120
Wastewater (gallons/day)	Negligible	440	0	28,096
Solid Waste (tons/day)	Negligible	0.81	0.43	2.64
Electricity (MWH/day)	Negligible	2.29	1.21	23.24
Natural Gas (therms/day)	Negligible	90	47	1,011
Hazardous Materials/Waste	Possible property disposal delays due to remediation of IRP sites and removal of USTs	Possible property disposal delays due to UST removals; facilities may contain ACM	Possible property disposal delays due to UST removals; facilities may contain ACM	Possible property disposal delays due to remediation of IRP sites
Soils and Geology	3 acres disturbed	17 acres disturbed	9 acres disturbed	66 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	33 acres exposed to DNL 65 dB or above	No impact	No impact	No impact
Biological Resources	No adverse impact	2.5 acres of wetland present	No adverse impact	2.5 acres of wetland present
Cultural Resources	26.4 acres subject to impact	No impact	No impact	7.4 acres subject to impact

Table M-2. Influencing Factors and Impacts by Land Use Parcel - General Aviation Alternative*
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Resource Category	Parcel ID			
	IND-2	IND-3	IND-4	INT(E)-1
Acreage	150	116	78	55
Community Setting	413 direct jobs	322 direct jobs	216 direct jobs	43 direct jobs; 171 on-site population
Land Use	Incompatible with adjacent residential land use	No conflict	Incompatible with adjacent residential, recreation, and public land uses	No conflict
Transportation (Peak Hour Volume)	180 vehicles/hour	140 vehicles/hour	94 vehicle/hour	16 vehicles/hour
Utilities				
Water (gallons/day)	32,967	25,663	17,249	700
Wastewater (gallons/day)	26,374	20,530	13,799	560
Solid Waste (tons/day)	2.48	1.92	1.29	1.32
Electricity (MWH/day)	21.81	16.98	11.41	9.58
Natural Gas (therms/day)	949	739	496	375
Hazardous Materials/Waste	Possible property disposal delays due to remediation of IRP sites and UST removals; facilities may contain ACM	Possible land use restrictions and property disposal delays due to remediation of Landfill No. 3 and UST removals; facilities may contain ACM	Possible land use restrictions and property disposal delays due to remediation of Landfill No. 3 and UST removals; facilities may contain ACM	Possible property disposal delays due to UST removals; facilities may contain ACM
Soils and Geology	62 acres disturbed	48 acres disturbed	32 acres disturbed	17 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Cultural Resources	No impact	0.2 acres subject to impact	0.3 acre subject to impact	No impact

Table M-2. Influencing Factors and Impacts by Land Use Parcel - General Aviation Alternative*
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Resource Category	Parcel ID			
	C-1	C-2	R-1	R-2
Acreage	50	13	178	101
Community Setting	902 direct jobs	235 direct jobs	718 on-site population	408 on-site population
Land Use	Imcompatible with adjacent residential land use	Incompatible with adjacent residential land use	Incompatible with adjacent industrial land use	Incompatible with adjacent industrial land use
Transportation (Peak Hour Volume)	497 vehicles/hour	130 vehicles/hour	334 vehicles/hour	94 vehicles/hour
Utilities				
Water (gallons/day)	14,738	3,837	180,900	50,850
Wastewater (gallons/day)	11,790	3,069	144,720	40,680
Solid Waste (tons/day)	1.82	0.47	6.48	3.68
Electricity (MWH/day)	11.93	3.11	0.02	0.01
Natural Gas (therms/day)	440	115	1	0.5
Hazardous Materials/Waste	Possible property disposal delays due to remediation of AAFES Service Station and UST removals; facilities may contain ACM	Possible property disposal delays due to UST removals; facilities may contain ACM	No impact	Facilities may contain ACM
Soils and Geology	29 acres disturbed	7 acres disturbed	120 acres disturbed	68 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	No adverse impact	No adverse impact	3.1 acres of wetland present	No adverse impact
Cultural Resources	No impact	No impact	5.5 acres subject to impact	No impact

Table M-2. Influencing Factors and Impacts by Land Use Parcel - General Aviation Alternative*
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Resource Category	Parcel ID			
	R-3	R-4	R-5	R-6
Acreage	82	56	40	34
Community Setting	329 on-site population	227 on-site population	163 on-site population	137 on-site population
Land Use	Incompatible with adjacent industrial and commercial land use	Incompatible with adjacent industrial land use	No conflict	No conflict
Transportation (Peak Hour volume)	76 vehicles/hour	52 vehicles/hour	56 vehicles/hour	25 vehicles/hour
Utilities				
Water (gallons/day)	41,400	28,350	30,600	13,500
Wastewater (gallons/day)	33,120	22,680	24,480	10,800
Solid Waste (tons/day)	2.99	2.03	1.46	1.24
Electricity (MWH/day)	0.01	Negligible	Negligible	Negligible
Natural Gas (therms/day)	0.5	Negligible	Negligible	Negligible
Hazardous Materials/Waste	Facilities may contain ACM	Possible property disposal delays due to UST removals; facilities may contain ACM	No impact	No impact
Soils and Geology	55 acres distrubed	38 acres disturbed	27 acres disturbed	23 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	No adverse impact	No adverse impact	No adverse impact	0.2 acre of wetland present
Cultural Resources	No impact	No impact	0.3 acre subject to impact	No impact

