# ENVIRONMENTAL ASSESSMENT

# LAND ACQUISITION AT WHITEMAN AIR FORCE BASE, MISSOURI

**United States Air Force**
**509th Bomb Wing**

**June 2011**

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PN: 1939.001 June 2011

# ENVIRONMENTAL ASSESSMENT

# LAND ACQUISITION AT WHITEMAN AIR FORCE BASE, MISSOURI

**Prepared for:**

US Army Corps of Engineers
Kansas City District
601 East 12th Street
Kansas City, MO 64106-2896

and

Whiteman Air Force Base
660 10th Street, Suite 211
Whiteman AFB, MO 65305

**Prepared by:**
BHE Environmental, Inc.
11733 Chesterdale Rd.
Cincinnati, OH 45246-4131
Phone: 513.326.1500
www.bheenvironmental.com

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# FINDING OF NO SIGNIFICANT IMPACT/FINDING OF NO PRACTICABLE ALTERNATIVE

## NAME OF THE PROPOSED ACTION

Land Acquisition Environmental Assessment (EA), Whiteman Air Force Base (AFB), Johnson County, Missouri.

## DESCRIPTION OF THE PROPOSED ACTION AND NO ACTION ALTERNATIVE

The United States Air Force (Air Force) proposes to acquire, in fee, 1,188 +/- acres of 24 separate parcels under 16 private ownerships. The land includes areas adjacent to Whiteman AFB near the north and south ends of the runway. The Proposed Action would allow the Air Force to maintain adequate safety zones associated with the runways as the clear zone (CZ) and portions of the accident potential zones (APZs) would be located on the installation. In addition to the bird aircraft strike hazard (BASH) reduction techniques currently employed on the existing base property, BASH reduction strategies would be implemented on the lands proposed for acquisition to keep birds and wildlife away from the airfield. At present, surrounding agricultural fields included in the proposed acquisition are an attractant to local and migratory birds. The Proposed Action does not include any changes to airspace or aircraft operations.

The Proposed Action would include removal of vegetation associated with construction of a new installation perimeter fence as well as clearing activities associated with the removal of portions of the existing perimeter fence. The Proposed Action also includes provision for the conversion of approximately 516 acres of row crop (soy bean and corn) to grassland, which would subsequently be maintained through grazing and/or mowing. The Proposed Action would allow for adequate standoff distances to existing critical mission facilities and assets by extending the base perimeter on two sides to State Highways 23 and D where base boundaries can be more easily monitored. Furthermore, the Proposed Action allows security forces to detect potential threats further away from the airfield as well as provides a means to monitor more easily from state highways. The Proposed Action would include demolishing portions of the existing perimeter fencing and installation of antiterrorism and force protection (AT/FP) approved perimeter fencing in accordance with AT/FP standards (Unified Facility Criteria [UFC] 4-010-01). A gravel perimeter track located immediately adjacent to, and inside of, the new fencing will be constructed within the newly acquired lands. The existing Military Airport Zone would be expanded to encompass the newly acquired base lands.

Under the No Action Alternative, the land acquisition would not occur at this time.

## SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The EA addresses the potential environmental consequences from implementing the Proposed Action and includes the No Action Alternative. Through communication with local, state, and federal agencies as well review of past documentation and field review, the following resources areas were identified for assessment of potential direct or indirect environmental consequences: land use, socioeconomics and environmental justice, cultural resources, biological resources, physical resources, hazardous materials and hazardous waste, and safety. Potential cumulative effects for each resource are also considered.

The EA demonstrates that the proposed land acquisition would not result in negative significant environmental impacts to any resource area. Potential environmental consequences are summarized as follows.

Implementation of the Proposed Action would result in minor, short-term adverse impacts that are less than significant without mitigation to transportation, vegetation and habitat, fish and wildlife, surface waters, and topography and soils, and hazardous materials and hazardous waste. Impacts include:

- traffic congestion associated with fence construction;
- wildlife harassment;
- ground disturbance associated with removal and construction of fencing; and
- handling and consumption of petroleum products during fence construction.

As a result of implementing the Proposed Action, minor long-term adverse impacts to land use, vegetation and habitat, fish and wildlife, surface water, floodplains, and geology that are less than significant without mitigation, would be anticipated, including:

- potential development restrictions associated with the Military Airport Zone expansion;
- conversion of row crops to grassland; and
- ground disturbance associated with removal and construction of fencing.

Within the southern portion of the lands to be acquired, construction activities associated with the removal and installation of fencing will impact approximately 4.8 acres of the 100-year floodplain, and will result in a minor net increase in above-ground structures (fencing) within the 100-year floodplain. However, because fence installation is unlikely to affect the flood retention capability of the local landscape, impacts would be less than significant. No practicable alternative exists to locating the new AT/FP fencing within the 100-year floodplain.

Positive impacts, both short- and long-term, to vegetation and habitat, fish and wildlife, hazardous materials and hazardous waste, and safety would result from implementation of the Proposed Action. Benefits to these resources are a result of the following project elements:

- conversion of row crops to grassland;
- better control and removal of hazardous materials and waste; and
- reduction in potential encroachment and incompatible land use development, an increase in installation security and asset force protection, and a reduction in bird aircraft strike hazards.

The Phase I Environmental Baseline Survey (EBS) completed for the proposed action identified evidence of the use, storage, and improper disposal of petroleum products on parcel 10.1. The Phase I EBS determined that further investigation of this parcel, and the suspect drums observed on this parcel, was warranted, and therefore a Phase II EBS is ongoing on this parcel. The Phase II EBS will characterize the contents of the drums and identify the nature and extent of hazardous substance or petroleum product impacts, if any, to the parcel from these drums. If indicated by the findings of the Phase II EBS, site remediation on parcel 10.1 will be completed so that hazardous substances or petroleum product releases on this parcel

There are no known special-status species or cultural resources on the lands proposed for acquisition; therefore, impacts to these resources are not anticipated. Impacts would not be significant to socioeconomics and environmental justice. There are no significant cumulative impacts from the land acquisition when considered with past, present, and reasonably foreseeable projects.

Under the No Action Alternative the Air Force would not acquire the land at this time. Critical base facilities and assets would continue to have inadequate standoff distances as directed by AT/FP standards. Also under the No Action Alternative, land within the CZs and APZs would not be acquired and remain a safety risk; control of encroachment and incompatible land use development would remain the same; and no additional opportunity to reduce bird aircraft strike hazards would occur. Under the No Action Alternative, significant negative impacts to land use, ground and flight safety, and from hazardous materials and hazardous waste would be anticipated; impacts to land use would be less than significant without mitigation; and no impacts to socioeconomics and environmental justice, cultural resources, biological resources, or physical resources would be anticipated.

**FINDING OF NO PRACTICABLE ALTERNATIVE (FONPA)**

Pursuant to Executive Order (EO) 11988, Floodplain Management and taking the above information into consideration, I find that there is no practicable alternative to this action and that the Proposed Action includes all practicable measures to minimize harm to the existing environment. Whiteman AFB provided a 30-day public review period and sent notices to appropriate government organizations including the Kansas City District of the United States Army Corps of Engineers (USACE).

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)**

Based on my review of the facts and analysis in the EA, I conclude that the Proposed Action will not have significant impact either individually or cumulatively, to the environment, conducted in a manner consistent with applicable regulatory requirements and provided routine management measures (i.e., best management practices) as specified in this EA are implemented. Accordingly, the requirements of NEPA, the Council on Environmental Quality (CEQ), and 32 CFR 989, et seq. have been fulfilled, and an Environmental Impact Statement (EIS) is not appropriate or required.

**PUBLIC REVIEW AND COMMENT**

Public comment was invited for a period of 30 days following publication of a Notice of 30-Day Period for Public Comment on July 8, 2011 in *The Sedalia Democrat*, *Warrensburg Daily Star-Journal*, and *The Warrior*. The Notice provided specific information identifying the project proponent and lead agency, a brief description of the project, where to find the EA, and how and when to provide comments. A copy of the notice and responses are included in the EA.

**SIGNATURE**

Approved By: _____

MICHAEL R. HASS, Colonel, USAF, P.E. Date
AFGSC Civil Engineer

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## LAND ACQUISITION AT WHITEMAN AIR FORCE BASE (AFB)
## ENVIRONMENTAL ASSESSMENT (EA)

**a. Responsible Agency:** United States Air Force (Air Force)

**b. Cooperating Agency:** None

**c. Proposals and Actions:** This EA analyzes the potential environmental consequences of a proposal to acquire, in fee, 1,188 +/- acres of 24 separate parcels under 16 private ownerships. The land includes areas adjacent to Whiteman AFB near the north and south ends of the runway. Under the Proposed Action, the Air Force would be able to maintain the safety zones associated with the runways as the clear zone (CZ) and portions of the accident potential zones (APZs) would be located on the base. The Proposed Action would allow for adequate standoff distances to existing critical mission facilities and assets. In addition to the bird aircraft strike hazard (BASH) reduction techniques currently employed on the existing base property, BASH reduction strategies would be implemented on the lands proposed for acquisition to keep birds and wildlife away from the airfield. At present, surrounding agricultural fields included in the proposed acquisition are an attractant to local and migratory birds. The Proposed Action does not include any changes to airspace or aircraft operations.
No Action at Whiteman AFB means no land acquisition at this time.

**d. For Additional Information:** Telephone inquiries may be made to Whiteman AFB's Environmental Element Chief at (660) 687-6347.

**e. Designation:** Environmental Assessment (EA).

**f. Abstract:** This EA has been prepared in accordance with the National Environmental Policy Act (NEPA). Potentially affected environmental resources were identified through communication with local, state, and federal agencies as well as review of past documentation and field review. The EA addresses implementation of a Proposed Action and the No Action Alternative. Under the No Action Alternative, land acquisition would not occur at this time. The specific resources with the potential for environmental consequences include land use, socioeconomics and environmental justice, cultural resources, biological resources, physical resources, hazardous materials and hazardous waste, and safety.

Implementation of the Proposed Action would result in minor, short-term adverse impacts that are less than significant without mitigation to transportation, vegetation and habitat, fish and wildlife, surface waters, topography and soils, and hazardous materials and hazardous waste. Impacts include:

- traffic congestion associated with fence construction;
- wildlife harassment;
- ground disturbance associated with removal and construction of fencing; and
- handling and consumption of petroleum products during fence construction.

As a result of implementing the Proposed Action, minor long-term adverse impacts to land use, vegetation and habitat, fish and wildlife, surface water, and floodplains and geology that are less than significant without mitigation, would be anticipated, including:

- potential development restrictions associated with the Military Airport Zone expansion;
- conversion of row crops to grassland; and
- ground disturbance associated with removal and construction of fencing.

Positive impacts, both short- and long-term to vegetation and habitat, fish and wildlife, hazardous materials and hazardous waste, and safety would result from implementation of the Proposed Action. Benefits to these resources are a result of the following project elements:

- conversion of row crops to grassland;
- improved control and removal of hazardous materials and waste; and
- reduction in potential encroachment and incompatible land use development, an increase in installation security and asset force protection, and a reduction in bird aircraft strike hazards.

There are no known special-status species or cultural resources on the lands proposed for acquisition; therefore, impacts to these resources are not anticipated. Impacts would not be significant to socioeconomics and environmental justice. Under the No Action Alternative, significant negative impacts to ground and flight safety, and from hazardous materials and hazardous waste are anticipated; impacts to land use would be less than significant without mitigation; and no impacts to socioeconomics and environmental justice, cultural resources, biological resources, or physical resources are anticipated. There are no significant cumulative impacts from the land acquisition when considered with past, present, and reasonably foreseeable future projects.

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## TABLE OF CONTENTS

## TABLES



## FIGURES

**APPENDIX**

## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| ACM | Asbestos Containing Material |
| AFB | Air Force Base |
| AFGSC | Air Force Global Strike Command |
| AFI | Air Force Instruction |
| AFRC | Air Force Reserve Command |
| AGL | Above Ground Level |
| AH | All Hydric |
| AICUZ | Air Installation Compatible Use Zone |
| Air Force | United States Air Force |
| AIRFA | American Indian Religious Freedom Act |
| APZ | Accident Potential Zone |
| ASL | Above Sea Level |
| ASTM | American Society for Testing and Materials |
| AT/FP | Antiterrorism and Force Protection |
| BASH | Bird Aircraft Strike Hazard |
| BHWG | Bird Hazard Working Group |
| BMP | Best Management Practice |
| BW | Bomb Wing |
| CAA | Clean Air Act |
| CEQ | Council on Environmental Quality |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CFR | Code of Federal Regulations |
| CSR | Code of State Regulations |
| CWA | Clean Water Act |
| CZ | Clear Zone |
| DO | Dissolved Oxygen |
| DoD | Department of Defense |
| DOE | Determination of Eligibility |
| EA | Environmental Assessment |
| EBS | Environmental Baseline Survey |
| EO | Executive Orders |
| ERP | Environmental Restoration Program |
| ESA | Endangered Species act |
| FEMA | Federal Emergency Management Agency |
| FIRM | Flood Insurance Rate Map |
| FPPA | Farmland Protection Policy Act |
| FSI | Farmland of Statewide Importance |
| FW | Fighter Wing |
| FY | Fiscal Year |
| HMMP | Hazardous Material Management Program |
| ICRMP | Integrated Cultural Resources Management Plan |
| IICEP | Intergovernmental and Interagency Coordination for Environmental Planning |
| INRMP | Integrated Natural Resources Management Plan |

| | |
|---|---|
| IWMP | Integrated Waste Management Plan |
| JD | Jurisdictional Determination |
| JLUS | Joint Land Use Study |
| MDA | Missouri Department of Agriculture |
| MDNR | Missouri Department of Natural Resources |
| MFHA | Moderate Flood Hazard Area |
| MIUWU | Mobile Inshore Undersea Warfare Unit |
| MOANG | Missouri Army National Guard |
| MSDIS | Missouri Spatial Data Information Service |
| MSL | Mean Sea Level |
| NAAQS | National Ambient Air Quality Standards |
| NAGPRA | Native American Graves Protection and Repatriation Act |
| NEPA | National Environmental Policy Act |
| NHPA | National Historic Preservation Act |
| NH | Not Hydric |
| NPDES | National Pollutant Discharge Elimination System |
| NRHP | National Register of Historic Places |
| NWI | National Wetlands Inventory |
| PEM | Palustrine Emergent Wetland |
| PF | Prime Farmland |
| PFO | Palustrine Forested Wetland |
| PH | Partially Hydric |
| PL | Public Law |
| PSS | Palustrine Scrub/Shrub Wetland |
| PUB | Palustrine Unconsolidated Bottom Wetland |
| RCRA | Resource Conservation and Recovery Act |
| ROI | Region of Influence |
| SAC | Strategic Air Command |
| SARA | Superfund Amendments and Reauthorization Act |
| SCS | Soil Conservation Service |
| SFHA | Special Flood Hazard Area |
| SHPO | State Historic Preservation Office |
| SWMP | Solid Waste Management Plan |
| SWPPP | Storm Water Pollution Prevention Plan |
| TMDL | Total Maximum Daily Load |
| UFC | Unified Facility Criteria |
| US | United States |
| USC | US Code |
| USDA | US Department of Agriculture |
| USEPA | US Environmental Protection Agency |
| USFWS | US Fish and Wildlife Service |
| USGS | US Geological Survey |

## EXECUTIVE SUMMARY

This environmental assessment (EA) has been prepared to analyze the potential environmental consequences associated with the Proposed Action and the No Action Alternative at Whiteman Air Force Base (AFB). The Air Force proposes to acquire, in fee, approximately 1,188 +/- acres of land near the north and south ends of the runway at Whiteman AFB.

The EA has been prepared in accordance with the National Environmental Policy Act (NEPA) and its implementing regulations and is issued for a 30-day public and agency review and comment period. Comments, in addition to the analyses included in the EA, will be considered in decision-making regarding the land acquisition proposal.

### ES.1. PURPOSE AND NEED

The purpose of the Proposed Action is to acquire and maintain this land as part of Whiteman AFB. The Proposed Action is needed to provide for increased installation and asset force protection, to improve ground safety by preventing encroachment and future incompatible land uses adjacent to the base, and reduce existing bird aircraft strike hazards.

### ES.2. PROPOSED ACTION AND NO ACTION ALTERNATIVE

The Proposed Action includes the acquisition of approximately 1,188 +/- acres of land, in fee, consisting of 24 separate parcels under 16 ownerships located near the north and south ends of Whiteman AFB's runways. The land includes areas within Whiteman AFB's safety zones including clear zones (CZs) and accident potential zones (APZs). Sixteen of the parcels include existing government easements for rights-of-way, clearance, runway approach, and runway lighting. Five parcels (813 acres) are located within areas that, if acquired, would enhance antiterrorism and force protection (AT/FP) measures. The Proposed Action would include removal of vegetation associated with construction of a new installation perimeter fence as well as clearing activities associated with the removal of portions of the existing perimeter fence. The Proposed Action also includes provision for the conversion of approximately 516 acres of row crop (soy bean and corn) to grassland, which would subsequently be maintained through grazing and/or mowing. As surrounding agricultural fields are an attractant to birds, the proposed acquisition and subsequent crop conversion would further reduce potential bird aircraft strike hazards. The Proposed Action would allow for adequate standoff distances to existing critical mission facilities and assets by extending the base perimeter on two sides to State Highways 23 and D where base boundaries can be more easily monitored than at present. Furthermore, the Proposed Action allows security forces to detect potential threats further away from the airfield as well as provides a means to monitor more easily from state highways. The Proposed Action would include demolition of portions of the existing perimeter fencing and installation of AT/FP approved perimeter fencing in accordance with AT/FP standards (Unified Facility Criteria [UFC] 4-010-01). A gravel perimeter track located immediately adjacent to, and inside of, the new fencing will be constructed within the newly acquired lands. The Proposed Action does not include any changes to airspace or aircraft operations.

No Action for this EA means no land acquisition at this time. Critical base facilities and assets would continue to have inadequate standoff distances as directed by AT/FP standards. Also under the No Action Alternative, land within the CZs and APZs would not be acquired and would remain a safety risk; control of encroachment and incompatible land use development

would remain the same; and no opportunity to reduce bird aircraft strike hazards would occur.

## ES.3. ENVIRONMENTAL CONSEQUENCES

Potentially affected environmental resources were identified through communication with local, state, and federal agencies as well as a review of past documentation, and a field review. Specific resources with the potential for environmental consequences include land use, socioeconomics and environmental justice, cultural resources, biological resources, physical resources, hazardous materials and hazardous waste, and safety. Implementation of the Proposed Action would result in minor, adverse impacts that are less than significant without mitigation. These impacts are summarized in the following sections.