Table M-2. Influencing Factors and Impacts by Land Use Parcel - General Aviation Alternative*
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Resource Category	Parcel ID			
	R-7	PR-1	PR-2	PR-3
Acreage	26	253	177	115
Community Setting	260 on-site population	0 direct jobs	18 direct jobs	15 direct jobs
Land Use	No conflict	No conflict	No conflict	No conflict
Transportation (Peak Hour Volume)	56 vehicles/hour	0 vehicles/hour	130 vehicles/hour	85 vehicles/ hour
Utilities				
Water (gallons/day)	45,000	0	0	Negligible
Wastewater (gallons/day)	36,000	0	0	Negligible
Solid Waste (tons/day)	0.95	0	0.42	0.28
Electricity (MWH/day)	Negligible	0	0	0
Natural Gas (therms/day)	Negligible	0	0	0
Hazardous Materials/Waste	Possible property disposal delays due to UST removals; facilities may contain ACM	Possible land use restrictions and property disposal delays due to remediaton of Landfill No. 4	Possible land use restrictions and property disposal delays due to remediation of Landfill No. 2 and UST removals; facilities may contain ACM	Facilties may contain ACM
Soils and Geology	18 acres disturbed	42 acres distrubed	29 acres disturbed	19 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	No adverse impact	10.9 acres of wetland present	16.6 acres of wetland present	No adverse impact
Cultural Resources	No impact	101 acre subject to impact	1.3 acres subject to impact	0.4 acre subject to impact

Table M-2. Influencing Factors and Impacts by Land Use Parcel - General Aviation Alternative*
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Resource Category	Parcel ID			
	PR-4	PR-5	PR-6	PR-7
Acreage	95	85	34	29
Community Setting	9 direct jobs	9 direct jobs	3 direct jobs	3 direct jobs
Land Use	Incompatible with adjacent industrial land use	No conflict	No conflict	No conflict
Transportation (Peak Hour Volume)	70 vehicles/hour	0 vehicles/hour	0 vehicles/hour	0 vehicles/hour
Utilities				
Water (gallons/day)	0	0	0	0
Wastewater (gallons/day)	0	0	0	0
Solid Waste (tons/day)	0.23	0	0	0
Electricity (MWH/day)	0	0	0	0
Natural Gas (therms/day)	0	0	0	0
Hazardous Materials/Waste	No impact	Possible property disposal delays due to UST removals; facilities may contain ACM	No impact	Possible land use restrictions and property disposal delays due to remediation of Landfill No. 4
Soils and Geology	16 acres disturbed	14 acres disturbed	6 acres disturbed	5 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	No adverse impact	0.1 acre of wetland present	No adverse impact	No adverse impact
Cultural Resources	7.4 acres adjacent to impact	No impact	0.3 acre subject to impact	No impact

Table M-2. Influencing Factors and Impacts by Land Use Parcel - General Aviation Alternative*
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Resource Category	Parcel ID			
	PR-8	PR-9	PR-10	PR-11
Acreage	26	18	6	5
Community Setting	3 direct jobs	2 direct jobs	1 direct jobs	1 direct jobs
Land Use	No conflict	No conflict	No conflict	No conflict
Transportation (Peak Hour Volume)	0 vehicles/hour	14 vehicles/hour	5 vehicles/hour	0 vehicles/hour
Utilities				
Water (gallons/day)	0	Negligible	Negligible	Negligible
Wastewater (gallons/day)	0	0	0	0
Solid Waste (tons/day)	0	.84	.01	0.1
Electricity (MWH/day)	0	Negligible	Negligible	Negligible
Natural Gas (therms/day)	0	0	0	0
Hazardous Materials/Waste	No impact	Possible property disposal delays due to UST removals; facilities may contain ACM	Possible property disposal delays due to UST removals; facilities may contain ACM	Possible property disposal delays due to UST removal; facilities may contain ACM
Soils and Geology	4 acres disturbed	3 acres disturbed	1 acre disturbed	1 acre disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Cultural Resources	No impact	No impact	No impact	No impact

Table M-2. Influencing Factors and Impacts by Land Use Parcel - General Aviation Alternative*
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Resource Category	Parcel ID			
	AG-1	AG-2	AG-3	AG-4
Acreage	222	110	70	44
Community Setting	0 direct jobs	0 direct jobs	0 direct jobs	0 direct jobs
Land Use	No conflict	No conflict	No conflict	No conflict
Transportation (Peak Hour Volume)	0 vehicles/hour	0 vehicles/hour	0 vehicles/hour	0 vehicles/hour
Utilities				
Water (gallons/day)	0	0	0	0
Wastewater (gallons/day)	0	0	0	0
Solid Waste (tons/day)	0	0	0	0
Electricity (MWH/day)	0	0	0	0
Natural Gas (therms/day)	0	0	0	0
Hazardous Materials/Waste	Possible property disposal delays due to remediation of IRP sites and UST removal; facilities may contain ACM	Possible property disposal delays due to remediation of Landfills No. 2 and No. 3	No impact	No impact
Soils and Geology	0 acres disturbed	0 acres disturbed	0 acres disturbed	0 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	No adverse impact	No adverse impact	No adverse imapct	0.5 acre of wetland present
Cultural Resources	37.7 acres subject to impact	53.7 acres subject to impact	No impact	No impact

Table M-2. Influencing Factors and Impacts by Land Use Parcel - General Aviation Alternative*
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Resource Category	Parcel ID	
	AG-5	AG-6
Acreage	17	13
Community Setting	0 direct jobs	0 direct jobs
Land Use	No conflict	No conflict
Transportation (Peak Hour Volume)	0 vehicles/hour	0 vehicles/hour
Utilities		
Water (gallons/day)	0	0
Wastewater (gallons/day)	0	0
Solid Waste (tons/day)	0	0
Electricity (MWH/day)	0	0
Natural Gas (therms/day)	0	0
Hazardous Materials/Waste	No impact	No impact
Soils and Geology	0 acres disturbed	0 acres disturbed
Water Resources	No adverse impact	No adverse impact
Air Quality	NA	NA
Noise	No impact	No impact
Biological Resources	No adverse impact	No adverse impact
Cultural Resources	No impact	No impact

* Influencing factors and impacts are reletive to closure baseline conditions except for aircraft noise contours which show total noise levels.
AAFES = Army-Air Force Exchange System.
ACM = Asbestos-containing material.
DNL = Day-night average sound level.
IRP = Installation Restoration Program.
MWH = megawatt-hours.
NA = not applicable.
USTs = Underground storage tanks.

Table M-3. Influencing Factors and Impacts by Land Use Parcel - Non-Aviation Alternative*
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Resource Category	Parcel ID			
	IND-1	IND-2	IND-3	IND-4
Acreage	540	114	80	65
Community Setting	1,007 direct jobs	212 direct jobs	149 direct jobs	120 direct jobs
Land Use	No conflict	No conflict	No conflict	No conflict
Transportation (Peak Hour Volume)	415 vehicles/hour	87 vehicles/hour	62 vehicles/hour	50 vehicles/hour
Utilities				
Water (gallons/day)	41,160	8,658	6,115	4,916
Wastewater (gallons/day)	32,928	6,926	4,892	3,933
Solid Waste (tons/day)	6.47	1.37	0.96	0.77
Electricity (MWH/day)	76.26	16.04	11.33	9.11
Natural Gas (therms/day)	3,169	666	471	379
Hazardous Materials/Waste	Possible land use restrictions and property disposal delays due to remediation of IRP sites and UST removals	Possible land use restrictions and property disposal delays due to remediation of IRP sites and UST removals; facilities may contain ACM	Possible land use restrictions and property disposal delays due to remediation of Landfill No. 3 and UST removals; facilities may contain ACM	Possible property disposal delays due to UST removal; facilities may contain ACM
Soils and Geology	35 acres disturbed	22 acres disturbed	16 acres disturbed	14 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Cultural Resources	3.3 acres subject to impact	No impact	No impact	No impact

Table M-3. Influencing Factors and Impacts by Land Use Parcel - Non-Aviation Alternative*
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Resource Category	Parcel ID			
	INT(E)-1	INT(E)-2	C-1	C-2
Acreage	53	45	56	31
Community Setting	113 direct jobs; 900 students on site	5 direct jobs	707 direct jobs	389 direct jobs
Land Use	No conflict	No conflict	No conflict	Incompatible with adjacent residential land use
Transportation (Peak Hour Volume)	83 vehicles/hour	0 vehicles/hour	837 vehicles/hour	460 vehicles/hour
Utilities				
Water (gallons/day)	49,500	Negligible	4,891	2,690
Wastewater (gallons/day)	39,600	0	3,913	2,152
Solid Waste (tons/day)	1.50	0.06	4.53	2.49
Electricity (MWH/day)	10.81	Negligible	9.50	5.23
Natural Gas (therms/day)	423	0	266	147
Hazardous Materials/Waste	Possible land use restrictions and property disposal delays due to remediation of AAFES Service Station and UST removals; facilities may contain ACM	Possible land use restrictions and property disposal delays due to remediation of IRP sites.	Possible property disposal delays due to UST removals; facilities may contain ACM	Possible property disposal delays due to UST removals; facilities may contain ACM
Soils and Geology	9 acres disturbed	23 acres disturbed	46 acres disturbed	16 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	No adverse impact	1.4 acres of wetland present	No adverse impact	No adverse impact
Cultural Resources	No impact	7.4 acres subject to impact	No impact	No impact