### ES.3.1. Land Use

The Proposed Action includes the acquisition of 1,188 +/- acres of privately-owned land. Primarily agricultural and residential uses would transition to federally owned, open space with restricted access. The existing Military Airport Zone would shift within unincorporated areas of Johnson County to maintain a 3,000-foot buffer zone surrounding the proposed base boundary potentially restricting future land use development in that area. The land acquisition would result in minor but long-term impacts to land use management. Short-term traffic congestion due to construction may occur; however, changes in transportation are not expected.

### ES.3.2. Socioeconomics and Environmental Justice

Approximately 1,041 acres would be removed from the agricultural tax base; however, the overall impact on the economy in Johnson County would be negligible. The one-time purchase of the parcels would not be likely to have a lasting impact to the county as a whole. Construction associated with the fence would not discernibly affect employment or earnings in the region. No disproportionate impact upon minority or low-income populations or upon children will occur.

### ES.3.3. Cultural Resources

Impacts to cultural resources are not anticipated. Appropriate laws and guidelines would be followed prior to and during construction. Therefore, impacts to cultural resources would not be significant.

### ES.3.4. Biological Resources

Minor short- and long-term adverse affects to vegetation and habitat, and fish and wildlife will occur through the removal and installation of AT/FP fencing. No federally listed species, federal candidate species, federal species proposed for listing, or state listed species are known to occur in the project area. Impacts to special-status species are not anticipated.

The conversion of approximately 516 acres of row crops to grassland is likely to result in minor short- and long-term adverse effects to vegetation and habitat, and fish and wildlife. It is also anticipated that minor long-term benefits to vegetation and habitat, and fish and wildlife will occur through the conversion of row crops to grassland. Minor short-term adverse effects to fish and wildlife is likely to occur as a result of the bird aircraft strike hazard (BASH) wildlife harassment measures proposed as part of the Proposed Action.

### ES.3.5. Physical Resources

Minor short- and long-term adverse effects to surface waters will occur through the removal and installation of AT/FP fencing. Minor short-term adverse effects to topography and soils, and minor long-term adverse effects to floodplains and geology will also occur through fence construction.

Minor short-term adverse effects to soils will occur through the conversion of approximately 516 acres of row crops to grassland.

### ES.3.6. Hazardous Materials and Hazardous Waste

The proposed land acquisition will result in minor net short- and long-term benefits to the environment through better control and removal of hazardous materials and waste. Minor short-term adverse effects will occur though the handling and consumption of petroleum products during fence construction.

### ES.3.7. Safety

The proposed land acquisition will result in long-term benefits to safety through a reduction in potential encroachment and incompatible land use development, an increase in installation security and asset force protection, and a reduction in bird aircraft strike hazards.

### ES.3.8. No Action Alternative

Under the No Action Alternative, significant negative impacts to ground and flight safety, and from hazardous materials and hazardous waste are anticipated. Impacts to land use would be less than significant without mitigation. No impacts to socioeconomics and environmental justice, cultural resources, biological resources, or physical resources are anticipated.

## ES.4. CUMULATIVE ENVIRONMENTAL CONSEQUENCES

Cumulative effects analysis considers the potential environmental consequences resulting from “the incremental impact of the action when added to other past, present, and reasonability foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such actions” (40 Code of Federal Regulations [CFR] 1508.7). No significant environmental consequences will result from past, present, and reasonably foreseeable future projects that could cumulatively affect environmental resources in conjunction with the proposed land acquisition.

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# 1.0 PURPOSE AND NEED FOR THE LAND ACQUISITION

## 1.1 INTRODUCTION

This environmental assessment (EA) has been prepared to analyze the potential environmental consequences associated with the Proposed Action and the No Action Alternative at Whiteman Air Force Base (AFB) in accordance with the requirements of the National Environmental Policy Act (NEPA) (42 United States Code [USC] 4321 et seq.), the Council on Environmental Quality (CEQ) Regulations (40 Code of Federal Regulations [CFR] Section 1500-1508), and 32 CFR part 989, *et seq.*, *Environmental Impact Analysis Process* (formerly promulgated as Air Force Instruction [AFI] 32-7061). NEPA is the basic national requirement for identifying environmental consequences of federal decisions. NEPA ensures that environmental information is available to the public, agencies, and the decision-maker before decisions are made and before actions are taken. 32 CFR Part 989 addresses the implementation of NEPA and directs United States (US) Air Force (Air Force) officials to consider the environmental consequences of any proposal as part of the decision-making process.

The Air Force proposes to acquire, in fee, approximately 1,188 +/- acres of land near the north and south ends of the runway at Whiteman AFB. The purpose of the Proposed Action is to acquire and maintain this land as part of Whiteman AFB. The Proposed Action is needed to provide for increased installation and asset force protection, improve ground safety by preventing encroachment and future incompatible land uses adjacent to the base, and reduce existing bird aircraft strike hazards. Section 1.2 provides background information on Whiteman AFB. The purpose and need for the Proposed Action are described in Section 1.3. A detailed description of the Proposed Action and No Action Alternative is provided in Chapter 2.0. Chapter 2.0 also provides a comparative summary of the effects of the Proposed Action and No Action Alternative with respect to the considered environmental resources. Chapter 3.0 describes the existing conditions of various environmental resources that could be affected by the Proposed Action and the No Action Alternative. Effects of the Proposed Action and No Action Alternative on resources are addressed in Chapter 4.0. Chapter 5.0 addresses potential cumulative effects of the Proposed Action and No Action Alternative, in conjunction with other recent-past, current, and future actions that may be implemented in the region of influence (ROI). Chapter 6.0 contains a list of document preparers, while references cited in the EA are included in Chapter 7.0. In addition to the main text, the following appendix is included in this document: Appendix A, Public and Agency Involvement.

## 1.2 BACKGROUND

Whiteman AFB occupies approximately 5,419 acres (3,879 owned and 362 leased) with 1,178 acres of easements of federally owned or leased land at the eastern edge of Johnson County, Missouri, approximately 60 miles southeast of Kansas City (Figure 1) (Air Force 2008a). The base is located 2 miles south of Knob Noster, 9 miles east of Warrensburg, 22 miles west of Sedalia, and 12 miles north of Windsor, Missouri. Missouri Highway 23 borders the west side of the base and connects it to Interstate 70 to the north. The county is primarily rural and includes a mixture of farmland and forested areas with the main county population located in and around the city of Warrensburg.

Whiteman AFB was originally activated on 6 August 1942, as Sedalia Army Airfield. The base closed in December 1947 as part of the post World War II demobilization, but reopened in August 1951 as Sedalia AFB under the Strategic Air Command (SAC). In October 1955, Sedalia

AFB was redesignated as Whiteman AFB to honor Lieutenant George A. Whiteman, a Sedalia native and one of the first American airmen killed in World War II during the Japanese attack on Pearl Harbor (Air Force 2008a).

The host unit at Whiteman AFB is the Air Force Global Strike Command's (AFGSC) 509th Bomb Wing (BW). Other units stationed at Whiteman AFB include the 442nd Fighter Wing (FW), 131st BW (Air Guard), the 1-135th Attack Aviation Battalion of the Missouri Army National Guard (MOANG), and the Mobile Inshore Undersea Warfare Unit-114 (MIUWU) of the US Navy Reserve. The primary mission at Whiteman AFB is to maintain pilot proficiency and a state of combat readiness in the resident B-2 bomber (509th BW), A-10 (Air Force Reserve Command [AFRC] 442nd FW), and AH-64 Apache helicopter (MOANG 135th Aviation) units. This is accomplished through daily training missions flown from the base (Air Force 2008a).

## 1.3 PURPOSE AND NEED

One of the primary missions of the Air Force is defense of the US and fulfillment of the directives of the President and Secretary of Defense. To meet these requirements, the Air Force must develop and operate combat and support aircraft and train personnel. Whiteman AFB is an integral part of this Air Force overall mission. Whiteman's mission is uniquely comprised of the nation's singular, B-2 bomber fleet. The B-2 is a multi-role, stealth bomber capable of delivering both conventional and nuclear missions globally. The B-2's long range strike capabilities and ability to clear enemy defenses thereby enabling other military forces highlights Whiteman AFB's contribution to national and international security.

The purpose of the Proposed Action is to acquire and maintain approximately 1,188 +/- acres, in fee, as part of Whiteman AFB in order to maintain the base's unique capability and to continue to successfully meet overall mission requirements.

Whiteman AFB has a requirement to ensure successful completion of its mission while attempting to ensure the safety of the adjacent communities and residents. The proposed acquisition is needed to improve ground safety by preventing encroachment and incompatible future land uses adjacent to the base; improve flight safety by reducing existing bird aircraft strike hazards; and to improve installation security and asset force protection.

Acquisition of the additional land is needed in order that the safety zones at the end of the runways in which aircraft mishaps are more likely to occur are included within Air Force property and managed by the Air Force. The proposed acquisition would provide the Air Force the opportunity to restrict development in the areas around the airfields resulting in reduced ground safety hazards from incompatible future development. In addition, the proposed acquisition is needed to employ Bird Aircraft Strike Hazard (BASH) Reduction Program techniques to control wildlife therefore potentially reducing bird and wildlife aircraft strike hazards. Currently, surrounding agricultural fields are an attractant to birds; the proposed acquisition and subsequent crop conversion would further reduce potential bird aircraft strike hazards. This proposal would provide additional force protection measures for existing facilities and assets by extending the base perimeter on two sides to State Highways 23 and D where base boundaries can be more easily monitored. In addition, the acquisition allows additional space (e.g., standoff distances) from the proposed base boundary and critical assets on base.

# 2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The Air Force proposes to acquire, in fee, approximately 1,188 +/- acres of land near the north and south ends of the runway at Whiteman AFB. The Proposed Action is to acquire and maintain this land as part of Whiteman AFB. This chapter describes the Proposed Action and considered alternatives identified during proposal development. The No Action Alternative, which would not include land acquisition at this time, is also discussed.

## 2.1 PROPOSED ACTION

The Proposed Action includes the acquisition of approximately 1,188 +/- acres of land, in fee, consisting of 24 separate parcels under 16 ownerships located near the north and south ends of Whiteman AFB's runways (Figures 2 and 3). The land includes areas within Whiteman AFB's safety zones including clear zones (CZs) and accident potential zones (APZs). Sixteen of the parcels include existing government easements for rights-of-way, clearance, runway approach, and runway lighting. Five parcels (813 acres) are located within areas that if acquired would enhance antiterrorism and force protection (AT/FP) measures. Table 1 presents the existing land uses and acreages for the parcels proposed for acquisition. Proposed Action elements are summarized in Table 2.

Acquisition of the additional land is proposed to occur no later than 1 October 2015. Upgrades to existing infrastructure (e.g., fencing) and land management activities (e.g., vegetation clearing) would occur over a subsequent period of approximately 5 years as funding allows.

Lands would be acquired to maintain adequate safety zones associated with the runways, in accordance with AFI 32-7063, *The Air Installation Compatible Use Zone (AICUZ) Program* (Air Force 2005a). Unique considerations for land use occur in areas around airfields. These considerations are related to the potential for aircraft mishaps as well as the noise created by aircraft operations. The AICUZ Program identifies areas of potential accidents and promotes compatible land use in areas around airfields. Whiteman's installation AICUZ Plan (Air Force 2001) identifies APZs and CZs at the end of the runways in which aircraft mishaps are more likely to occur. Figure 4 shows these safety zones. To minimize the results of potential accidents involving aircraft operating from Whiteman AFB, the Air Force safety zones have been identified where development is either prohibited or limited. Land use capability guidelines are included in the AICUZ Plan. Under the Proposed Action, the CZs and significant portions of the APZs would be located on the installation.

The accident potential in the CZ is at a level that no building is allowed and, for safety reasons, the military is authorized to purchase the land for these areas if not already part of the installation (Air Force 2001). The APZ I is less critical than the CZ, but still presents potential for accidents. The APZ I has land use compatibility guidelines that can allow a variety of industrial, transportation, and open space uses (Air Force 2001).

A Joint Land Use Study (JLUS) (Air Force 2008b) was prepared in cooperation with local landowners and community and county officials. To date, encroachment of Whiteman AFB has been fairly limited. A Military Airport Zone, as required under Missouri Revised Statutes (Chapter 41, Section 41.655), is in place around Whiteman AFB to limit incompatible land uses(Missouri General Assembly 2010). The Zone extends 3,000 feet outward from the boundaries of Whiteman AFB into unincorporated Johnson County and also includes the lands within the perimeter of APZ I and APZ II. The Whiteman Military Airport Zoning Commission oversees planning and development requests in this area. As part of the Proposed Action,

Table 1. Existing Land Use for Parcels Proposed for Acquisition.

| Tract Identification Number | Current Land Use[1] | Acreage |
|---|---|---|
| *Parcels to the North of the Runway* | | |
| 1.1 | Agricultural | 29.54 |
| 1.2 | Agricultural | 30.95 |
| 2.1 | Agricultural | 176.60 |
| 2.2 | Agricultural | 75.04 |
| 2.3 | Agricultural | 49.60 |
| 2.4 | Agricultural | 39.36 |
| 3 | Agriculture | 127.83 |
| 4 | Residential | 4.26 |
| 16 | Small Tract Residential | 0.97 |
| *Parcels to the South of the Runway* | | |
| 5 | Small Tract Residential | 1.58 |
| 6 | Light Industrial | 34.71 |
| 7 | Agricultural | 35.66 |
| 8 | Agricultural | 68.27 |
| 9 | Agricultural | 48.31 |
| 10.1 | Agricultural | 62.10 |
| 10.2 | Agricultural | 23.51 |
| 11.1 | Agricultural | 79.50 |
| 11.2 | Agricultural | 79.38 |
| 11.3 | Agricultural | 38.78 |
| 12 | Agricultural | 76.33 |
| 13.1 | Rural Residential | 9.60 |
| 13.2 | Rural Residential | 5.36 |
| 14 | Rural Residential | 6.46 |
| 15 | Rural Residential | 4.96 |
| **TOTAL[2]** | | 1,108.63 |

Source: US Army Corps of Engineers (USACE) 2010.

[1] Agricultural lands include pasture, timber, crop land, and land used for grazing. These parcels may contain structures such as homes and outbuildings.

[2] For planning purposes, total acreage is considered to be 1,188 +/- acres.

Table 2. Proposed Action Elements.

| Element | Summary Description[1] |
|---|---|
| Land Acquisition | Acquisition of approximately 1,188 +/- acres of privately owned land. |
| Fence Removal | Removal of approximately 4.9 miles of the existing installation perimeter fence in the areas adjacent to the proposed lands for acquisition. This project component would temporarily disturb approximately 11.8 acres of previously disturbed lands on Whiteman AFB. |
| Fence Construction | Construction of approximately 6.2 miles of AT/FP perimeter fencing. This project component would include vegetation removal and would temporarily disturb approximately 15.1 acres of land. Secure culverts would be installed at approximately 13 stream crossings. |
| Road Construction | Construction of approximately 6.2 miles of gravel perimeter track (approximately 4 feet in width) would occur. |
| Temporary Construction Staging Areas | Two locations of approximately 40 feet by 40 feet (total 0.07 acres). |
| BASH Reduction Techniques | Conversion of approximately 516 acres of row crops (soybean and corn) to grassland. Physical harassment of wildlife to keep bird populations and terrestrial animals away from the airfield. |
| Expansion of the Military Airport Zone | Change in the location of the Military Airport Zone to encompass the newly acquired base lands. |

[1] Calculations based on a 20-foot wide disturbance corridor.

this area would shift within unincorporated areas of Johnson County to maintain a 3,000-foot buffer zone surrounding the proposed base boundary. Incorporated areas located within this buffer zone (i.e., the city of Knob Noster) are excluded from the Military Airport Zone. Figure 5 shows the existing zone as well as the proposed area to be included in the expanded Military Airport Zone.

Surrounding agricultural fields and ponds included in the proposed acquisition are an attractant to local and migratory birds. 509th BW, BASH Reduction Plan 91-15 (Air Force 2009a) provides a program designed to minimize aircraft exposure to bird aircraft strike hazards. This program is currently implemented on the existing base property. The Proposed Action would also allow the Air Force to implement BASH dispersal methods (e.g., wildlife harassment) on the lands proposed for acquisition to keep indigenous bird populations, seasonal bird migrations, as well as terrestrial animals away from the airfield. The Proposed Action would include removal of vegetation associated with construction of a new installation perimeter fence as well as clearing activities associated with the removal of portions of the existing perimeter fence. Removal of vegetation by grading and mowing during these construction activities would temporarily disturb approximately 11.8 acres of existing base lands and 15.1 acres of newly acquired lands. The Proposed Action also includes provision for the conversion of approximately 516 acres of row crop (soy bean and corn) to grassland, which would subsequently be maintained through grazing and/or mowing. The newly acquired parcels would be managed in accordance with the BASH Program (Air Force 2009a) and the Draft Integrated Natural Resource Management Plan (INRMP) (Air Force 2007a).

Additional habitat management techniques (such as the management or removal of other vegetation [e.g., forested areas] as well as water bodies) would further reduce bird aircraft strike hazards. To further enhance safety, these activities may be considered at sometime in the future and, if necessary, would be evaluated in separate environmental analysis.

The Proposed Action would allow for adequate standoff distances to existing mission facilities and assets by extending the base perimeter on two sides to State Highways 23 and D where base boundaries can be more easily monitored than at present. Furthermore, the Proposed Action allows security forces to detect potential threats further away from the airfield as well as provides a means to monitor more easily from state highways. The Proposed Action would include demolishing portions of the existing perimeter fencing and installation of AT/FP approved perimeter fencing in accordance with AT/FP standards (Unified Facility Criteria [UFC] 4-010-01). Removal of existing fencing and construction of new fencing would temporarily disturb approximately 11.8 acres of land on existing Whiteman AFB and 15.1 acres of newly acquired lands.

A new gravel perimeter track will be constructed within the newly acquired lands. This perimeter track will be located immediately adjacent to, and inside of, the new fencing. Construction of various interior road connections to link the existing perimeter road to the new gravel perimeter roadways and trails may be considered in the future and if necessary would be evaluated in separate environmental analysis. Prior to demolition and construction of fencing, roadways, and trails, construction laydown areas, and haul route would be established and coordinated with the Base Civil Engineering Squadron. Appropriate erosion and siltation controls would be implemented and maintained in effective operating condition prior to and throughout the project. Standard construction practices would include, where necessary, the installation of a silt fence, storm drain protection, and temporary sediment traps. All activities would be performed in accordance with current security and force protection requirements. Fugitive dust would be controlled by the use of standard

construction practices. In all cases where existing vegetation or ground surface is disturbed, revegetation or surface restoration would occur to limit weeds.