Table M-3. Influencing Factors and Impacts by Land Use Parcel - Non-Aviation Alternative*
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Resource Category	Parcel ID			
	R-1	R-2	R-3	PR-1
Acreage	101	95	26	302
Community Setting	257 on-site population	242 on-site population	260 on-site population	0 direct jobs
Land Use	Incompatible with adjacent agricultural land use	Incompatible with adjacent agricultural and commercial land uses	No conflict	No conflict
Transportation (Peak Hour Volume)	79 vehicles/hour	80 vehicles/hour	56 vehicles/hour	0 vehicles/hour
Utilities				
Water (gallons/day)	44,100	42,300	45,000	0
Wastewater (gallons/day)	35,280	33,840	36,000	0
Solid Waste (tons/day)	8.15	7.68	2.11	0
Electricity (MWH/day)	0.01	Negligible	Negligible	0
Natural Gas (therms/day)	Negligible	Negligible	Negligible	0
Hazardous Materials/Waste	Facilities may contain ACM	Possible property disposal delays due to UST removals; facilities may contain ACM	Facilities may contain ACM	Possible land use restrictions and property disposal delays due to remediation of Landfill No. 4
Soils and Geology	49 acres disturbed	37 acres disturbed	11 acres disturbed	28 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	No adverse impact	No adverse impact	No adverse impact	1.01 acres of wetland present
Cultural Resources	No impact	No impact	No impact	127 acres subject to impact

Table M-3. Influencing Factors and Impacts by Land Use Parcel - Non-Aviation Alternative*
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	Parcel ID			
source Category	PR-2	PR-3	PR-4	PR-5
reage	148	118	45	39
mmunity Setting	0 direct jobs	15 direct jobs	0 direct jobs	0 direct jobs
nd Use	No conflict	No conflict	No conflict	No conflict
nsportation ak Hour volume)	0 vehicles/hour	82 vehicles/hour	0 vehicles/hour	0 vehicle/hour
lities				
Water (gallons/day)	Negligible	Negligible	0	0
Wastewater (gallons/day)	Negligible	Negligible	0	0
Solid Waste (tons/day)	0.25	0.50	0.07	0.06
Electricity (MWH/day)	Negligible	Negligible	0	0
Natural Gas (therms/day)	0	0	0	0
zardous terials/Waste	Possible land use restrictions and property disposal delays due to remediation of Landfill No. 2	Facilities may contain ACM	Facilities may contain ACM	Possible property disposal delays due to UST removals; facilities may contain ACM
ils and Geology	15 acres disturbed	13 acres disturbed	11 acres disturbed	8 acres disturbed
ter Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Quality	NA	NA	NA	NA
ise	No impact	No impact	No impact	No impact
logical Resources	16.6 acres of wetland present	No adverse impact	No adverse impact	No adverse impact
ltural Resources	1.3 acres subject to impact	0.4 acre subject to impact	No impact	No impact

Table M-3. Influencing Factors and Impacts by Land Use Parcel - Non-Aviation Alternative*
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Resource Category	Parcel ID			
	PR-6	PR-7	PR-8	AG-1
Acreage	27	26	5	576
Community Setting	0 direct jobs	40 direct jobs	0 direct jobs	0 direct jobs
Land Use	No conflict	No conflict	No conflict	No conflict
Transportation (Peak Hour Volume)	0 vehicles/hour	222 vehicles/hour	0 vehicles/hour	0 vehicles/hour
Utilities				
Water (gallons/day)	0	Negligible	0	0
Wastewater (gallons/day)	0	Negligible	0	0
Solid Waste (tons/day)	0.04	0.24	0.01	0
Electricity (MWH/day)	0	Negligible	0	0
Natural Gas (therms/day)	0	0	0	0
Hazardous Materials/Waste	No impacts	Possible property disposal delays due to UST removals; facilities may contain ACM	Possible property disposal delays due to UST removals; facilities may contain ACM	Possible property disposal delays due to remediation of landfills
Soils and Geology	7 acres disturbed	6 acres disturbed	5 acres disturbed	0 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	No adverse impact	No adverse impact	No adverse impact	3.3 acres of wetland present
Cultural Resources	No impact	No impact	No impact	64.5 acres subject to impact

Table M-3. Influencing Factors and Impacts by Land Use Parcel - Non-Aviation Alternative*
Page 6 of 7

Resource Category	Parcel ID			
	AG-2	AG-3	AG-4	AG-5
Acreage	250	216	209	45
Community Setting	0 direct jobs	0 direct jobs	0 direct jobs	0 direct jobs
Land Use	No conflict	No conflict	Incompatible with adjacent residential land use	No conflict
Transportation (Peak Hour Volume)	0 vehicles/hour	0 vehicles/hour	0 vehicles/hour	0 vehicles/hour
Utilities				
Water (gallons/day)	0	0	0	0
Wastewater (gallons/day)	0	0	0	0
Solid Waste (tons/day)	0	0	0	0
Electricity (MWH/day)	0	0	0	0
Natural Gas (therms/day)	0	0	0	0
Hazardous Materials/Waste	No impact	Possible property disposal delays due to remediation of landfills	Possible property disposal delays due to UST removals; facilities may contain ACM	No impact
Soils and Geology	0 acres disturbed	0 acres disturbed	0 acres disturbed	0 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	No adverse impact	No adverse impact	3.7 acres of wetland present	0.1 acre of wetland present
Cultural Resources	No impact	37.7 acres subject to impact	No impact	0.3 acre subject to impact

Table M-3. Influencing Factors and Impacts by Land Use Parcel - Non-Aviation Alternative*
Page 7 of 7