## 2.2 NO ACTION ALTERNATIVE

No Action for this EA means no land acquisition at this time. Analysis of the No Action Alternative provides a benchmark and enables decision-makers to compare the magnitude of the environmental effects of the proposal. Section 1502.14(d) of NEPA requires an EA to include a No Action Alternative. Critical base facilities and assets would continue to have inadequate standoff distances as directed by AT/FP standards. Also under the No Action Alternative, land within the CZs and APZs would not be acquired and would remain a safety risk; control of encroachment and incompatible land use development would remain the same; and no additional opportunity to reduce bird aircraft strike hazards would occur.

## 2.3 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD FOR DETAILED ANALYSIS

Throughout the alternative identification and screening process, other alternatives were considered to support the purpose and need (as described in Chapter 1.0).

### 2.3.1 Fee-Simple Interest Alternative

The Air Force initially considered obtaining fee-simple interest in only those parcels within the CZs and APZs (approximately 375 acres). This alternative would only partially satisfy the purpose and need by providing limited controls in these zones, but would not address the increased force protection requirements. In addition, future land use development and existing bird aircraft strike hazards would not be reduced. This alternative, which would not meet the purpose or need of the Proposed Action, was not considered a viable alternative and was not carried forward for detailed analysis.

### 2.3.2 Restrictive Easement Alternative

The Air Force considered obtaining restrictive easements over the 24 separate parcels under 16 ownerships to restrict potential land use development and land use management including the right to plant crops, grow hay, graze cattle, or sustain water ponds. Furthermore, under this type of easement the Air Force would be allowed to remove vegetation, disused buildings, and water sources thereby reducing bird aircraft strike hazards and potential security threats. This alternative does not provide ample oversight of potential incompatible land use or encroachment. This alternative presents operational constraints and does not adequately address the increased force protection need by creating appropriate standoff distances. Additionally, the cost of obtaining restrictive easements under this alternative would result in a property value that would exceed 75 percent of obtaining fee simple interest. This alternative, which would not meet the purpose or need of the Proposed Action, was not considered a viable alternative and was not carried forward for detailed analysis.

## 2.4 ENVIRONMENTAL IMPACT ANALYSIS PROCESS

This EA for land acquisition at Whiteman AFB has been prepared in accordance with NEPA (42 USC 4321-4347), CEQ Regulations (40 CFR § 1500–1508), and 32 CFR Part 989, et seq., *Environmental Impact Analysis Process* (formerly promulgated as AFI 32-7061). NEPA is the basic national requirement for identifying environmental consequences of federal decisions.

NEPA ensures that environmental information is available to the public, agencies, and the decision-maker before decisions are made and before actions are taken.

### 2.4.1 Environmental Assessment Process

The environmental assessment process, in compliance with NEPA guidance, includes public and agency review of information pertinent to the Proposed Action and No Action Alternative and provides a full and fair discussion of potential consequences to the natural and human environment. The process includes involvement with the public and agencies to identify possible consequences of an action, as well as the focusing of analysis on environmental resources potentially affected by the Proposed Action or No Action Alternative.

### 2.4.2 Scope of Resource Analysis

The Proposed Action has the potential to affect certain environmental resources. These potentially affected resources have been identified through communications with local, state, and federal agencies, review of past environmental documentation, and field reviews. NEPA requires that the areas and components of the environment with the potential to be affected be analyzed; locations and resources with no potential to be affected need not be analyzed. The following paragraphs identify these resource areas and the basis for such exclusions.

Air Quality. Whiteman AFB in Johnson County, Missouri is located in an area that is in full attainment for both the National Ambient Air Quality Standards (NAAQS) and state standards for all criteria pollutants and is not under a maintenance plan. The anticipated emissions resulting from minor, short-term construction traffic associated with the Proposed Action will not cause or contribute to a new NAAQS violation. Therefore, an Air Conformity Review under the Clean Air Act (CAA) Amendments is not required as the emissions for all pollutants is below the *de minimis* threshold established by the US Environmental Protection Agency (USEPA) in 40 CFR 93.153 and air quality is not further analyzed in this EA.

Airspace Management. The Proposed Action does not include any changes to airspace or aircraft operations. Accordingly, a detailed examination of airspace management is not included in this EA.

Noise. The anticipated noise resulting from minor, short-term construction traffic associated with the Proposed Action will not increase the overall noise environment at Whiteman AFB. Noise is not further analyzed in this EA.

Specific environmental resources with the potential for environmental consequences include land use, socioeconomics and environmental justice, cultural resources, biological resources, physical resources (including soils and water), hazardous materials and hazardous waste, and safety. These resources are described in Chapters 3.0 and 4.0.

### 2.4.3 Public and Agency Involvement

The Air Force initiated early public and agency involvement in the environmental analysis of the proposed land acquisition at Whiteman AFB. In June 2010 and May 2011, the Air Force, in conjunction with the USACE Real Estate Division, held landowner stakeholder meetings to discuss the proposed acquisition. Materials disseminated prior to and during these meetings, including the agenda and sign–in sheets, are provided in Appendix A.

In October 2010, the Air Force contacted local, state, and federal agencies through Intergovernmental and Interagency Coordination for Environmental Planning (IICEP) letters to

inform them of the Air Force's intent to prepare an EA for the proposed action at Whiteman AFB. Appendix A includes a sample letter, the agency distribution list, as well as responses received through 30 November 2010. Through this scoping process, the Air Force obtained information regarding pertinent environmental issues the agencies indicated should be addressed in the environmental impact analysis. Community leaders and legislative representatives were also contacted. Agencies associated with the management of cultural and biological resources, primarily for compliance with the Endangered Species Act (ESA) and National Historic Preservation Act (NHPA), were notified of the intent to prepare an EA.

The Air Force prepared and published newspaper advertisements in *The Sedalia Democrat* (July 8, 2011), *Warrensburg Daily Star-Journal* (July 8, 2011), and *The Warrior* (July 8, 2011) announcing the availability of the Draft EA for public and agency review. Further, the Draft EA was posted on the Whiteman AFB website at www.whiteman.af.mil. TBD comments were received during the 30-day review period and are included in Appendix A.

## 2.5 REGULATORY COMPLIANCE

This EA has been prepared to satisfy the requirements of NEPA (Public Law [PL] 91-190, 42 USC 4321, et seq.) as amended in 1975 by PL 94-52 and PL 94-83. The intent of NEPA is to protect, restore, and enhance the environment through well-informed federal decisions. In addition, this document was prepared in accordance with the requirements of the NEPA (42 USC 4321-4347), CEQ Regulations for Implementing the Procedural Provisions of NEPA (40 CFR §1500–1508), and 32 CFR Part 989, et seq., *Environmental Impact Analysis Process* (formerly promulgated as AFI 32-7061). Table 3 presents federal laws, regulations, and Executive Orders (EO) as well as state laws and statutes potentially applicable to the Proposed Action. Applicable AFIs are considered in each resource section. Appendix A includes copies of relevant coordination letters sent by the Air Force.

It is anticipated that a National Pollutant Discharge Elimination System (NPDES) construction disturbance permit, as administered and issued by the Missouri Department of Natural Resources (MDNR) under Section 402 of the Clean Water Act (CWA), will be required because ground disturbance will be greater than 1 acre. Earthmoving activities necessary to implement the Proposed Action are subject to provisions of a Storm Water Pollution Prevention Plan (SWPPP) (Air Force 2005b) which specifies best management practices (BMPs) for runoff control during construction activities on Whiteman AFB.

Implementation of the Proposed Action will likely result in some minor impacts to jurisdictional "waters of the US," and therefore Whiteman AFB will require a permit under the provisions of Sections 401 and 404 of the CWA. A USACE field "jurisdictional determination" (JD) to identify all jurisdictional "waters of the US" will likely be required prior to construction activities. It is anticipated that construction activities associated with the Proposed Action can be completed under either the CWA Nationwide Permit (NWP) permitting program, or through the acquisition of a CWA Individual Permit (IP).

Whiteman AFB will ensure all required permits will be in place prior to commencement of construction.

Table 3. Potentially Applicable Laws and Regulations.

| Resource Area | Potentially Applicable Laws and Regulations |
|---|---|
| Land Use | Missouri Revised Statutes (Chapter 41, Section 41.655). |
| Environmental Justice | EO 12898, Federal Actions to Address Environmental Justice in Minority Population and Low-Income Populations; EO 13045, Protection of Children from Environmental Health Risks and Safety Risks. |
| Cultural Resources | NHPA of 1966 (16 USC 470 et seq.) (PL 89-865) and Amendments of 1980 (PL 96-515) and 1992 (PL 102-575); EO 11593, *Protection and Enhancement of the Cultural Environment*; EO 13007, *Indian Sacred Sites*; American Indian Religious Freedom Act (AIRFA) of 1978 (PL 94-341); Antiquities Act of 1906; Archaeological Resources Protection Act of 1979 (PL 96-95); Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 (PL 101-601). |
| Biological Resources | ESA of 1973 (PL 93-205) and Amendments of 1988 (PL 100-478); Migratory Bird Treaty Act of 1918; Fish and Wildlife Coordination Act of 1958 (PL 85-654); Sikes Act of 1960 (PL 86-97) and Amendments of 1986 (PL 99-561) and 1997 (PL 105-85 Title XXIX); Fish and Wildlife Conservation Act of 1980 (PL 96-366); Bald Eagle Protection Act (16 United States Code [USC] §668a-d); Fish and Wildlife Conservation Act (USC §2901 et seq.); EO 11990, *Protection of Wetlands*; North American Wetlands Conservation Act of 1989 (PL 101-233); Lacey Act Amendments of 1981 (PL 97-79); Wetlands and Floodplains Section 401 and 404 of the Federal Clean Water Act; Federal Noxious Weed Act of 1974 (7 USC §2801 *et seq.*); Federal Pest Plant Act (7 USC §150a *et seq.*); Plant Protection Act of 2000 (PL 106–224, Title IV) and Amendments of 2004 (PL 108-412); EO 12865, Reduction of Pesticide Application by 50% by Fiscal Year (FY) 2000; EO 13112, Invasive Species; Missouri Noxious Weed Act (Revised Statutes Chapter 263, Insect Pests And Weeds); Missouri Seed Law (Revised Statutes Chapter 266, Seeds, Fertilizers and Feeds); Missouri Agriculture Regulations Title 2 Code of State Regulations (CSR) Division 70, Plant Agriculture; Missouri Conservation Regulations Title 3 CSR Division 10, Conservation Commission; Department of Defense Instruction 4150.7. |
| Physical Resources | EO 11988, *Floodplain Management*; Emergency Wetlands Resources Act of 1986 (PL 99-645); Federal Water Pollution Control Act as amended by the CWA of 1977 (33 USC §1251); Lacey Act Amendments of 1981 (PL 97-79) Wetlands and Floodplains Section 401 and 404 of the Federal Clean Water Act; EO 11752, *Prevention, Control, and Abatement of Environmental Pollution*; EO 12088, *Federal Compliance with Pollution*; Soil Conservation Act (16 USC §590a *et seq.*); Farm Rivers and Harbors Act of 1899; Farmland Protection Policy Act of 1981 (CFR 7, Part 658); 10 CSR 20-7.031 Water Quality Standards for Missouri; Missouri Revised Statutes (Chapter 49); Johnson County Floodplain Ordinance 0808 #5. |
| Hazardous Materials and Hazardous Waste | Resource Conservation and Recovery Act of 1976 (PL 94-5800), as Amended by PL 100-582; EPA, subchapter I-Solid Wastes (40 CFR 240-280); Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 USC 9601) (PL 96-510); Toxic Substances Control Act (PL 94-496); USEPA, Subchapter R Toxic Substances Control Act (40 CFR 702-799); Federal Insecticide, Fungicide, and Rodenticide Control Act (40 CFR 162-180); Emergency Planning and Community Right-to-Know Act (40 CFR 300-399). |

The Proposed Action will involve the placement of structures (fencing) within Zone A of the Special Flood Hazard Area (SFHA) as mapped by the Federal Emergency Management Agency (FEMA) (FEMA 1990). In the unincorporated areas of Johnson County, any construction within the SFHA requires a permit from the Johnson County Emergency Management office. Implementation of the Proposed Action would require the update of Whiteman AFB plans and programs to include the acquired lands. These include: AICUZ Plan (Air Force 2001); BASH Plan 91-15 (Air Force 2009a); General Plan (Air Force 2008a); Hazardous Material Management Program (HMMP) (Air Force 2003); INRMP (Air Force 2007a); Integrated Cultural Resources Management Plan (ICRMP) (Air Force 2004a); Integrated Waste Management Plan (IWMP) (Air Force Undated [a]); JLUS (Air Force 2008b); Pest Management Plan (Air Force 2007b); Solid Waste Management Plan (SWMP)(Air Force Undated [b]); SWPPP (Air Force 2005b); and Whiteman AFB's AT Plan.

Additionally, the 2009 Military Airport Comprehensive Plan for Unincorporated Areas of Johnson County (Johnson County Airport Zoning Commission 2009) and corresponding Military Airport Zone would need to be updated.

## 2.6 ENVIRONMENTAL COMPARISON OF THE PROPOSED ACTION AND NO ACTION ALTERNATIVE

The following table (Table 4) describes the potential environmental consequences, by resource, associated with the proposed land acquisition at Whiteman AFB. Table 4 summarizes the consequences of implementing the Proposed Action and the No Action Alternative. This summary is derived from the detailed analysis included in Chapter 4.0 and concludes that overall there are less than significant impacts associated with the proposed land acquisition. Under the No Action Alternative, significant negative impacts to ground and flight safety and from hazardous materials and hazardous waste are anticipated. Chapter 5.0 addresses cumulative consequences and finds that there are no significant cumulative environmental consequences resulting from the proposed land acquisition when added to other recent-past, present, or reasonably foreseeable future federal and non-federal actions.

Table 4. Summary of Potential Environmental Consequences.

| Resource | Proposed Action | No Action Alternative |
|---|---|---|
| Land Use | Land purchase under the Proposed Action will result in minor long-term impacts to land use through the expansion of Military Airport Zone and the associated development restrictions.<br><br>Minor long-term impacts to land use will also occur from fencing construction activities.<br><br>Minor short-term impacts on transportation could occur from congestion connected with fence construction activities. | Surrounding land use would not be controlled in such a way that CZ or APZ-compatible land use could be guaranteed and AT/FP requirements would not be met. There would be a long-term adverse impact to land use management. No short- or long-term impacts to transportation would occur under the No Action Alternative. |
| Socioeconomics and Environmental Justice | Minor, short-term benefits to the local economy will result from employment, equipment hire, and other business opportunities associated with fence construction. Minor, short-term impacts associated with the removal of approximately 1,041 acres from the agricultural tax base in Johnson County would occur. Minor, short-term benefits associated with the one-time purchase of the parcels. Overall, the impact to socioeconomics is negligible.<br><br>No disproportionate impact upon minority or low-income populations or upon children. | No short or long-term impacts to socioeconomics or disadvantaged populations or children would occur under the No Action Alternative. |
| Cultural Resources | There are no known cultural resources on the lands proposed for acquisition; therefore, impacts to these resources are not anticipated. Appropriate laws and guidelines would be followed prior to, and during, construction. | No short or long-term impacts to cultural resources would occur under the No Action Alternative. |
| Biological Resources | Minor short- and long-term adverse effects to vegetation and habitat, and fish and wildlife will occur through the removal and installation of AT/FP fencing. There are no known special-status species on the lands proposed for acquisition.<br><br>Minor short- and long-term adverse effects to vegetation and habitat, and fish and wildlife will occur through the conversion of approximately 516 acres of row crops to grassland. It is also anticipated that minor long-term benefits to vegetation and habitat, and fish and wildlife will occur through the conversion of row crops to grassland.<br><br>Minor short-term adverse effects to fish and wildlife will occur through the wildlife harassment techniques employed as part of the Proposed Action. | No short or long-term impacts to biological resources would occur under the No Action Alternative. |

Table 4. Summary of Potential Environmental Consequences.

| Resource | Proposed Action | No Action Alternative |
|---|---|---|
| Physical Resources | Minor short- and long-term adverse effects to surface waters will occur through the removal and installation of AT/FP fencing. Minor short-term adverse effects to topography and soils, and minor long-term adverse effects to floodplains and geology will also occur through fence construction.<br><br>Minor short-term adverse effects to soils will occur through the conversion of approximately 516 acres of row crops to grassland. | No short or long-term impacts to physical resources would occur under the No Action Alternative. |
| Hazardous Materials and Hazardous Waste | The proposed land acquisition will result in minor net short- and long-term benefits to the environment through better control and removal of hazardous materials and waste.<br><br>Minor short-term adverse effects will occur though the handling and consumption of petroleum products during fence construction. | Minor short- and long-term adverse impacts may occur under the No Action Alternative: existing oil drums will continue to leak leading to additional releases; vacant structures may deteriorate further, potentially resulting in the release of hazardous materials into the environment. |
| Safety | The proposed land acquisition will result in long-term benefits to safety through a reduction in potential encroachment and incompatible land use development, an increase in installation security and asset force protection, and a reduction in bird aircraft strike hazards. | Flight or ground safety would not be expected to improve under the No Action Alternative. |

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# 3.0 AFFECTED ENVIRONMENT

This chapter describes the existing conditions of the affected environment under the Proposed Action at Whiteman AFB and surrounding area. NEPA requires that the analysis address those areas and the components of the environment with the potential to be affected; locations and resources with no potential to be affected need not be analyzed.

Each resource discussion begins with a definition including attributes of that resource. The expected geographic scope of any potential consequence is identified as the ROI. For most resources in this chapter, the ROI is defined as the parcels proposed for acquisition as well as the area within the boundaries of Whiteman AFB where the existing fence would be removed. Where appropriate, the ROI extends over a larger area unique to the resource.

The existing condition of each relevant environmental resource is described to give the public and agency decision-makers a meaningful perspective from which they can compare potential future effects on natural and human environments. The environmental consequences of the Proposed Action and No Action Alternative as described in Chapter 2.0 are analyzed in Chapter 4.0. Cumulative effects are discussed in Chapter 5.0.

## 3.1 LAND USE

### 3.1.1 Definition of the Resource

The attributes of land use addressed in this analysis include land use, visual resources, and transportation. Analysis of land use resources focuses on general land use patterns, ownership, management plans, policies, ordinances, and regulations. These provisions determine the types of uses that are compatible and identify appropriate design and development standards to address designated or environmentally sensitive areas. General land use patterns characterize the types of uses within a particular area including human land uses such as agricultural, residential, industrial, or natural land uses, such as forests, parks, and other open spaces. Land ownership is a categorization of land according to type of owner. Visual resources include the natural and manufactured features that constitute the aesthetic qualities of an area. Transportation includes the road networks providing access between the local community and the base as well as within the base.

The ROI for land use includes Whiteman AFB; the 1,188 +/- acre area proposed to be purchased as part of the action; and the Military Airport Zone.

### 3.1.2 Existing Conditions

#### *3.1.2.1 Land Use and Visual Resources*

Whiteman AFB is located in west-central Johnson County, Missouri. The installation is located 65 miles southeast of Kansas City, 9 miles east of the city of Warrensburg, 22 miles west of Sedalia, and 12 miles north of Windsor, Missouri. Whiteman AFB is comprised of approximately 5,419 acres of federally owned land, easements, and leased land (pers. comm., Mr. Hank Borghardt, Realty Officer, 509 CES/CEAOR, Whiteman AFB, Missouri 2010).

The western section of the base is primarily residential and recreational areas, and supports base housing and associated facilities. This portion of the base extends west of Missouri

Highway 23 and includes the base golf course and wastewater treatment plant. The central section of the base consists primarily of administrative and industrial facilities, including operational activities and a community center. The eastern portion of the base supports aircraft-related activities, including the airfield, aircraft operations and maintenance, and a weapons storage area.

The base adopted a General Plan in September 2008 that presents a comprehensive planning strategy to support military missions assigned to the installation and guide future installation development decisions (Air Force 2008a). The plan presents a summary of existing conditions and provides a framework for programming, design and construction, as well as resource management. The future land use plan element includes Area Development Plans which depict opportunities for growth. Land use classifications derived from the Whiteman AFB General Plan (Air Force 2008a) and the Pioneer Trails Regional Planning Commission (Pioneer Trails Regional Planning Commission 2009) are shown in Figure 6. Table 5 presents existing land use at Whiteman AFB and within the Military Airport Zone.

Table 5. Existing Land Use.

| Land Use | Whiteman AFB | Military Airport Zone[1] |
|---|---|---|
| | Acres | Acres |
| Airfield | 2,611 | n/a |
| Industrial | 239 | 48 |
| Commercial | 125 | 106 |
| Agricultural | n/a | 4,679 |
| Residential | 35 | 559 |
| Recreational/Open Space | 616 | 930 |

Source: Air Force 2008a; Pioneer Trails Regional Planning Commission 2009.

[1] Excludes existing Whiteman AFB property.

Base plans and studies (e.g., JLUS, AICUZ) present factors affecting both on- and off-base land use and include recommendations to assist on-base officials and local community leaders in ensuring compatible development in the vicinity of the base. In general, land use recommendations are made for areas affected by both the potential for aircraft accidents (refer to Section 3.7, Safety) and aircraft noise (Air Force 2001 and 2008).

*Row Crop (Soybean) within the Land Proposed for Acquisition.*

A JLUS (Air Force 2008b) has been prepared in cooperation with local landowners and community and county officials. To date, encroachment of Whiteman AFB has been fairly limited. The AICUZ Program identifies noise contours associated with aircraft operations at Whiteman AFB. Knowledge of noise exposure around the base aids in

planning for compatible land uses since elevated noise levels are incompatible with certain types of land use. The AICUZ Plan (Air Force 2001) includes a figure depicting the existing noise contours associated with airfield operations.

A Military Airport Zone, as required under Missouri Revised Statutes (Chapter 41, Section 41.655), is in place around Whiteman AFB to limit incompatible land uses (Missouri General Assembly 2010). The Zone extends 3,000 feet outward from the boundaries of Whiteman AFB into unincorporated Johnson County and also includes the lands within the perimeter of APZ I and APZ II. The Whiteman Military Airport Zoning Commission oversees planning and development requests in this area. The 2009 Military Airport Comprehensive Plan for the Unincorporated Areas of Johnson County (Johnson County Airport Zoning Commission 2009) includes goals to create compatible land uses, reduce encroachment, and provide for public safety.

Land use surrounding Whiteman AFB, including both the land to be acquired and the Military Airport Zone, is primarily agricultural, residential, commercial, and recreational. Knob Noster State Park, administered by MDNR, is a forested 3,500-acre conservation and recreation area and borders the base to the west. The city of Knob Noster lies north of the base near the intersection of US 50 and State Route 23. Residential areas of Knob Noster border the base to the north. Agricultural land lies immediately east and south of the base, with some residential development east of the base along State Highway D (Air Force 2007a). Table 5 presents acreage of existing land use and Figure 6 depicts existing land uses in the ROI.

*Residence within the Land Proposed for Acquisition.*

Whiteman AFB is comprised primarily of flat, rolling, and open field areas. Visual resources adjacent to the base include Knob Noster State Park to the west and agricultural areas to the south and east.

### *3.1.2.2 Transportation*

Whiteman AFB is accessed primarily by Missouri Highway 23 through Spirit Gate located on the west side of the base. Arterial streets on Whiteman AFB form a network independent from vicinity roads. Two collector roads (Ellsworth Avenue and Barksdale Lane) supplement the arterial network to distribute traffic throughout the base. Access on and off the base occurs through three gates (Spirit, Arnold, and Lemay). Vehicular traffic is permitted on most base streets; restricted access may occur for operational or security reasons.

Regional transportation systems serving Whiteman AFB include Interstate 70, US Highway 50, US Highway 65, and Missouri Highway 23 (Figure 1). Interstate 70 is located approximately 12 miles north of Whiteman and is the major east/west connection across Missouri. Interstate 70 provides access to the base via US Highway 65, Missouri Highways 13, 23, and 127. US Highway 50 is located 2 miles north of the base and provides the major east/west connection between Kansas City and Sedalia. Missouri Highway 23 divides the base to the west and provides access through the Spirit Gate. The presence of Highway 23 and its division of the base property presents a security concern (Air Force 2008a).

A freight/Amtrak rail line runs parallel to Highway 50 approximately 1 mile north of the base.

## 3.2 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

### 3.2.1 Definition of the Resource

The specific socioeconomic resource areas addressed include employment, income and earnings, and property values of the land to be acquired.

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs federal agencies to address environmental and human health conditions in minority and low-income communities. In addition to environmental justice issues are concerns pursuant to EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, which directs federal agencies to identify and assess environmental health and safety risks that may disproportionately affect children. Estimates of minority populations, low-income populations, and youth populations were developed based on data from the US Census Bureau. The census does not report minority population, per se, but reports population by race and by ethnic origin. These data were used to estimate minority populations potentially affected by implementation of the Proposed Action. Low-income and youth population figures were also drawn from the Census's Profile of General Demographic Characteristics.

The ROI comprises Whiteman AFB and the surrounding area, which encompasses Johnson County, Missouri. Socioeconomic information is presented for the ROI (Johnson County) and, where appropriate, comparisons are presented with conditions for the state of Missouri and nationwide.

### 3.2.2 Existing Conditions

#### *3.2.2.1 Population*

The population of 12,990 individuals associated with Whiteman AFB is comprised of 5,553 military personnel, 4,637 military family members, and 2,800 civilian employees (Air Force 2009b). In FY 2008, approximately 70 percent of military personnel and dependants lived off-base (Air Force 2008a). The base supports 3,617 military retirees living in the ROI (Air Force 2008a).

The 2009 estimated population of Johnson County was 52,657 persons. This is an increase between 2000 and 2009 of approximately 9 percent (US Census Bureau 2009). Knob Noster, the closest city to Whiteman AFB, has a population of 2,462 (US Census Bureau 2000). The average household size in the county is 2.58 persons.

#### *3.2.2.2 Economic Activity*

Whiteman AFB makes an important contribution to the region's economy through employment of military and civilian personnel and expenditures for goods and services from local businesses. Whiteman AFB's annual payroll obligates over $267 million to its military and civilian employees (Air Force 2009b). In 2008, the Air Force contributed an estimated $241 million in construction and service contracts and other purchases to regional businesses (Air Force 2008c). Whiteman AFB has a total annual economic impact on the regional economy of over $620 million (Air Force 2009b).

In 2008, the average per capita income in Johnson County was $27,394. This was 75 percent of the state average, $36,356, and 68 percent of the national average, $40,166 (US Bureau of Economic Analysis 2008). In Johnson County, 23 percent of the workforce is employed by the government with 6.7 percent attributed to the military.

#### *3.2.2.3 Property Value*

Under the Proposed Action the Air Force would acquire 1,188 +/- privately-owned acres. The property proposed for acquisition consists of 24 parcels under 16 property owners near the north and south ends of Whiteman AFB's runway; the parcels directly abut the existing Whiteman AFB property. The parcels range in size from less than an acre to over 176 acres (Chapter 2.0, Table 1). According to the Real Estate Property Report (USACE 2010), the 24 parcels consist of four property types: Agricultural, Small Tract Residential, Rural Residential, and Light Industrial. Many of these parcels contain homes (including manufactured homes) and/or outbuildings. Most of the parcels are currently used for agriculture. One of the parcels has a light industrial concrete plant that is no longer in operation but leased to a hardwood company for stacking wood prior to transport (USACE 2010).

The total fair market value of the parcels is $3,316,305 dollars (USACE 2010). The fair market value is a measure of the value that a property is worth in the present market including a wide range of factors such as the current improvements or structures on the property, estimated replacement value, rent that the property could potentially earn, and current interest rates. The assessed value of a property and subsequent property taxes are determined by the fair market value.

Based on a comparison of area properties (USACE 2010), residential parcels range in value between $2,500 and almost $6,000 dollars per acre. Agricultural parcels range from approximately $2,077 and $2,300 dollars per acre. Improvements such as manufactured homes, residences, or outbuildings are considered in the property value and add between $30 and $80 dollars per square foot (USACE 2010).

#### *3.2.2.4 Environmental Justice*

To comply with EO 12898, ethnicity and poverty status in Johnson County were examined and compared to state and national data. Minority persons represent approximately 12 percent of Johnson County (US Census Bureau 2009). By comparison, minority persons represent about 18 percent of the state population.

The incidence of persons and families in Johnson County with incomes below the poverty level was comparable to state levels. In Johnson County, 12.9 percent of persons were living below the poverty level, compared to 13.5 in the state and 14.3 percent of persons in the nation (US Census Bureau 2009).

To comply with EO 13045, the number of children under the age of 18 was determined for Johnson County and compared to state and national levels. In 2009, approximately 22 percent of Johnson County's population was comprised of children under the age of 18. This compares to 23.9 percent for the state and 24.3 percent for the nation (US Census Bureau 2009).

## 3.3 CULTURAL RESOURCES

### 3.3.1 Definition of the Resource

Cultural resources are any prehistoric or historic district, site, or building, structure, or object considered important to a culture or community for scientific, traditional, religious or other purposes. They include archaeological resources, historic architectural resources, and traditional resources. The historical setting of Whiteman AFB and surrounding environs is summarized in Whiteman AFB's Cultural Resources Management Plan (Klinger and Smith 1997).

Archaeological resources are locations where prehistoric or historic activity measurably altered the earth or produced deposits of physical remains (e.g., arrowheads, bottles). Historic architectural resources include standing buildings and other structures of historic or aesthetic significance. Architectural resources generally must be more than 50 years old to be considered for inclusion in the National Register of Historic Places (NRHP), although resources dating to defined periods of historical significance, such as the Cold War era (1946-1990), may also be considered eligible. Traditional resources are associated with cultural practices and beliefs of a living community that are rooted in its history and are important in maintaining the continuing cultural identity of the community. Historic properties (as defined in 36 CFR 60.4) are significant archaeological, architectural, or traditional resources that are either eligible for listing, or listed in, the NRHP.

In accordance with AFI 32-7065, *Cultural Resources Management* (Air Force 2004b), cultural resources within the existing perimeter of Whiteman AFB are managed according to the ICRMP (Air Force 2004a).

For the Proposed Action, the ROI for cultural resources is defined as the approximately 1,188 +/- acres of land to be acquired, plus the narrow strip of adjacent land where the existing fence is to be removed.

### 3.3.2 Existing Conditions

#### *3.3.2.1 Archaeological Resources*

Review of the Archaeological Survey of Missouri, NRHP files, State Historic Preservation Office (SHPO) consensus Determination of Eligibility (DOE) files, and a variety of historic and contemporary mapping resources did not reveal any known or previously recorded archaeological resources in the ROI. A review of the SHPO cultural resource management/contract archaeology files indicated that an intensive archaeological survey was conducted in 1989 by Sturdevant which included approximately 132 acres (12 percent) of the ROI; approximately 8 acres in the northern portion of the ROI and approximately 124 acres in the southern portion of the ROI (Sturdevant 1989). This report recorded three sites within the ROI that are associated with historic period (19$^{th}$ century) archaeological deposits; two of these sites were located in the northern portion of the ROI, and one in the southern portion of the ROI. However, none of these sites were regarded as being significant cultural resources, and were therefore not eligible for inclusion on the NRHP (Sturdevant 1989). No prehistoric-era artifacts have been identified in the project area. Except Sturdevant (1989), no known intensive archaeological surveys have been conducted within the ROI. Literature reviews of the ROI were completed in September 2010.

Although not a comprehensive or intensive archaeological survey, the field reconnaissance conducted by an archaeologist during the 2010 site visit did not identify any obvious surface evidence of cultural resources. Field inspection of the ROI indicated that only isolated or low-density lithic scatter prehistoric materials would be expected in this type of homogenous topography and terrain. Such prehistoric deposits would likely be insignificant and not eligible for inclusion on the NRHP.

Field inspection also suggested that historic period archaeological materials, similar to those identified by Sturdevant (1989), are likely to exist in the ROI. However, Sturdevant (1989) determined that the archaeological deposits found during intensive survey were insignificant and not eligible for inclusion on the NRHP. Therefore, while additional historic period archaeological deposits may currently exist in the ROI, they would not be expected to be significant and therefore not be eligible for inclusion on the NRHP.

Additionally, intensive archaeological surveys conducted in areas immediately adjacent to the ROI did not identify any significant archaeological sites (Klinger and Smith 1997). Intensive pedestrian survey and systematic shovel testing conducted during these surveys, primarily located on the existing Whiteman AFB property abutting the ROI, produced no evidence of historic or prehistoric archaeological sites (Klinger and Smith 1997).

#### *3.3.2.2 Historic Architectural Resources*

Review of the NRHP files, SHPO consensus DOE files, and a variety of historic and contemporary mapping resources did not reveal any known or previously recorded historic architectural resources in the ROI. A review of the SHPO cultural resource management/contract archaeology files indicated that an intensive historic architectural survey was completed by Sturdevant in 1989 (Sturdevant 1989) which included approximately 132 acres (12 percent) of the ROI. This survey recorded three sites within the ROI associated with historic architectural resources; two of these sites (a 19$^{th}$ century structure and a 1960s ranch house) were located in the southern portion of the ROI, and one (a late 19$^{th}$ century [Mahin occupant] structure) was located in the northern portion of the ROI. However, none of these sites were regarded as being significant cultural resources and were therefore not eligible for inclusion on the NRHP (Sturdevant 1989). Except Sturdevant (1989), no known intensive historic architectural surveys have been conducted within the ROI. Literature reviews of the ROI were completed in September 2010.

Field inspection of the ROI, completed in September 2010, indicated that few structures are still present within the ROI. The majority of the buildings and residences that are noted on the historic atlases have been removed or razed. Those structures originally identified during the cultural resource management survey (Sturdevant 1989) are still present within the ROI but are in fair to poor condition only, having been abandoned or poorly maintained. Five (5) additional historic architectural resources (structures over 50 years old) were identified during the 2010 field reconnaissance. These consist of several farm outbuildings on Highway D, two abandoned residences on Highway D, and two derelict residences located on State Route 23. However, these sites are in poor condition and are not likely to be significant historic architectural resources. The remaining structures in the ROI are modern residential types less than 50 years old. There were no significant historic architectural resources identified during the field reconnaissance, and therefore it would be expected that no structures within the ROI are eligible for inclusion on the NRHP.

Intensive historical architectural surveys conducted in areas adjacent to the ROI identified three significant historic architectural sites (Klinger and Smith 1997). These Cold War

historical architectural resources (two buildings and one site) are located on Whiteman AFB. Previous intensive pedestrian surveys in other areas adjacent to the ROI, and primarily on existing Whiteman AFB property, produced no evidence of additional historic architectural resources (Klinger and Smith 1997).

#### *3.3.2.3 Traditional Cultural Resources*

Review of the NRHP files, SHPO consensus DOE files, and a variety of historic and contemporary mapping resources did not reveal any known or previously recorded traditional cultural resources in the ROI. Literature reviews of the ROI were completed in September 2010. Although not a comprehensive or intensive survey, the field reconnaissance for traditional cultural resources indicated that no significant traditional cultural resources exist within the ROI. Although Native American traditional resources may consist of intangible features at a location, they are commonly associated with areas containing significant archaeological sites or unique topographic, vegetative, or geologic attributes. None of these conditions appear to apply to the ROI. In contrast, field reviews indicated that the properties proposed for acquisition generally conform to the landscape throughout the region. Therefore, the ROI is unlikely to contain Native American traditional resources. Additionally, intensive cultural resource surveys conducted in areas immediately adjacent to the ROI did not identify any traditional cultural resource sites (Air Force 2004a; Klinger and Smith 1997).

## 3.4 BIOLOGICAL RESOURCES

### 3.4.1 Definition of the Resource

Biological resources in this discussion refer to plants and animals and the habitats in which they occur within the environs of the land to be acquired. Assemblages of plant and animal species within a defined area that are linked by ecological processes are referred to as natural communities. The existence and preservation of these resources are intrinsically valuable; however, additionally they can provide aesthetic, recreational, and socioeconomic values to society. This section focuses on the plant and animal species or vegetation types associated with the proposed land acquisition area that typify or are important to the function of the ecosystem, or are protected under federal or state law or statute. For purposes of the analysis, biological resources is organized into four major categories: (1) vegetation and habitat; (2) fish and wildlife; (3) wetlands; and (4) special-status species.

In accordance with AFI 32-7064, *Integrated Natural Resources Management* (Air Force 2004c), natural resources within the existing perimeter of Whiteman AFB are managed according to the INRMP (Air Force 2007a).

For the Proposed Action, the ROI for biological resources is defined as the approximately 1,188 +/- acres of land to be acquired, plus the abutting strip of adjacent land where the existing perimeter fence is located.

#### *3.4.1.1 Vegetation and Habitat*

Vegetation and habitat resources include all existing terrestrial plant communities, but exclude discussion of special-status plants, which are discussed under special-status species below. The composition of plant species within a given area defines ecological communities and typically determines the types of wildlife that may be present.