Resource Category	Parcel ID		
	AG-6	AG-7	AG-8
Acreage	42	16	16
Community Setting	0 direct jobs	0 direct jobs	0 direct jobs
Land Use	No conflict	No conflict	No conflict
Transportation (Peak Hour Volume)	0 vehicles/hour	0 vehicles/hour	0 vehicles/hour
Utilities			
Water (gallons/day)	0	0	0
Wastewater (gallons/day)	0	0	0
Solid Waste (tons/day)	0	0	0
Electricity (MWH/day)	0	0	0
Natural Gas (therms/day)	0	0	0
Hazardous Materials/Waste	No impact	No impact	Possible property disposal delay due to remediation of Landfill No. 4
Soils and Geology	0 acres disturbed	0 acres disturbed	0 acres disturbed
Water Resources	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA
Noise	No impact	No impact	No impact
Biological Resources	0.6 acre of wetland present	No adverse impact	No adverse impact
Cultural Resources	No impact	No impact	No impact

AAFES = Army-Air Force Exchange System.
ACM = Asbestos-containing material.
IRP = Installation Restoration Program.
MWH = megawatt-hours.
NA = not applicable.
USTs = Underground storage tanks.

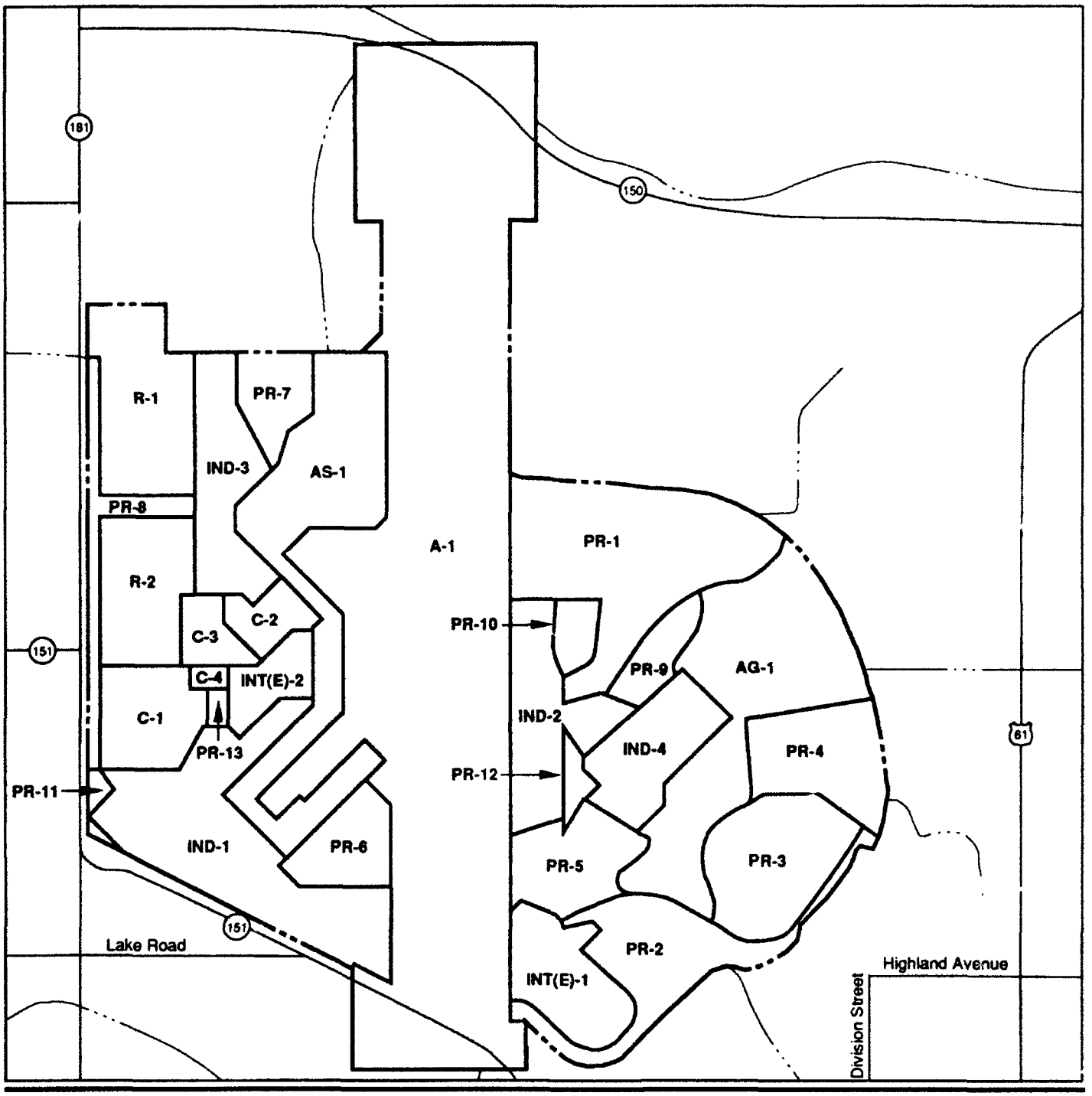
Table M-4. Influencing Factors and Impacts by Land Use Parcel - Other Land Use Concepts*
Page 1 of 2