### *3.4.1.2 Fish and Wildlife*

Fish and wildlife includes all animals with the exception of special-status species, which are discussed separately. Typical animal groups included are fish, amphibians, reptiles, invertebrates, birds, and mammals. The attributes and quality of available habitats typically determine the composition, diversity, and abundance patterns of wildlife species assemblages, or communities. The habitat requirements and interspecific interactions of each species drive that species' distribution and abundance. Community structure is derived from the net effect of the diverse resource and habitat requirements of each species within a geographic setting. For this reason, an assessment of habitat types and area affected by the Proposed Action can serve as a prevailing determinant in the evaluation of impacts for wildlife populations.

### *3.4.1.3 Wetlands*

Wetlands are a special category of sensitive habitats and are subject to regulatory authority under Section 404 of the Clean Water Act (CWA) and EO 11990 Protection of Wetlands. Wetlands are defined as those areas that meet all criteria defined in the USACE's Wetlands Delineation Manual (USACE 1987) and the Interim Regional Supplement to the USACE Wetland Delineation Manual (Midwest Region) (USACE 2008). The USACE administers the CWA, and has jurisdiction over all "waters of the US," including wetlands. Typically, an on-site jurisdictional determination (JD) by the USACE is required to assess the final jurisdictional status of each wetland. Wetlands that do not hold jurisdictional status under the CWA may still be protected under Missouri's Clean Water Law.

The USACE (1987) defines deepwater aquatic habitats as "those areas that are permanently inundated at mean annual water depths greater than 6.6 feet or permanently inundated areas less than 6.6 feet in depth that do not support rooted-emergent or woody plant species" (USACE 1987). These areas, typically lakes and ponds in the inland landscape, may be considered independently from wetlands by USACE (USACE 1987) and therefore deepwater aquatic habitats are considered in Section 3.5 Physical Resources.

### *3.4.1.4 Special-Status Species*

Special-status species are defined as those plant and animal species listed as threatened, endangered, candidate, proposed for listing, or species of concern by the US Fish and Wildlife Service (USFWS), as well as those species given special-status designations by the state of Missouri.

The ESA protects federally listed threatened and endangered plant and animal species. Candidate species are species that USFWS is considering for listing as threatened or endangered but for which a proposed rule has not yet been developed. Candidates do not benefit from legal protection under the ESA. In some instances, candidate species may be emergency listed if USFWS determines that the species population is at risk due to a potential or imminent impact. The USFWS encourages federal agencies to consider candidate species in their planning process because they may be listed in the future and, more importantly, because current actions may prevent future listing. Species of concern are species for which data were inconclusive to support ESA protection at the time of the proposed listing. It is an informal designation, although USFWS recommends tracking of population trends and threats.

Rule 3 of the Missouri CSR 10-4-111 extends special protection to endangered wildlife and lists those species considered to be threatened with extinction. The MDNR maintains a list of

these endangered species. MDNR also maintains a species of special concern list for the state of Missouri, although no legal protection is afforded to these species.

There are no known special-status species located on the land proposed for acquisition.

### 3.4.2 Existing Conditions

#### *3.4.2.1 Vegetation and Habitat*

Whiteman AFB and its environs are located within the Osage Plains physiographic section of the Central Lowland physiographic province (Fenneman and Johnson 1946). Although this section is the southernmost of three tallgrass prairie physiographic areas, the vast majority of the tall grasslands of the Osage Plains have now been converted to agriculture (Air Force 2008d). The area surrounding Whiteman AFB is characterized by a region of mixed agricultural and forest; however, almost all of the upland forest regions have been logged, cleared, and developed, as have large portions of bottomland and flatwoods regions (Air Force 2008d).

*Grazed Agricultural Areas within the Land Proposed for Acquisition.*

Field review indicated that the majority (over 80 percent) of the current vegetative surface area of the ROI is intensively farmed through row crop (soybean and corn) and pastureland (hay/grazing). Foxtail (*Setaria* sp.) and purpletop (*Tridens flavus*) are the dominant plant species in the hayfields. Other plant species recorded in these areas included American burnweed (*Erechtites hieracifolia*), annual ragweed (*Ambrosia artemisiifolia*), Baldwin's ironweed (*Vernonia baldwinii*), bearded beggarticks (*Bidens aristosa*), black eyed Susan (*Rudbeckia hirta*), Canada goldenrod (*Solidago canadensis*), cocklebur (*Xanthium chinense*), crabgrass (*Digitaria* sp.),ironweed (*Vernonia missurica*), meadow fescue (*Festuca pratensis*), sawtooth sunflower (*Helianthus grosseserratus*), Queen Anne's lace (*Daucus carota*), and witchgrass (*Panicum capillare*).

*Forested Area within the Land Proposed for Acquisition.*

Approximately 15 percent of the ROI is forested, notably the riparian corridors in the western portions of the land acquisition tracts (Figures 2 and 3). The forested areas consist primarily of mixed oak upland dry forest with hickory, maple, and cedar (Air Force 2008d). Characteristic species include shagbark hickory (*Carya ovata*), white oak (*Quercus_alba*), and sugar maple (*Acer_saccharum*), while understory species include dogwood (*Cornus* sp.), red mulberry (*Morus_rubra*), spicebush (*Lindera* sp.), redbud (*Cercis_canadensis*), and Virginia creeper (*Parthenocissus quinquefolia*) (Air Force 2008d). Additionally, field reviews documented several forested areas with a thick honeysuckle (*Lonicera maackii*) understory.

Plant species identified during the ROI wetland field review are considered in Section 3.4.2.3).

Based on data collected during field reviews, Table 6 provides details of the vegetative cover within the ROI. Field reviews conducted in support of the project indicated that habitat within the ROI sustains a variety of common and widespread trees, shrubs, and herbaceous plant species. The greatest vegetative species diversity would likely be found within the forested and grassland portions of the ROI. No species that are listed on state or federal noxious weed lists (Missouri Department of Agriculture [MDA] 2004; US Department of Agriculture [USDA] 2010a; USDA 2010b) were identified within the ROI. However, comprehensive vegetative surveys have not been completed on the ROI. AFI 32-1053, *Integrated Pest Management Program* (Air Force 2009c), provides specific guidance for pest management programs, including invasive species and noxious weeds, on Air Force installations.

Table 6. Approximate Vegetative Land Cover Acreages in the ROI (based on field reviews conducted in September 2010).

| Vegetative Cover | Northern Portion | Southern Portion | Totals |
|---|---|---|---|
| Row Crop: Soy Bean | 150 | 328 | 478 |
| Row Crop: Corn | 0 | 38 | 38 |
| Hayfield/Pasture | 265 | 104 | 369 |
| Old Field | 0 | 6 | 6 |
| Scrub/Shrub | 0 | 4 | 4 |
| Forest | 97 | 70 | 167 |
| Impervious Surfaces (Developed) | 5 | 17 | 22 |
| **Totals** | **517** | **567** | **1,084** |

Surveys on the existing Whiteman AFB property abutting the ROI documented the presence of 52 species of trees and 22 species of shrubs (Air Force 2007a). A 1994 survey for noxious weeds identified 11 species on Whiteman AFB that appear on state or federal noxious weed lists (Air Force 2007a). All these species, excepting field bindweed (*Convolvulus arvensis*), are currently on these lists (MDA 2004; USDA 2010a; USDA 2010b). No additional surveys of herbaceous plant species in the ROI or on adjacent lands have been conducted.

### *3.4.2.2 Fish and Wildlife*

No known comprehensive or intensive survey of fish or wildlife has been conducted within the ROI. Surveys on the adjacent existing Whiteman AFB property have documented the occurrence of some 31 species of birds, 18 species of fish, 24 species of mammal, 28 species of reptiles and amphibians, and 5 species of freshwater mussels/crayfish (Air Force 2007a). Field review conducted in September 2010 confirmed the existence of many of these common bird and mammal species within the ROI, including observed occurrences of American crow (*Corvus brachyrhynchos*), American robin (*Turdus migratorius*), blue jay (*Cyanocitta cristata*),

eastern meadowlark (*Sturnella magna*), European starling (*Sturnus vulgaris*), mourning dove (*Zenaida macroura*), red-tailed hawk (*Buteo jamaicensis*), red-winged blackbird (*Agelaius phoeniceus*), turkey vulture (*Cathartes aura*), wild turkey (*Meleagris gallopavo*), eastern fox squirrel (*Sciurus niger*), and white-tailed deer (*Odocoileus virginianus*).

Habitat within the ROI during would be expected to support a variety of common and widespread fish, amphibians, reptiles, invertebrates, birds, and mammals.

### *3.4.2.3 Wetlands*

National Wetlands Inventory (NWI) desktop mapping identified 22 wetlands within the ROI, totaling approximately 11.1 acres. This dataset comprised 2 palustrine emergent (PEM) wetlands and 20 palustrine unconsolidated bottom (PUB) wetlands. In the northern portion of the study area this desktop analysis identified five PUB wetlands (approximately 2.4 acres) only; in the southern portion of the study area this analysis identified 2 PEM wetlands (approximately 0.3 acres) and 15 PUB wetlands (approximately 8.4 acres).

Field reconnaissance identified a total of 33 wetland areas in the ROI. Eight of these were located in the northern portion of the ROI, and 25 in the southern portion of the ROI (Figures 7 and 8). Summary details of the wetland areas documented, including wetland location and class (per Cowardin et al. 1979) are provided in Table 7. Wetland delineations were not completed during this field reconnaissance, and no known wetland delineations have been completed within the ROI. Because no formal delineations were completed, several of the wetland areas listed in Table 7 are likely associated with one another; therefore the total number of individual wetlands within the ROI is probably less than 33.

*Wetland Located within the Land Proposed for Acquisition.*

Table 7. Wetlands Identified in the ROI (based on field reviews conducted in September 2010).

| Location within ROI | Wetland Class[1, 2] | | | | | | | | Total Number of Wetland Areas |
|---|---|---|---|---|---|---|---|---|---|
| | PEM | PEM-PSS | PEM-PSS-PUB- | PFO | PUB-PEM | PSS | PUB | PUB-PSS | |
| Northern Portion | 4 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 8 |
| Southern Portion | 12 | 2 | 1 | 2 | 6 | 1 | 0 | 1 | 25 |

[1] Wetland classes (Cowardin et al. 1979) were assigned to each wetland based on field observation only.

[2] PEM - Palustrine Emergent Wetland; PFO - Palustrine Forested Wetland; PSS - Palustrine Scrub/Shrub Wetland; PUB - Palustrine Unconsolidated Bottom Wetland.

Plant species identified during the wetland field review included American elm (*Ulmus americana*), American sycamore (*Plantanus occidentalis*), barnyard grass (*Echinochloa crusgalli*), bearded beggarticks (*Bidens polylepis*), black willow (*Salix nigra*), box elder (*Acer negundo*), broadleaf arrowhead (*Sagittaria latifolia*), broadleaf cattail (*Typha latifolia*), spikerush (*Eleocharis* sp.), Canadian clearweed (*Pilea pumila*), common duckweed (*Lemna minor*), common rush (*Juncus effusus*), cottonwood (*Populus deltoides*), crabgrass (*Digitaria* sp.), gray dogwood (*Cornus racemosa*), green ash (*Fraxinus pennsylvanica*), jewelweed (*Impatiens capensis*), marsh seedbox (*Ludwigia palustris*), narrowleaf cattail (*Typha angustifolia*), narrowleaf water plantain (*Alisma gramineum*), pin oak (*Quercus palustris*), reed canarygrass (*Phalaris arundinacea*), rice cut-grass (*Leersia oryzoides*), sedges (*Carex* sp.), silver maple (*Acer saccharinum*), spikerush (*Eleocharis* sp.), strawcolored flatsedge (*Cyperus strigosus*), and swamp smartweed (*Polygonum hydropiperoides*).

#### *3.4.2.4 Special-Status Species*

No federally endangered species, federal candidate species, federal species proposed for listing, or state endangered species are known to occur within 1 mile of the ROI, or within streams 5 miles downstream from the ROI (MDC 2010a). No federally or state designated or proposed Critical Habitat is located within 1 mi of the ROI, or within streams 5 mi downstream from the ROI (MDC 2010a).

Records for two special-status state listed (S3, vulnerable) species - the long-tailed weasel (*Mustela frenata*) and the northern crawfish frog (*Lithobates areolatus*) - were identified outside of the southern portion of the ROI by the Missouri Department of Conservation (MDC) (MDC 2010a) within 1 mile of the ROI. These special-status species are tracked due to their rarity, but this status does not carry any regulatory authority.

USFWS (2009) lists two federally threatened species in Johnson County: Mead's milkweed (*Asclepias meadii*) and Western prairie fringed orchid (*Plantantera praeclara*). According to the USFWS (2010a), Mead's milkweed requires moderately wet (mesic) to moderately dry (dry mesic) upland tallgrass prairie or glade/barren habitat characterized by vegetation adapted for drought and fire. In Missouri, MDC indicates that Mead's milkweed is found on dry-mesic and mesic prairies and on igneous glades (MDC 2010b). According to USFWS (2010b), the Western prairie fringed orchid occurs most often in mesic to wet unplowed tallgrass prairies and meadows. Although no species specific surveys have been conducted for Mead's milkweed or Western prairie fringed orchid, field reconnaissance did not identify suitable habitat for these species within the ROI.

No surveys for federally or state listed species have been conducted with the ROI. No species currently known to occur on Whiteman AFB (which abuts the ROI) are federally listed as threatened or endangered per the USFWS (Air Force 2008d). However, a number of federally listed, state listed, and other rare species (without regulatory authority) of flora and fauna having historical occurrences or the potential to occur on the installation have been documented (Air Force 2008d) and it is likely similar conditions for the existence of these species occur within the ROI. A list of these species, incorporating recent status updates per the Missouri Natural Heritage Program (Missouri Natural Heritage Program 2010), is provided in Table 8. Species previously identified as special-status species (Air Force 2008d) but which no longer carry any status have been removed from consideration in this document. These species include Bewick's wren (*Thryomanes bewickii*), Bell's vireo (*Vireo bellii*), upland sandpiper (*Bartramia longicauda*), and Cooper's hawk (*Accipiter cooperii*).

Table 8. Historical and Potential Rare, Threatened, and Endangered Species on Whiteman AFB.

| Species | State/Federal Status[1] | Occurrence |
|---|---|---|
| Gray bat (*Myotis grisescens*) | E/E | Sightings in the 10,000 mile$^2$ missile deployment areas and limestone karst caves. No known records for Johnson County. |
| Indiana bat (*Myotis sodalis*) | E/E | No known records for Johnson County (pers. comm., Mr. Andrew King, Biologist, USFWS, Bloomington Field Office, Indiana 2008). |
| Black-tailed jack rabbit (*Lepus californicus*) | E/— | Known historical occurrence (date unknown). |
| Greater prairie-chicken (*Tympanuchus cupido*) | E/— | Known occurrence (1993, on flightline). |
| Northern harrier (*Circus cyaneus*) | E/— | No known records; conditions exist for potential future occurrence. |
| Peregrine falcon (*Falco peregrinus*) | E/— | No known records; potential for migration through the area. |
| Loggerhead shrike (*Lanius ludovicianus*) | S2/— | No known records; conditions exist for potential future occurrence. |
| Bald eagle (*Haliaeetus leucocephalus*) | S3/— | No known records; potential for migration through the area. |
| Common barn owl (*Tyto alba*) | S3/— | Known historical occurrence (date unknown). |
| Earleaf/auriculate false foxglove (*Tomanthera auriculata*) | S3/— | No known records; conditions exist for potential future occurrence. |
| Long-tailed weasel (*Mustela frenata*) | S3/— | Known occurrence (2000). |
| Northern crawfish frog (*Rana aereolata*) | S3/— | Known occurrence (2004, 2005, and 2006). |
| Sharp-shinned hawk (*Accipiter striatus*) | S3/— | Known occurrence (2002). |

Source: Air Force 2008d; Missouri Natural Heritage Program 2010.

[1] E - Endangered; T - Threatened; S2 - Imperiled; S3 - Vulnerable; — No status.

No caves that might provide habitat for the gray bat (*Myotis grisescens*) and Indiana bat (*Myotis sodalis*) are known to exist in the ROI, and no caves were identified during the field reconnaissance conducted in September 2010. According to the USFWS there are no known Indiana bat hibernacula in Johnson County (pers. comm., Mr. Andrew King, Biologist, USFWS, Bloomington Field Office, Indiana 2008). Additionally, there are no known summer or winter occurrences of the Indiana bat in Johnson County (pers. comm., Mr. Andrew King, Biologist, USFWS, Bloomington Field Office, Indiana 2008).

The bald eagle (*Haliaeetus leucocephalus*) and the peregrine falcon (*Falco peregrinus*) are migrants through the area, with the bald eagle breeding along some of the major rivers in the state (Air Force 2007a). While these two species may use portions of the ROI as stopover sites during migration, no suitable breeding habitat was identified during the 2010 field review.

Potentially suitable habitat for all nine of the remaining special-status species listed in Table 8 appears to exist within the ROI. Records exist for the black-tailed jack rabbit (*Lepus californicus*) (historical record; date unknown), greater prairie-chicken (*Tympanuchus cupido*) (1993), common barn owl (*Tyto alba*) (historical record; date unknown), long-tailed weasel (2000) (*Mustela frenata*), northern crawfish frog (*Rana aereolata*) (2004, 2005, and 2006), and the sharp-shinned hawk (*Accipiter striatus*) (2002) on existing Whiteman AFB property (Air Force 2007a). Although there are no known records for the remaining three species (northern harrier [*Circus cyaneus*], loggerhead shrike [*Lanius ludovicianus*], and earleaf/auriculate false foxglove [*Tomanthera auriculata*]) on existing Whiteman AFB property, conditions exist for the potential future occurrence of these species (Air Force 2008d). The special-status species most likely to be found in the future on Whiteman AFB are the loggerhead shrike, northern harrier, and greater prairie-chicken (Air Force 2007a).

## 3.5 PHYSICAL RESOURCES

### 3.5.1 Definition of the Resource

As discussed in this EA, physical resources consist of earth and water resources. In accordance with AFI 32-7064 (Air Force 2004c), all natural resources within the existing perimeter of Whiteman AFB, including water and earth resources, are managed according to the INRMP (Air Force 2007a).

The ROI for physical resources is defined as the approximately 1,188 +/- acres of land proposed for acquisition plus the abutting strip of adjacent land where the existing perimeter fence is located.

#### *3.5.1.1 Water Resources*

Water resources include surface and groundwater features located within the lands proposed for acquisition as well as watershed areas affected by existing and potential runoff, including floodplains. Surface water includes lakes, rivers, streams, and the surface drainage system. Surface water contributes to the economic, ecological, recreational, and human health of a community or locale. Groundwater consists of subsurface hydrologic resources. These essential resources are used for potable water consumption, agricultural irrigation, and industrial production. Floodplains are land areas adjacent to rivers and streams that are subject to recurring inundation. Specifically, both AFI 32-7064 (Air Force 2004c) and EO 11988 define floodplains as lowland or relatively flat areas adjoining inland and coastal waters that have a one percent or greater chance of flooding in any given year. Wetlands are discussed within Section 3.4, Biological Resources.