Resource Category	Parcel ID			
	MKA-1	MKA-2	ICM-1	ICM-2
Acreage	26	20	212	65
Community Setting	260 on-site population	185 on-site population	5 direct jobs	0 direct jobs
Land Use	No conflict	No conflict	No conflict	No conflict
Transportation (Peak Hour Volume)	56 vehicles/hour	40 vehicles/hour	5 vehicles/hour	0 vehicles/hour
Utilities				
Water (gallons/day)	45,000	32,000	Negligible	Negligible
Wastewater (gallons/day)	33,840	24,080	Negligible	Negligible
Solid Waste (tons/day)	7.68	5.46	Negligible	Negligible
Electricity (MWH/day)	Negligible	Negligible	Negligible	Negligible
Natural Gas (therms/day)	Negligible	Negligible	Negligible	Negligible
Hazardous Materials/Waste	No impact	No impact	Possible land use restrictions and property disposal delays due to remediation of Landfill No. 4	No impact
Soils and Geology	No impact	No impact	No impact	No impact
Water Resources	No adverse impact	No adverse impact	No adverse impact	No adverse impact
Air Quality	NA	NA	NA	NA
Noise	No impact	No impact	No impact	No impact
Biological Resources	No adverse impact	No adverse impact	10.8 acres of wetland present	No adverse impact
Cultural Resources	No impact	No impact	90 acres subject to impact	50.2 acres subject to impact

Table M-4. Influencing Factors and Impacts by Land Use Parcel - Other Land Use Concepts*
Page 2 of 2

Resource Category	Parcel ID
	ICM-3
Acreage	
Community Setting	0 direct jobs
Land Use	No conflict
Transportation (Peak Hour Volume)	0 vehicles/hour
Utilities	
Water (gallons/day)	Negligible
Wastewater (gallons/day)	Negligible
Solid Waste (tons/day)	Negligible
Electricity (MWH/day)	Negligible
Natural Gas (therms/day)	Negligible
Hazardous Materials/Waste	No impact
Soils and Geology	No impact
Water Resources	No adverse impact
Air Quality	NA
Noise	No impact
Biological Resources	2.4 acres of wetland present
Cultural Resources	37.2 acres subject to impact

MWH = megawatt-hours.
NA = not available.



EXPLANATION

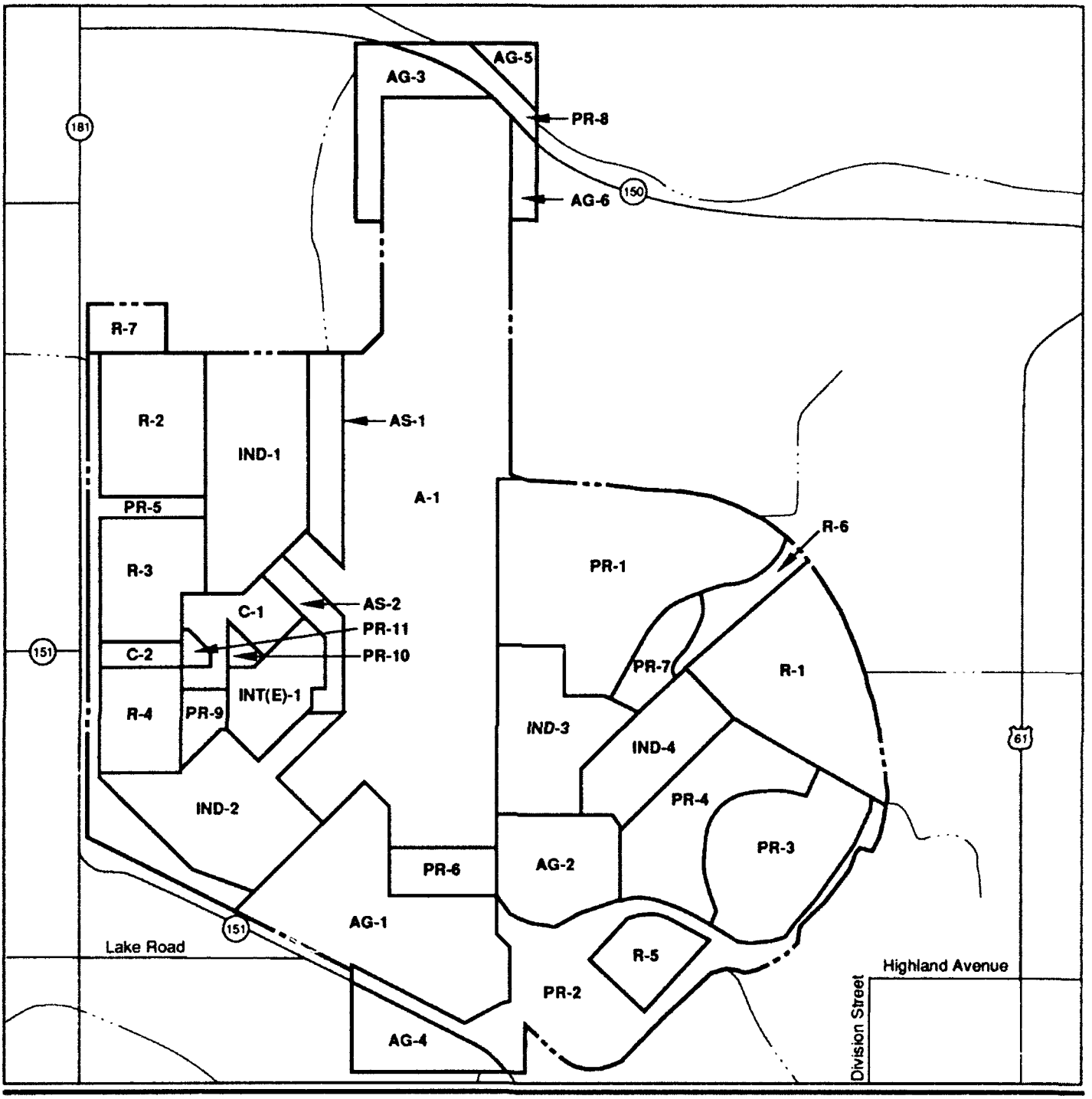
A	Airfield	**INT(E)**	Institutional (Education)	**AG**	Agriculture
AS	Aviation Support	**C**	Commercial	**VL**	Vacant Land *
IND	Industrial	**R**	Residential		Base Boundary
INT(M)	Institutional (Medical)*	**PR**	Public/Recreation		

0 625 1250 2500 Feet

* Not Applicable

Land Use Parcels - Proposed Action

Figure M-1



EXPLANATION

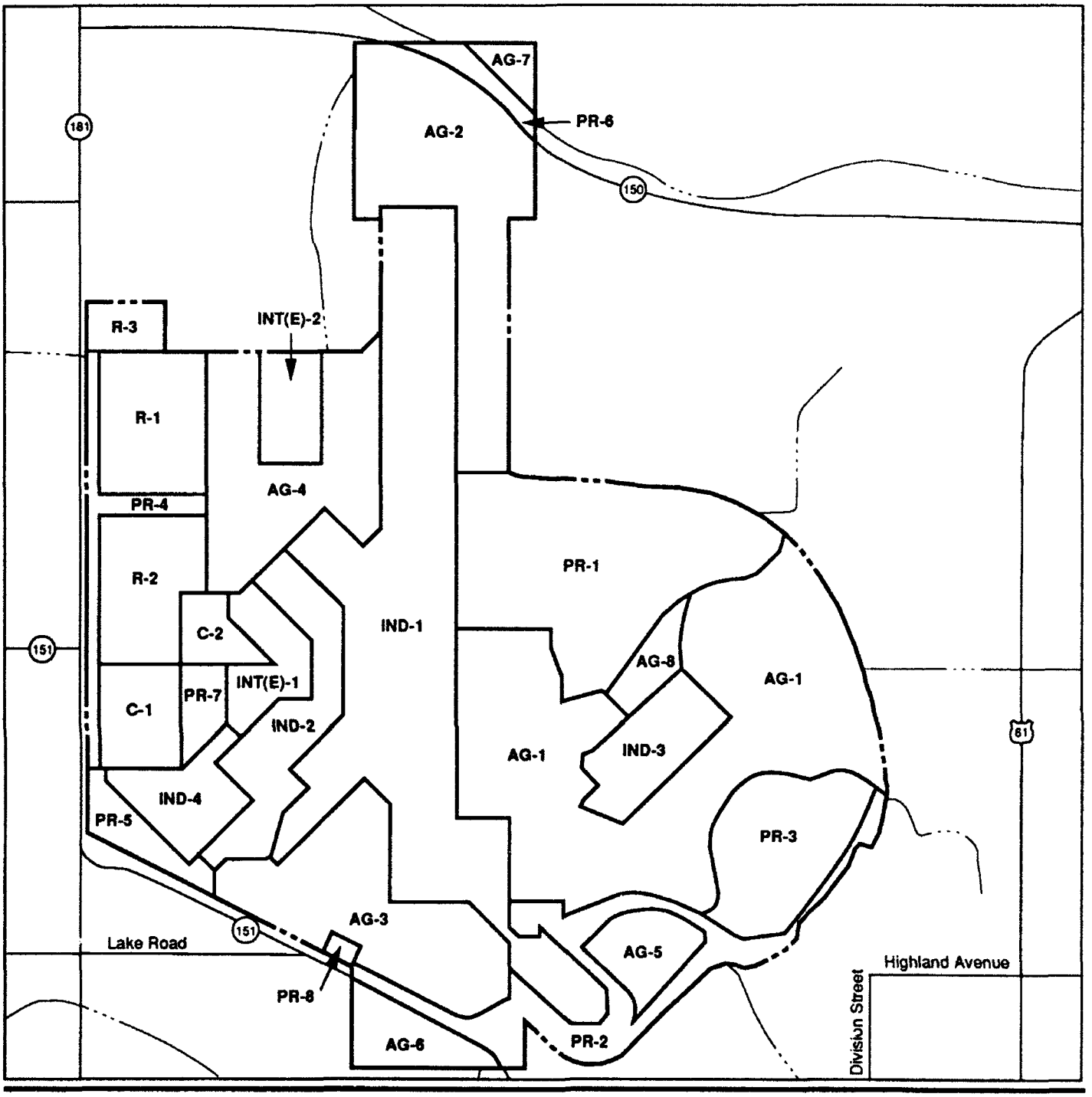
A	Airfield	**INT(E)**	Institutional (Education)	**AG**	Agriculture
AS	Aviation Support	**C**	Commercial	**VL**	Vacant Land *
IND	Industrial	**R**	Residential		Base Boundary
INT(M)	Institutional (Medical) *	**PR**	Public/Recreation		