### *3.5.1.2 Earth Resources*

Earth resources include geology, soils, and topography. The principal geologic factors influencing stability of structures are soil stability and seismic properties. Soil, in general, refers to the unconsolidated mineral or organic materials overlying bedrock or other parent material. Soil elasticity, erodibility, shrink-swell potential, strength, and structure all determine the ability for the ground to support structures. Relative to development, soils typically are described in terms of their type, slope, physical characteristics, and relative compatibility or limitations with regard to particular construction activities and types of land use. Long-term geological, erosional, and depositional processes typically influence the topographic relief of an area.

## 3.5.2 Existing Conditions

### *3.5.2.1 Water Resources*

Surface Waters

*Long Branch of Muddy Creek within the Land Proposed for Acquisition.*

The ROI and Whiteman AFB are within the Missouri River Drainage Basin, the Lower Missouri River Subregion, and lie along a ridge that divides the watersheds of the Clear Fork Creek of the Blackwater River to the west from the Long Branch of Muddy Creek to the east (Air Force 2010a). The northern portion of the ROI is part of three sub-watersheds; Long Branch sub-watershed, Clear Fork sub-watershed, and Walnut Creek sub-watershed. The southern portion of the ROI is contained entirely within the Long Branch sub-watershed. The Blackwater River and Muddy Creek both drain into the Lamine River, which subsequently empties into the Missouri River (Air Force 2010a). Long Branch of Muddy Creek in the southern portion of the ROI has designated beneficial uses for protection of warm water aquatic life and human health-fish consumption, livestock and wildlife watering, and whole body contact recreation-Category B (MDNR 2010a). Additionally, the portion of Long Branch of Muddy Creek within the ROI is listed as an impaired water on the 2010 CWA Section 303(d) list, as approved by the Missouri Clean Water Commission (MDNR 2010b). The Long Branch of Muddy Creek appears on the 2010 CWA 303(d) list as a result of two impairments: an unknown impairment from 2002, and low dissolved oxygen (DO) levels from multiple point and non-point sources in 2010 (MDNR 2010b). No Total Maximum Daily Load (TMDL) study has been established for either listing.

US Geological Survey (USGS) topographic mapping indicates that approximately 5.2 miles of intermittent stream channel are located within the ROI (Figures 7 and 8); approximately 2.3 miles in the northern portion and 2.9 miles in the southern portion. Field review indicated that surface water present in the ROI consists of open water ponds, streams, and ditches.

*Unnamed Stream within the Land Proposed for Acquisition.*

The field reconnaissance conducted on the northern portion of the ROI identified several unnamed streams and ponds (Figure 7). To the north of the runway the streams drain from the ROI in a northwesterly direction. After exiting the ROI, these streams flow through the city of Knob Noster before emptying into Clear Fork Creek, approximately 2.5 miles northwest of the ROI. These streams are fed primarily from enclosed pipe drainage systems carrying water underneath the existing Whiteman AFB property. To the east of the runway, several small streams drain westward before emptying into a single north-south channel (Figure 7). This channel exits southward from the ROI before reaching the confluence with the Long Branch of Muddy Creek, approximately 1.2 miles south of the ROI (Figure 7). The three ponds identified in the northern portion of the ROI were all located to the north of the existing Whiteman AFB property, and all appeared to be man-made in origin. These ponds are also considered in Section 3.4, Biological Resources.

*Large Pond Located within the Land Proposed for Acquisition.*

Field investigations in the southern portion of the ROI identified Long Branch of Muddy Creek, in additional to several unnamed streams and ponds (Figure 8). To the southwest of the runway, Long Branch of Muddy Creek and several unnamed tributaries to this stream flow in a generally northerly direction, entering the ROI at the road crossings of Highway D and Missouri Highway 23. These streams exit the ROI, and enter the existing Whiteman AFB property, at a point immediately southwest of the runway (Figure 8). To the southeast of the runway several streams also flow through the ROI in a northerly direction. Two of these streams enter the ROI at the road crossings of Highway D in the southeastern portion of the ROI (Figure 8) with the remainder originating from within the ROI itself. All the streams located in the southern portion of the ROI empty into Long Branch of Muddy Creek less than a mile from the ROI. The eight ponds identified in the southern portion of the ROI all appeared to be man-made in origin. These ponds are also considered in the wetlands portion of this document (Section 3.4, Biological Resources).

Stormwater from the western portion of the existing Whiteman AFB property drains to the Brewer Branch of the Clear Fork Branch of the Blackwater River. The middle and eastern portions of the base feed to the Long Branch of Muddy Creek (Air Force 2005b).

The stormwater drainage systems within the ROI are limited to the roadways which bound the ROI; namely Highway D, immediately east and south of the ROI, and Missouri Highway 23 immediately west of the ROI. These systems consist primarily of roadside ditches, culverted road crossings, and other drainage channels.

No federally designated wild or scenic rivers are located within the ROI or within 100 miles of the ROI. Further, there are no known sensitive waters (i.e., outstanding national or state resource waters, cold water fisheries, metropolitan no-discharge streams, or biocriteria reference locations) in the ROI.

Groundwater

The ROI is located within the Ozark Plateaus principal aquifer system of the larger Central Midwest Regional Aquifer System (Air Force 2007a; USGS 2009). The Ozark Plateaus Aquifer System underlies most of southern Missouri and a small part of extreme southeastern Kansas; it also underlies a large area in northwestern Arkansas and a small part of northeastern Oklahoma (USGS 2010). This principal aquifer system is itself subdivided into three aquifers (Springfield Plateau, Ozark, and St. Francois aquifers) separated by two confining units (Ozark and St. Francois confining units) (USGS 2010). The ROI is located within the Ozark confining unit which underlies the Springfield Plateau aquifer and hydraulically separates this aquifer from the deeper Ozark aquifer. The Ozark confining unit consists mostly of shale but locally includes limestone of minimal permeability (USGS 2010). The principal means of recharge in the ROI is infiltration of precipitation into residual materials and then by diffuse recharge into the bedrock aquifers. In the vicinity of Whiteman AFB, groundwater from surficial aquifers is seldom used for potable water. The primary use from these aquifers is for stock and crop watering.

The regional movement of the groundwater in the confined aquifers below the ROI is generally north to northwest (Air Force 2007a). Seasonable water table fluctuations of eight to ten feet can occur. Groundwaters within the ROI tend to be slightly basic in the pH range of 7.6 to 7.7 (Air Force 2007a). No known springs exist within the ROI (Missouri Spatial Data Information Service [MSDIS] 2010), and field reconnaissance did not identify any springs within the ROI.

Floodplains

Flood Insurance Rate Maps (FIRMs) are the principal tools utilized for identifying floodplains and therefore this mapping was reviewed during this environmental analysis. These maps are generated by the Federal Emergency Management Agency (FEMA) and are designed to identify geographic areas where the likelihood of flooding is prevalent. Flood hazard areas identified on FIRM mapping are typically identified as Special Flood Hazard Areas (SFHA) or Moderate Flood Hazard Areas (MFHA). SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year (FEMA 2010). These areas are typically referred to as the "100-year floodplain." MFHA flood hazard areas may also be shown on the FIRM, and are the areas between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) floodplain.

FIRM mapping (FEMA 1990) indicates that approximately 145 acres of the southern portion of the ROI is located within the 100-year floodplain (Figure 8). This floodplain is associated with the Long Branch of Muddy Creek, and tributaries to the Long Branch of Muddy Creek. There are no mapped 500-year floodplains within the southern portion of the ROI (FEMA 1990). No 100-year or 500-year floodplains are located within the northern portion of the ROI (FEMA 1990).

### *3.5.2.2 Earth Resources*

Topography

The ROI lies within the Osage Plains portion of the Central Lowlands physiographic province (Air Force 2007a). The topography of the Osage Plains is flat to gently rolling. The ROI is located on one of the few plateaus in Missouri, and therefore the land within the ROI is flat to gently rolling. The elevation of the northern portion of the ROI ranges from 776 feet above

sea level (ASL) to 861 feet ASL; the elevation of the southern portion of the ROI ranges from 823 feet ASL to 881 feet ASL. Precipitation runoff has cut some ravines and ditches through the ROI, most notably in the forested corridors located in the western portions of both the northern and southern ROIs.

Geology

The bedrock of the ROI is underlain primarily by limestones, dolomites, shales, siltstones and sandstones in nearly horizontal beds ranging in age from the Pennsylvanian period to the Precambrian period (Air Force 2008d). The thickness and lithology of these underlying beds vary within the ROI and surrounding areas; test boring on the abutting Whiteman AFB property indicate bedrock at elevations ranging from 804 to 883 feet mean sea level (MSL) (Air Force 2008d). The Cherokee Group, alternating layers of Pennsylvanian age limestone, shale, sandstone, siltstone and coal, is approximately 150 to 200 feet thick below the surface (Air Force 2008d). Within the ROI, geologic materials deposited from erosional processes or derived from erosion of the underlying bedrock (i.e., overburden) contains gravel to boulder-sized rock fragments and sediments.

Several mineral resources (including coal, oil, aggregate, refractory grade clay, barite, lead, and zinc) are known to exist in the vicinity of the ROI. However, only aggregate is being actively recovered in Johnson County (Air Force 2007a); no commercial coal mining exists in Johnson County, and no oil or gas lease fields have been identified in the immediate vicinity of the ROI (Air Force 2007a).

Known geologic hazards in the ROI include ground subsidence, sinkholes, and faults (Air Force 2008d). No areas of notable subsidence or sinkholes exist on base and no major faults or fracture zones have been mapped in the ROI (Air Force 2007a). The ROI is located in seismic Zone 1; however, it is believed that most of the faults around Whiteman AFB have been inactive during the last 10,000 years (Air Force 2007a).

Soils

Ten soil series, represented by a total of 12 mapped soil units are present within the ROI. Ten soil map units are located within the northern portion of the ROI and 8 soil map units within the southern portion of the ROI. A breakdown of the soil map units, together with their acreages, farmland classification, hydric rating, and erodibility, is provided in Table 9. Figures 9 and 10 illustrate the mapped soils units within the ROI, including farmland classifications.

Soils in the ROI are composed of alluvium, loess, and residuum; the alluvium consists of unconsolidated stratified sand and gravel, silty clay, and silt loam, while the loess is comprised of silt, silty clay, and fine sandy silt (Air Force 2007a). Weathering of bedrock has produced clayey silt or sandy silty clay (Air Force 2007a). The soils within the ROI have a nearly level to strong loping aspect, with drainage ranging from poor to well-drained (Soil Conservation Service [SCS] 1980). Permeability of the ROI soils is slow or very slow to moderate, with shrink-swell potential ranging from low to high (SCS 1980). The SCS, presently known as the Natural Resource Conservation Service, also reported the mapped soil units within the ROI to have a low to high water capacity, with the speed of surface runoff ranging from rapid to very slow (SCS 1980).

Table 9. Soil Map Unit Characteristics within the ROI.

| Soil Map Unit | Acreage (Northern Portion of ROI) | Acreage (Southern Portion of ROI) | Farmland Classification[1] | Hydric Rating[2] | Highly Erodible[3] | Depth to Bedrock (inches) |
|---|---|---|---|---|---|---|
| Deepwater silt loam, 2 to 5 percent slopes | 10.8 | 0.0 | PF | NH | No | >60 |
| Deepwater silt loam, 5 to 9 percent slopes, eroded | 34.0 | 20.3 | FSI | NH | Yes | >60 |
| Gorin silt loam, 5 to 9 percent slopes, eroded | 7.9 | 0.0 | FSI | NH | Yes | >60 |
| Haig silt loam, 0 to 2 percent slopes | 181.6 | 219.0 | - | AH | No | >60 |
| Haplaquents-Urban land complex, 0 to 2 percent slopes | 0.2 | 1.4 | - | PH | No | - |
| Hartwell silt loam, 1 to 3 percent slopes, eroded | 0.0 | 30.0 | PF | PH | Yes | >60 |
| Lightning silt loam, 0 to 2 percent slopes, occasionally flooded | 0.0 | 37.7 | - | AH | No | >60 |
| Mandeville silt loam, 5 to 9 percent slopes | 36.8 | 0.0 | FSI | NH | Yes | 20-40 |
| Norris channery silt loam, 5 to 14 percent slopes | 130.3 | 0.0 | - | NH | Yes | 8-20 |
| Sampsel silty clay loam, 2 to 5 percent slopes | 86.8 | 168.8 | - | NH | No | 40-70 |
| Sampsel silty clay loam, 5 to 9 percent slopes, severely eroded | 23.8 | 76.6 | FSI | NH | Yes | 40-70 |
| Water | 0.0 | 4.5 | - | NH | No | - |
| Zook silty clay loam, 0 to 2 percent slopes, frequently flooded | 4.0 | 9.0 | - | AH | No | >60 |

[1] PF - Prime Farmland; FSI - Farmland of Statewide Importance; Source: USDA (2010c).

[2] NH - Not Hydric; AH -All Hydric; PH - Partially Hydric; Source: USDA (2010c).

[3] USDA (1990).

Several of the soil maps units present within the ROI are considered to be prime farmland or farmland of statewide importance (Table 9, USDA 2010c). A total of approximately 40.8 acres of prime farmland is located within the ROI: approximately 10.8 acres in the northern portion of the ROI (Deepwater silt loam, 2 to 5 percent slopes), and approximately 30.0 acres in the southern portion of the ROI (Hartwell silt loam, 1 to 3 percent slopes, eroded). Additionally, 199.4 acres within the ROI is designated as farmland of statewide importance: approximately 102.4 acres in the northern portion of the ROI (Deepwater silt loam, 5 to 9 percent slopes, eroded; Gorin silt loam, 5 to 9 percent slopes, eroded; Mandeville silt loam, 5 to 9 percent slopes; and Sampsel silty clay loam, 5 to 9 percent slopes, severely eroded); and approximately 97.0 acres in the southern portion of the ROI (Deepwater silt loam, 5 to 9 percent slopes, eroded; and Sampsel silty clay loam, 5 to 9 percent slopes, severely eroded).

Review of the USDA's Highly Erodible Soils lists (USDA 1990) indicates that six of the soil maps units present within the ROI are considered to be highly erodible (see Table 9): Deepwater silt loam, 5 to 9 percent slopes, eroded; Gorin silt loam, 5 to 9 percent slopes, eroded; Hartwell silt loam, 1 to 3 percent slopes, eroded; Mandeville silt loam, 5 to 9 percent slopes; Norris channery silt loam, 5 to 14 percent slopes; and Sampsel silty clay loam, 5 to 9 percent slopes, severely eroded. A total of approximately 360 acres of highly erodible soils is located within the ROI: approximately 233 acres in the northern portion of the ROI and approximately 127 acres in the southern portion of the ROI.

## 3.6 HAZARDOUS MATERIALS AND HAZARDOUS WASTE

### 3.6.1 Definition of the Resource

The Natural Resources Element of the 509th Civil Engineering Squadron is responsible for hazardous materials and waste management at Whiteman AFB in accordance with the policies established in AFPD 32-70, Environmental Quality. Hazardous materials are defined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), and the Toxic Substances Control Act. Hazardous waste can be solids, liquids, gases, or sludges, and are defined by the USEPA as a waste substance with properties that make it dangerous or potentially harmful to human health and the environment. The Resource Conservation and Recovery Act (RCRA) includes a list of waste materials that, because of their inclusion on the list, by definition are considered hazardous wastes. RCRA also establishes criteria of corrossivity, ignitability, reactivity, and toxicity, and a waste that exhibits one or more of these characteristics is classified as a hazardous waste.

The ROI for hazardous materials and hazardous waste is the area within which the Proposed Action could potentially affect existing hazardous materials and hazardous waste and is defined as the approximately 1,188 +/- acres of land to be acquired.

### 3.6.2 Existing Conditions

The presence of hazardous materials in or adjacent to the ROI was identified by completing a Phase I Environmental Baseline Survey (EBS) for the ROI. A separate Phase I EBS was prepared for the northern acquisition parcels (Air Force 2010b) and the southern acquisition parcels (Air Force 2010c). The purpose of the Phase I EBS was to identify any parcels which require additional investigation, based on the degree to which the parcel has been impacted by releases or disposal of hazardous substances or petroleum products on the parcel, or by migration from a nearby property. All EBS investigations were completed in accordance with several standards, including American Society for Testing and Materials (ASTM) International Standard D6008-96, *Standard Practice for Conducting Environmental Baseline Surveys* (ASTM 2005), and AFI 32-7066, *Environmental Baseline Surveys in Real Estate Transactions* (Air Force 1994a).

Evidence of the improper disposal of solid wastes was observed on several of the proposed acquisition parcels, including parcels 1.1, 2.4, 5, 7, 8, 9, 10.1, 12, 13.1, and 13.2 (Air Force 2010b; Air Force 2010c). With the exception of parcel 10.1 (described below), these discarded waste materials do not appear to pose a concern associated with releases of hazardous wastes or hazardous substances to the parcels (Air Force 2010b; Air Force 2010c).

Evidence of the use, storage, and improper disposal of petroleum products was identified on parcel 10.1 (Air Force 2010c). A total of twenty-two (22) 55-gallon drums of apparently used oil (based on interviews with the current landowner) were observed on the northern boundary of this parcel, and petroleum-stained soil was observed at the base of several of the drums. The Phase I EBS determined that further investigation of this parcel was warranted (Air Force 2010c), and therefore a Phase II EBS is ongoing (as of mid-2011) on this tract. The Phase II EBS includes an investigation of the nature and extent of contamination found at parcel 10.1 during the Phase I EBS. Specifically, the Phase II EBS will characterize the contents of the drums and identify the nature and extent of hazardous substance or petroleum product impacts, if any, to the parcel from these drums.

*55-Gallon Drums within the Land Proposed for Acquisition.*

The majority of the acreage of the parcels proposed for acquisition is currently used for agricultural crop production or livestock pasture. Current owners of many of the parcels indicated that agricultural chemicals are used. The use of agricultural pesticides and herbicides does not constitute a release or spill of hazardous materials or hazardous wastes, and does not represent an environmental concern to the proposed acquisition.

Structures are present on several of the proposed acquisition tracts (Air Force 2010b; Air Force 2010c). Asbestos-containing materials (ACMs) and lead-based paint, as well as other building hazardous materials such as mercury-containing thermostats, fluorescent lights; polychlorinated biphenyl-containing light ballasts, freon refrigerants may be present in the structures.