0 625 1250 2500 Feet

* Not Applicable

Land Use Parcels - General Aviation Alternative

Figure M-2



EXPLANATION

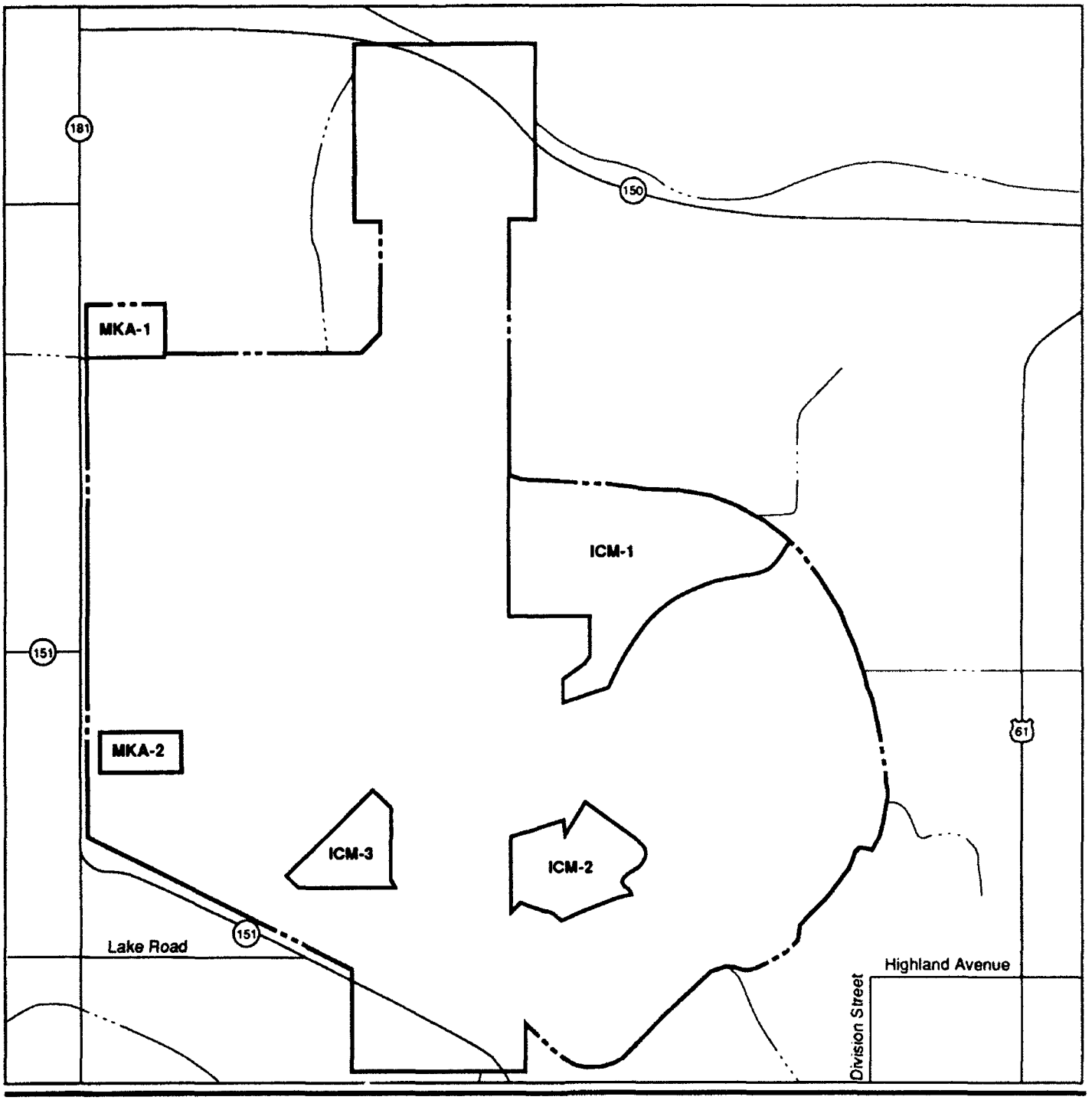
A	Airfield *	INT(E)	Institutional (Education)	AG	Agriculture
AS	Aviation Support *	C	Commercial	VL	Vacant Land *
IND	Industrial	R	Residential	----	Base Boundary
INT(M)	Institutional (Medical) *	PR	Public/Recreation		

0 625 1250 2500 Feet

* Not Applicable

Land Use Parcels - Non-Aviation Alternative

Figure M-3



EXPLANATION

MKA McKinney Act Proposal

ICM Interpretive Center/Museum

Base Boundary

0 625 1250 2500 feet

Land Use Parcels - Other Land Use Concepts

Figure M-4

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