The Environmental Restoration Program (ERP) at Whiteman AFB has identified 44 hazardous materials sites since 1984, and investigation and response actions have been completed at the majority of these sites. Several ERP sites are located within one half mile of the ROI (Air Force 2010b; Air Force 2010c), but these sites have been closed with no additional response necessary, or closed with long-term monitoring. No ongoing remediation is required at these sites (Air Force 2010b; Air Force 2010c).

## 3.7 SAFETY

### 3.7.1 Definition of the Resource

This section addresses ground and flight safety associated with the activities of 509th BW as well as the other units stationed at Whiteman AFB. Ground safety considers issues associated with human activities and operations, and maintenance activities that support operations. A specific aspect of ground safety addresses AT/FP considerations. Flight safety considers aircraft flight risks such as bird aircraft strike hazards.

The ROI for safety is Whiteman AFB and the safety zones immediately adjacent to the base.

### 3.7.2 Existing Conditions

#### *3.7.2.1 Ground Safety*

Day-to-day operations and maintenance activities conducted at Whiteman AFB are performed in accordance with applicable Air Force safety regulations, published Air Force Technical Orders, and standards prescribed by the Air Force Occupational Safety and Health requirements.

The Department of Defense (DoD) stipulates certain safety restrictions on land uses in the immediate vicinity of aviation operations around military airfields. To minimize the results of a potential accident involving aircraft operating from Whiteman AFB, safety zones including CZs and APZs have been established around the airfield. Whiteman's installation AICUZ Plan (2001) is prepared in accordance with AFI 32-7063 (Air Force 2005a) and identifies APZs and CZs at the end of the runways in which aircraft mishaps are more likely to occur. These zones are shown on Figure 4.

The CZ is an area 3,000 feet wide by 3,000 feet long for both Class A and Class B runways, and is located at the immediate end of the runway. Within CZs, construction is either prohibited or limited in terms of placement and height (Air Force 2001). For safety reasons, the military is authorized to purchase the land for these areas if not already part of the installation (DoD 2008).

APZ I is less critical than the CZ, but still poses potential for accidents. This 3,000-foot wide by 5,000 foot-long area located just beyond the CZ has land use compatibility guidelines that allow a variety of industrial, transportation, and open space uses. Uses that concentrate people in small spaces are not compatible (Air Force 2001).

APZ II is less critical than APZ I, but still poses potential for accidents. APZ II is 3,000 feet wide and extends 7,000 feet beyond APZ I (Air Force 2001). Compatible land uses include those of APZ I, as well as low density single family residential, and those personal and business services and commercial retail trade uses with low intensity or scale of operations. High density functions such as multi-story buildings and places of assembly (e.g., schools) are not considered compatible.

As a result of terrorist activities, the DoD and the Air Force have developed a series of AT/FP guidelines for military installations. These guidelines address a range of considerations that include access to the installation, access to facilities on the installation, facility siting, exterior design, interior infrastructure design, and landscaping (DoD 2007). The intent of this siting and design guidance is to improve security, minimize fatalities, and limit damage to facilities and assets in the event of a terrorist attack. Whiteman AFB's AT Plan provides AT/FP guidelines for the base and meets requirements established by AFI 10-245, *Operations - Antiterrorism (AT)* (Air Force 2009d).

AT/FP fencing is currently installed around the existing Whiteman AFB perimeter. Many facilities on military installations were developed before such considerations became a vital mission concern. Thus, under current conditions, Whiteman AFB does not fully comply with all present AT/FP standards. Based on security and vulnerability assessments, the need for increased standoff distances and adversary delay time currently exists.

### *3.7.2.2 Flight Safety*

The primary public concern with regard to flight safety is the potential for aircraft accidents. Such mishaps may occur as the result of mid-air collisions, collisions with manmade structures or terrain, weather-related accidents, mechanical failure, pilot effort, or bird and wildlife aircraft collisions. Flight risks apply to all aircraft; they are not limited to the military. Flight safety considerations associated with the Proposed Action include bird and wildlife aircraft strike hazards.

Bird and wildlife strikes constitute a safety concern because of the potential for damage to aircraft or injury to aircrews or local populations if an aircraft crash should occur. Although aircraft may encounter birds at altitudes of 30,000 feet above MSL or higher, most birds fly closer to the ground. Over 97 percent of reported bird strikes occur below 3,000 feet above ground level (AGL). Approximately 30 percent of bird strikes happen in the airport environment, and almost 55 percent occur during low-altitude flight training (Air Force Safety Center 2009).

While any bird-aircraft strike has the potential to be serious, many result in little or no damage to the aircraft, and only a minute portion result in a Class A mishap. Class A mishaps result in the loss of life, long-term total disability, a total cost in excess of $1 million, or destruction of an aircraft (Air Force 2008e). During the years 1985 to 2009, the Air Force BASH Team documented 86,189 bird strikes. Of these, 31 resulted in Class A mishaps where the aircraft was destroyed. These occurrences constituted approximately 0.04 percent of all reported bird-aircraft strikes (Air Force Safety Center 2009). However, Whiteman AFB averaged 76 bird strikes per year over the last five years (Air Force Undated [c]). In 2007 alone, Whiteman experienced more than twice the number of bird strikes per 1,000 flying hours than the Air Force average.

Large waterfowl (e.g., ducks and geese) are hazardous to low-flying aircraft because of their size and their propensity for migrating in large flocks at a variety of elevations and times of day. Waterfowl vary considerably in size, with most species likely to be encountered at Whiteman AFB in the 1 to 4-pound category. Raptors of the greatest concern in the ROI are falcons and hawks. In Missouri, peak migration periods for waterfowl and raptors are from March to June and September to November (MDC 2010c). Songbirds also pose a hazard. Songbirds are small birds, usually less than one pound. The potential for bird-aircraft strikes with songbirds is greatest in areas where birds congregate for foraging or resting (e.g., open water bodies or wetlands). Peak migration periods for songbirds are from April to June and September to November (MDC 2010c).

Other wildlife of concern to flying operations as strike hazards and/or attractants to raptors include deer, fox, and smaller mammals. Active habitat management, fencing, active and passive dispersal techniques, and effective warning techniques serve to reduce the wildlife strike hazard at Whiteman AFB.

The 509th BW Civil Engineer, in conjunction with the Bird Hazard Working Group (BHWG), provides habitat and terrain control to discourage nesting and gathering of birds. Habitat and terrain controls include mowing for specific vegetation heights, brush and tree removal, and reduction of airfield ponding. Other processes and procedures are contracted to the USDA, Animal Plant Health Inspection Service – Wildlife Services (Air Force 2009a). Additional hazards and reduction measures are outlined in the 509th BW Plan 91-15, BASH Program (Air Force 2009a).

# 4.0 ENVIRONMENTAL CONSEQUENCES

This chapter analyzes potential environmental consequences from the proposed acquisition of land adjacent to Whiteman AFB. As described in Chapter 3.0, the expected geographic scope of potential environmental consequences is identified as the ROI. This chapter considers the direct and indirect effects of the Proposed Action and No Action Alternatives described in Chapter 2.0. The existing conditions (refer to Chapter 3.0) of each relevant environmental resource is described to give public and agency decision makers a reference point from which they can compare potential future environmental, social, and economic effects. Cumulative effects are discussed in Chapter 5.0.

## 4.1 LAND USE

In general, potential impacts to land use are evaluated by determining if an action is compatible with existing land use, and in compliance with adopted land use plans and policies. Land use impacts would be considered significant if they were to be inconsistent or noncompliant with applicable land use plans and policies; prevent continued use of an area; or be incompatible with nearby or adjacent land use to the extent public health or safety is threatened. Impacts to visual characteristics would be significant if a proposed project would cause the visual environment to change appreciably from existing conditions. In evaluating land use, criteria for evaluating impacts to transportation include potential for disruption and or long-term degradation of the resource.

### 4.1.1 Proposed Action

The 1,188 +/- acres of privately-owned land to be acquired as part of the Proposed Action is currently used primarily for agricultural and residential purposes. After acquisition by the Air Force, the land would be enclosed within AT/FP fence. Installation of new fencing would result in the conversion of approximately 15.1 acres of mainly row crop, hayfield/pasture, forested, and previously developed areas to fencing, maintained grass, and gravel track. Overall land-use impacts to these areas would be long-term, but minor. The fenced-in area would be available for development by the Air Force subject to AT/FP and other constraints; however, large portions of the land would remain undeveloped to satisfy safety (e.g., CZ, APZ, and BASH) requirements. Approximately 516 acres of row crops would be converted to grassland open space within the lands proposed for acquisition. The land acquisition would satisfy AT/FP minimum standoff distance requirements and ensure that no development will occur within the CZ and no incompatible development (e.g., uses that congregate people) will occur within portions of the APZs.

The Military Airport Zone, as required under Missouri Revised Statutes (Chapter 41, Section 41.655), is currently in place around Whiteman AFB to limit incompatible land uses (such as residential developments or schools). The Zone extends 3,000 feet outward from the boundaries of Whiteman AFB into unincorporated Johnson County and also includes the lands within the perimeter of APZ I and APZ II. As part of the Proposed Action, the Military Airport Zone would shift within unincorporated areas of Johnson County to maintain a 3,000-foot buffer zone surrounding the proposed base boundary. Incorporated areas located within this buffer zone (i.e., the city of Knob Noster) would be excluded from the Military Airport Zone. Figure 5 (refer to Section 2.1) shows the existing zone as well as the proposed area to be included in the expanded Military Airport Zone. Zoning restrictions in the new area proposed to be included in the Military Airport Zone may limit some development. No private land use development could occur on the parcels proposed for acquisition. Overall, impacts to land

use from shifting the Military Airport Zone would be long-term but minor and less than significant.

The proposed fence around the perimeter of the 1,188 +/- acres of land proposed for acquisition would be visually consistent with the nearby existing base fence; however, the new fencing would differ from the existing agricultural fencing currently in place in these areas. Some of the trees growing in areas through which the fence would run would need to be removed to allow for line-of-sight along the fence. These trees are not visually exceptional and their loss would not be a significant impact to visual resources. Impacts to visual resources overall would not be significant.

Implementation of the Proposed Action would include construction of a new gravel perimeter track within the newly acquired lands. This perimeter track will be located immediately adjacent to, and inside of, the new fencing. Construction of various interior road connections to link the existing perimeter road to the new gravel perimeter roadways and trails would be considered in future separate planning and environmental analysis. No significant impact to transportation within the ROI is anticipated. Minor short-term adverse effects on transportation may be experienced through local congestion associated with fence construction.

### 4.1.2 No Action Alternative

Under the No Action Alternative, the proposed land acquisition would not occur at this time. Land use in these areas would not be controlled in such a way that CZ or APZ-compatible land use could be guaranteed and AT/FP requirements would not be met. Bird aircraft strike hazard control measures would remain the same. Under the No Action Alternative there would be a long-term adverse impact to land use management. Visual resources would not be affected under the No Action Alternative. Under the No Action Alternative, no impacts would occur to transportation. Impacts to land use would be less than significant.

## 4.2 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

To assess potential socioeconomic impacts of the Proposed Action and the No Action Alternative, demographic and economic characteristics at Whiteman AFB and Johnson County were analyzed (refer to Section 3.2). Potential socioeconomic consequences were assessed in terms of effects of the proposed land acquisition on the local economy. Significant socioeconomic impacts would occur if changes associated with the proposed land acquisition substantially affected the property values or overall economic stability in the region.

To assess potential environmental justice issues associated with the Proposed Action and No Action Alternative, minority and low-income populations in the vicinity of Whiteman AFB were identified (refer to Section 3.2). Under NEPA, potential disproportionate impacts to minority or low-income populations are assessed only when adverse environmental consequences to the human population are anticipated, otherwise no analysis is required. The land acquisition and potential improvements associated with the action are not expected to create significant adverse environmental or health effects to the human population; consequently no environmental justice concerns are anticipated.

### 4.2.1 Proposed Action

The Air Force is proposing acquisition of 1,188 +/- acres of land adjacent to the base. The proposed property acquisition would be comprised of 24 parcels that are currently privately-

owned by 16 landowners. The Air Force has not initiated negotiations with the property owners at this time; however, in conjunction with the USACE, the Air Force has performed a preliminary property assessment. Based on the total fair market value of the parcels in 2010, the purchase cost of all of the parcels in their entirety could be $3,316,305 (USACE 2010).

According to the USACE Real Property Report (USACE 2010), the Proposed Action would result in approximately 1,041 acres being removed from privately-owned farming operations. However, although these agricultural lands would no longer be Johnson County tax-eligible following the land acquisition, the overall impact on the economy in Johnson County would be negligible (USACE 2010). The sale of these parcels would benefit the property owners and those property owners would be likely to spend a portion of the funds received from the sale in the local economy. The one-time purchase of the parcels would not be likely to have a lasting socioeconomic impact to the county as a whole.

Construction activity associated with fence removal and installation may generate temporary economic benefits to the region in terms of employment and income. However, these benefits would last only for the duration of the construction period and are expected to be less than significant.

Implementation of the Proposed Action would result in no significant impacts to the economy of Johnson County.

### 4.2.2 No Action Alternative

Under the No Action Alternative, the land acquisition would not occur at this time. No increase in construction spending would take place and no economic effects are predicted to occur in Johnson County. Under the No Action Alternative, no impacts to socioeconomics or environmental justice are anticipated.

## 4.3 CULTURAL RESOURCES

Federal law dictates that impacts to cultural resources may be considered adverse if the resources are eligible for listing, or listed in, the NRHP, or are important to Native American groups. An NRHP-listed or eligible resource is an historic property. Sites not yet evaluated are considered potentially eligible to the NRHP and, as such may be afforded the same regulatory consideration as nominated historic properties. Eligibility evaluation is the process by which resources are assessed relative to NRHP significance criteria for scientific or historic research, for the general public, and for traditional cultural groups. An action results in impacts to a historic property when it alters the resource's characteristics, including relevant features of its environment or use, in such a way that it no longer qualifies for listing in the NRHP. Such impacts may be considered significant.

Consideration of both direct and indirect impacts is required during the analysis of potential impacts to cultural resources. Direct impacts may occur through one or more activities that cause physical alteration, damage, or destruction to all or part of a resource; introduce visual or audible factors that are out of character with the property or alter its setting; alter the surrounding environment's characteristics that contribute to the resource's significance; and neglect the resource to the extent that it deteriorates or is destroyed. Direct impacts can be assessed by identifying the types and locations of proposed activity and determining the exact location of cultural resources that could be affected. Indirect impacts typically result from the secondary effects of project-induced development, for example population increases and the need to develop new housing areas, utility services, and other support functions that

accommodate population growth. Such activities and the associated subsequent use of the development can significantly impact cultural resources.

Specific concerns for cultural resources within the ROI are related to ground-disturbing activities required for fence removal/installation. This section discusses environmental consequences of construction and operations associated with the Proposed Action and No Action Alternative.

### 4.3.1 Proposed Action

#### *4.3.1.1 Archaeological Resources*

There are no known significant archaeological resources in the ROI. Any direct impacts to archaeological resources, should they exist, resulting from the Proposed Action would be limited to ground-disturbing activities associated with fence removal and installation.

Removal of approximately 4.9 miles of existing fencing would disturb approximately 11.8 acres of land; 5.2 acres along the northern boundary of the existing Whiteman AFB, and 6.6 acres along the southern boundary of the existing Whiteman AFB. However, these areas are located on existing Whiteman AFB property and have therefore either already been surveyed for archaeological resources or were originally determined to have no potential to contain archaeological resources (Air Force 2004a). Previous archaeological surveys conducted in the fence removal construction footprint (covering approximately 2.1 acres along the northern fenceline and approximately 1.1 acres along the southern fenceline) indicated that no significant archaeological resources were present, and therefore that no archaeological resources in these areas were eligible for inclusion on the NRHP (Klinger and Smith 1997; Sturdevant 1989). Additionally, these areas were previously disturbed when the fence was originally constructed.

Ground disturbing activities will also be required to facilitate construction of approximately 6.2 miles of new AT/FP fencing along the perimeter of the land to be acquired. This disturbance comprises approximately 7.9 acres (approximately 3.2 miles of fencing) in the northern portion of the ROI, and approximately 7.2 acres (approximately 3.0 miles of fencing) in the southern portion of the ROI. Although substantial portions of these areas consist of land previously disturbed during construction of State Highways 23 and D, some construction will be required in previously undisturbed areas. These undisturbed areas are largely restricted to the northern and western perimeters of the northern portion of the ROI. However, existing conditions indicate that only isolated or low-density lithic scatter prehistoric materials would be expected in the ROI. Such prehistoric deposits would likely be insignificant and not eligible for inclusion on the NRHP. Similarly, while additional historic period archaeological deposits may currently exist in the ROI, they would also not be expected to be significant and therefore not eligible for inclusion on the NRHP.

If suspected artifacts of any type (wood, stone, bone, metal, etc.) or other unidentifiable materials are inadvertently uncovered during ground disturbing activities, the soil disturbing activities in that area will cease until environmental staff can determine whether or not the materials warrant further actions under applicable laws (e.g., Native American Graves Protection and Repatriation Act, Archeological Resources Protection Act, or NHPA). The environmental manager will ensure that the ICRMP procedures are implemented. If human remains are discovered in the course of ground disturbing activities, the work resulting in the discovery will stop, and the individual implementing the work will immediately notify the environmental manager who will ensure that the ICRMP procedures are implemented.

Because no known significant archaeological resources exist within the ROI, and because the above procedures will be implemented during construction, no impacts to significant archaeological resources are anticipated from the Proposed Action.

No direct impacts to archaeological resources would be expected from the other activities (e.g., BASH reduction strategies) included in the Proposed Action. Additionally, because the Proposed Action does not involve any development of lands proposed for acquisition (outside of fence construction), no indirect impacts to archaeological resources are anticipated.

#### *4.3.1.2 Historic Architectural Resources*

Although a previous survey identified historic architectural resources within the ROI, these resources were not determined to be culturally significant resources, and were therefore not eligible for inclusion on the NRHP (Sturdevant 1989). Several additional historic architectural resources were identified within the ROI during the 2010 field reconnaissance, but these were not expected to be eligible for inclusion on the NRHP. However, these resources were not fully evaluated for NRHP eligibility during the reconnaissance survey. No comprehensive or intensive historic architectural survey has been conducted on the majority of the ROI.

However, except for the removal of existing fencing, no demolition, part-removal, interior or exterior renovations, or modernization of any structure within the ROI would occur under the Proposed Action, and therefore no direct or indirect impacts to historic architectural resources are anticipated as a result of the Proposed Action.

#### *4.3.1.3 Traditional Resources*

Although no comprehensive or intensive survey for traditional cultural resources has been completed, no known recorded traditional Native American cultural resources have been documented within the ROI. Additionally, field reconnaissance and previous survey (Klinger and Smith 1997; Sturdevant 1989) indicated that the ROI is unlikely to contain Native American traditional resources.

The environmental manager will ensure that the ICRMP procedures are implemented during construction, and therefore that all regulatory requirements are met in respect to traditional cultural resources. Based on the fact that no known traditional cultural resources exist within the ROI, and that all regulatory procedures will be implemented during execution of the Proposed Action, no impacts to significant traditional cultural resources are anticipated.

### 4.3.2 No Action Alternative

Under the No Action Alternative no land would be acquired at this time, no fence removal or installation would occur, and no structures would become the property of Whiteman AFB. Therefore, because no ground disturbing activities would take place, and no structures would be acquired, no impacts to cultural resources would be expected under this alternative.

## 4.4 BIOLOGICAL RESOURCES

The assessment of potential impacts to biological resources, including vegetation and habitat, fish and wildlife, wetlands, and special-status species is based on the following:

- Importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource;

- Proportion of the resource that would be affected relative to its occurrence in the region;
- Sensitivity of the resource to the proposed activities; and
- Duration of ecological impacts.

Environmental consequences to biological resources may be considered significant if disturbances impact the distribution or abundance of state or federally listed species; if habitats of high concern are adversely affected over relatively large areas; or if disturbances to small, essential habitats would lead to landscape-level ecological effects. Construction activities which result in long-term habitat loss and temporary disturbance may also be a concern for biological resources.

Specific concerns for biological resources within the ROI include habitat loss related to fence construction activities, habitat degradation resulting from sediment run-off during construction activities, and land-use changes associated with BASH reduction strategies. This section discusses the environmental consequences of construction and operations associated with the Proposed Action and No Action Alternative.

### 4.4.1 Proposed Action

#### *4.4.1.1 Vegetation and Habitat*

The removal of approximately 4.9 miles of existing fencing will have minor, short-term adverse effects on approximately 11.8 acres of mowed vegetation. Approximately 2.2 miles of fencing will be removed in the northern portion of the ROI (approximately 5.2 acres of disturbance), and approximately 2.7 miles of fencing will be removed in the southern portion of the ROI (approximately 6.6 acres of disturbance). Ground disturbance will be required in these areas to remove the fencing which surrounds the existing Whiteman AFB boundary. Currently, however, these areas consist exclusively of maintained (mowed) grassland, and therefore habitat quality in these areas is low. Only those common and widespread plant species typically found in maintained grassland (i.e., turf grass and associated weed species) would be expected to exist in these areas. Post-construction, all disturbed areas will be reseeded. No significant long-term adverse effects are anticipated to these 11.8 acres of vegetation.

The installation of approximately 6.2 miles of new AT/FP fencing will impact approximately 15.1 acres of vegetation and habitat. Approximately 3.2 miles of new fencing will be installed in the northern portion of the ROI (approximately 7.9 acres of disturbance), and approximately 3.0 miles of fencing will be installed in the southern portion of the ROI (approximately 7.2 acres of disturbance). Of these disturbed areas, more than 11 acres consist of row crop (corn and soybean), hayfield/pasture, or areas already disturbed through residential, commercial, or roadway development. Because of the high levels of disturbance, these areas likely only provide refuge for common and widespread plant species within the ROI. Additionally, the impacted habitat types are abundant in both the local and regional landscape. Therefore, although long-term impacts may be experienced in these areas, the relative impacts to vegetation and habitat (through the conversion of existing habitat to mown grass/gravel track) will be negligible. The remainder of the construction footprint (under 4 acres) of the Proposed Action will require the removal of forested areas. While these forests do not appear to be of high quality (e.g., old growth forest, or containing sensitive species, etc.), a comprehensive vegetative survey has not been completed within the ROI. Nevertheless, the acreage of tree removal required for construction represents a

small proportion of the forested areas within the ROI and within the wider landscape surrounding Whiteman AFB. Flora present in these areas would be expected to be typical of forested areas in central Missouri. Therefore, long-term impacts to forested areas from the Proposed Action are anticipated to be minor. Post-construction, all disturbed areas associated with the new fencing will be reseeded, and these areas will be maintained as mown grass and gravel track. Impacts to stream habitats are considered in Section 4.5.1.1.

Short-term adverse effects to approximately 11.8 acres of vegetation and habitat will occur as a result of fence removal activities associated with the Proposed Action. These areas will likely recover quickly to their original state following construction, with no long-term adverse affects. Minor, long-term impacts to 15.1 acres of vegetation and habitat will result from the proposed installation of new AT/FP fencing, through the conversion of row crop, hayfield/pasture, developed areas, and forest to maintained grass/gravel track. These impacts are less than significant without mitigation.

BASH reduction strategies affecting vegetation and habitat would be limited to the conversion of row crops (soybean and corn) to grassland, which would be maintained through subsequent grazing and/or mowing. This conversion would affect approximately 150 acres in the northern portion of the ROI and approximately 366 acres in the southern portion of the ROI. However, these areas are currently maintained almost exclusively as monocultures of soybean and corn, and provide extremely limited opportunity for other vegetation to colonize. Habitat quality and diversity in these areas is therefore very low. Furthermore, row crop habitats are extremely widespread in the both the local and regional landscape. Although the Proposed Action would convert approximately 516 acres of row crop to grassland, the net (short-term and long-term) local and regional loss of vegetation and habitat is likely to be negligible. Conversion of row crops to grassland is not anticipated to have any net change on the vegetation and habitat diversity of the affected areas.

#### *4.4.1.2 Fish and Wildlife*

Some common and widespread wildlife species present in the fence removal areas (approximately 4.9 miles of fencing with approximately 11.8 acres of disturbance) may be adversely affected as a direct result of construction activities. However, these long-term effects are expected to be very minor, and only sedentary species (e.g. invertebrates) will be impacted. Most wildlife species in these areas are mobile (e.g., birds, fish, reptiles, amphibians, mammals) and, while minor short-term adverse affects may occur to these species, these species would be expected to quickly re-inhabit the land following construction. Further, species present in these areas are likely accustomed to high levels of disturbance resulting from current mowing activities and vehicular movements along the perimeter road. No effects to fish species will occur in the fence removal areas because no in-stream work will be required; secure culverts currently carry water beneath the existing fenceline, and these culverts will not be affected by construction activities.

Fish and wildlife species in the new fence installation areas (approximately 6.2 miles of new fencing with approximately 15.1 acres of disturbance) will be temporary disturbed by both ground-disturbing activities and the installation of new secure culverts in the streams. Some minor long-term direct impacts may also occur in these areas from the conversion of existing habitats to mowed grassland and gravel perimeter track (see Section 4.4.1), and the loss of some stream habitat through culvert installation. However, the mobility of most fish and wildlife species (e.g., birds, fish, reptiles, amphibians, mammals) in the ROI, in conjunction with the availability of similar habitat immediately adjacent to the disturbed areas, will likely result in only minor adverse affects to species populations. Additionally, much of the new

fencing, especially in the southern portion of the ROI and the eastern sections of the northern portion of the ROI, will be installed immediately adjacent to existing roadway. In these areas, wildlife species are already acclimated to high levels of disturbance due to mowing activities and vehicular movement along Highways 23 and D.

In addition to direct effects of minor permanent habitat loss, some minor short-term, indirect adverse impacts to noise-sensitive fish and wildlife species may occur in the vicinity of construction activities as a result of the equipment operations required for fence removal/installation.

The conversion of approximately 516 acres of row crops (soybean and corn) to grassland will result in minor direct short-term and long-term adverse affects to wildlife that are less than significant without mitigation. Approximately 150 acres of row crop would be converted in the northern portion of the ROI and approximately 366 acres in the southern portion of the ROI. Species currently able to exist in the row crop environment may be unable to survive in these areas following implementation of the Proposed Action. However, the monoculture nature of row cropping, combined with the application of herbicides and pesticides to those crops, means that currently few native species are likely able to prosper in the existing conditions. Those species that are able to exist in this challenging ecological environment are likely to be common, mobile, widespread species that are well-adapted to disturbance. Additionally, row cropping is very widespread at both the local and regional scales, and therefore any minor species impacts within the ROI are unlikely to affect local populations. No impacts to fish will occur from this land-use conversion because no streams will be affected. Although the Proposed Action would convert approximately 516 acres of row crop to grassland, the net loss to fish and wildlife is likely to be negligible. Minor long-term benefits to wildlife diversity may occur through the conversion of row crops to grassland.

Wildlife harassment techniques conducted as part of the Proposed Action will also result in minor temporary impacts to wildlife. Large mammal (e.g., white-tailed deer) populations will be temporarily affected when these species are removed from the area inside the newly installed fencing. Minor short-term impacts to bird species will occur on a regular basis following implementation of the Proposed Action: Whiteman AFB personnel will be employed to deter large flocks of birds from aircraft flightlines. However, species affected by these harassment techniques are all likely to be widespread and common species and populations are unlikely to be adversely affected in the long-term. No impacts to fish will occur because these wildlife harassment techniques do not involve streams.

#### *4.4.1.3 Wetlands*

Although wetland delineations have not been completed within the ROI, field reconnaissance suggested that no wetlands were present within the construction footprint of the fence removal and fence installation areas (Figures 7 and 8). BMPs will be established in the Whiteman AFB NPDES General Permit for Storm Water Discharge Associated with Construction Activities and the SWPPP. The existing NPDES and SWPPP documents apply to the current Whiteman AFB property only, and will need to be updated prior to commencement of construction. The future BMPs will ensure that silt and other materials entering those wetlands adjacent to the construction footprint will be minimized. Therefore, no direct or indirect adverse affects to wetlands are anticipated as a result of the fence construction.

The conversion of row crops to grassland, and the subsequent maintenance of these areas through mowing and/or grazing, are not anticipated to directly or indirectly impact wetlands. BMPs will be implemented to ensure wetlands are not impacted during the operation of farm

machinery. Wetlands will be avoided during planting, plowing, and mowing activities, and will be protected from encroachment during grazing activities.

No direct or indirect impacts to wetlands would be expected from wildlife harassment techniques conducted as part of the Proposed Action.

#### *4.4.1.4 Special-Status Species*

No surveys for federally or state listed species have been conducted within the ROI. No suitable habitat for species federally listed in Johnson County (USFWS 2009) is known to exist within the ROI. Previous work on the existing Whiteman AFB property provided information on special-status species that have been known to inhabit, or may potentially inhabit, the environs of Whiteman AFB. Nine of these species may potentially exist within the ROI.

Eight of the special-status species that may potentially exist within the ROI (black-tailed jack rabbit, greater prairie-chicken, common barn owl, long-tailed weasel, sharp-shinned hawk, northern harrier, loggerhead shrike, and the northern crawfish frog) are highly mobile and are unlikely to be directly affected by construction activities or BASH reduction strategies (row crop conversion/wildlife harassment). No known records of any of these species exist within the lands to be acquired. The remaining special-status species (earleaf/auriculate false foxglove) with potential to exist within the ROI retains no regulatory authority, and there are no known records for this species within in the ROI or in the vicinity of the ROI.

No significant impacts to special-status species are expected from implementation of the Proposed Action.

### 4.4.2 No Action Alternative

Under the No Action Alternative no land would be acquired at this time, no fence removal or installation would occur, and no additional BASH reduction strategies would be implemented. Therefore, no alterations to biological resources would take place, and no impacts to biological resources would be expected under this alternative.

## 4.5 PHYSICAL RESOURCES

The direct environmental consequences relating to physical resources focus primarily on physical changes, damage, or destruction of those resources. The impacts of the Proposed Action can be assessed through identification of the type and location of proposed activities, in combination with the known locations of physical resources that could be affected. Consideration will also be given to the importance of that resource (e.g., legal, commercial, or recreational), the proportion of the affected resource relative to its occurrence in the region, and the sensitivity of that resource to the proposed activities. No indirect effects to physical resources are anticipated as a result of the Proposed Action. Generally, impacts to physical resources can be avoided or minimized if proper construction techniques, erosion control measures, and structural engineering designs are incorporated into construction planning.

Environmental consequences to physical resources may be considered significant if disturbances impact important farmland soil types, unique geologic features, or other physical features (e.g., streams, ponds) which are legally protected.

Specific concerns for physical resources within the ROI include alterations to the physical landscape and water quality issues relating to fence construction activities. This section discusses environmental consequences of construction and operations associated with the Proposed Action and No Action Alternative.

### 4.5.1 Proposed Action

#### *4.5.1.1 Water Resources*

Surface Waters

No impacts to surface waters are anticipated from the removal of approximately 4.9 miles of existing fencing. Approximately 2.2 miles of existing fencing will be removed in the northern portion of the ROI and approximately 2.7 miles in the southern portion of the ROI. Secure culverts currently carry the streams beneath the existing fenceline, and these culverts will not be affected by construction activities. No ponds are present in these areas.

The installation of approximately 6.2 miles of new AT/FP fencing will directly impact approximately 13 streams; 7 streams in the northern portion of the ROI (approximately 3.2 miles of new fencing) and 6 streams in the southern portion of the ROI (approximately 3.0 miles of new fencing). Secure culverts and grills will be installed in all streams and new AT/FP fencing will be constructed above these culverts. The short-term adverse affects to streams resulting from construction activities will be minimized through full implementation of BMPs, and therefore impacts will not be significant. BMPs will be established in future Whiteman AFB NPDES General Permit and SWPPP documentation. The existing NPDES and SWPPP documents apply to the current Whiteman AFB property only, and will be updated prior to the beginning of construction. BMPs in future documents will ensure that silt and other materials entering the streams will be minimized. Prior to construction, permits will be obtained by Whiteman AFB to ensure compliance with CWA Sections 401 and 404 for any impacts to waters of the US. Because of Long Branch of Muddy Creek's designated beneficial uses and listing on the 2010 CWA Section 303(d) list, coordination with MDNR may also be required for impacts to this stream. The long-term adverse affects to streams through the installation of secure culverts are expected to be minor and less than significant. These impacts will be limited to a small loss of instream habitat through the conversion of existing stream bed and bank to secure culvert. Post-construction, it is anticipated that flow rates in the affected reaches will be equivalent to pre-construction levels and impacts to aquatic life will be negligible. No ponds will be affected by construction of the new AT/FP fencing.

The conversion of row crops to grassland, and the subsequent maintenance of these areas through mowing and/or grazing, is not anticipated to impact surface waters. If necessary, BMPs should be fully implemented to ensure streams and ponds are not impacted during the operation of farm machinery. Surface waters will be during planting, plowing, and mowing activities, and will be protected from encroachment during grazing activities.

No impacts to surface waters would be expected from the wildlife harassment techniques conducted as part of the Proposed Action.

Groundwater

Construction activities associated with the Proposed Action (i.e., fence removal and installation) will be restricted to superficial disturbance only, with excavation not anticipated to be greater than three feet deep. BMPs will be fully implemented throughout these

activities. Therefore, no direct or impacts to groundwater are anticipated from this aspect of the Proposed Action.

Similarly, wildlife harassment and the conversion of row crops to grassland do not involve groundwater, and therefore no impacts to groundwater are anticipated from these BASH reduction techniques.

Floodplains

No floodplains exist in the northern portion of the ROI, and therefore no impacts to floodplains are anticipated in this area.

Within the southern portion of the ROI, construction activities associated with the removal and installation of fencing will impact approximately 4.8 acres of the 100-year floodplain. Minor, short-term impacts to the floodplain will result from grading activities associated with construction. However, because all construction areas will be returned to their pre-existing contours, it is anticipated that grading activities will have no long-term impact on flood levels. Approximately 0.8 mile of existing fencing will be removed from the 100-year floodplain and approximately 1.2 mile of new AT/FP fencing will be installed within the 100-year floodplain. Therefore, the Proposed Action will result in a very minor, long-term, net adverse impact to floodplains within the southern portion of the ROI, through a net increase in above-ground structures within the 100-year floodplain. However, because fence installation is unlikely to affect the flood retention capability of the local landscape, impacts would be less than significant.

Under Chapter 49 (County Commissions and County Buildings) of the Missouri Revised Statutes, the State of Missouri has delegated responsibility to adopt floodplain management regulations to local government. Therefore, prior to construction, Whiteman AFB will obtain a Johnson County Floodplain Development Permit to ensure compliance with Johnson County Floodplain Ordinance 0808 #5 for any impacts within the 100-year floodplain. Additionally, Whiteman AFB will ensure full compliance with EO 11988, which notes the need for federal agencies to "avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of flood plains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative." No practicable alternative exists to locating the new AT/FP fencing within the 100-year floodplain.

Although wildlife harassment methods and the conversion of row crops to grassland will be located within the 100-year floodplain, no structures will be installed, and therefore no impacts to floodplains are anticipated from these BASH reduction techniques.

### *4.5.1.2 Earth Resources*

Topography

Minor, short-term adverse affects to topography will result from construction activities (grading) associated with the removal and installation of approximately 11.1 miles of AT/FP fencing. However, because all construction areas will be returned to their pre-existing contours, it is anticipated that grading activities will have no long-term or significant impact on the topography of the ROI.

The BASH reduction techniques of wildlife harassment and conversion of row crops to grassland are not anticipated to have any topographical impacts within the ROI.

Geology

Construction activities associated with removal and installation of the new fencing will be limited to the upper three feet (36 inches) of the soil profile. However, several of the mapped soils in the ROI have a shallow depth to bedrock (see Table 9), and therefore minor direct long-term impacts to the bedrock of the following mapped soils may be expected: Mandeville silt loam, 5 to 9 percent slopes and Norris channery silt loam, 5 to 14 percent slopes. These impacts are expected to be less than significant without mitigation. No known mineral resources, ground subsidence, sinkholes, or faults have been identified within the ROI, and it is not expected that these resources will be impacted. No indirect impacts to geology are anticipated.

BASH reduction techniques of wildlife harassment and conversion of row crops to grassland are not anticipated to have any geological impacts within the ROI.

Soils

Short-term adverse impacts to soils are expected as a result of construction activities required to execute the Proposed Action. Table 10 presents soils that will be impacted as a result of fence removal and installation. All soils disturbed by clearing and grading activities will be returned to pre-construction conditions. Future BMPs associated with Whiteman AFB NPDES General Permit and SWPPP documentation will ensure that the short-term adverse

Table 10. Acreages of ROI Soil Map Units to be Disturbed During Fence Construction Activities.

| Soil Map Unit | Acreage (Portion of ROI) | | Total Acreage |
|---|---|---|---|
| | Northern | Southern | |
| Deepwater silt loam, 2 to 5 percent slopes[1] | 0.2 | - | 0.2 |
| Deepwater silt loam, 5 to 9 percent slopes, eroded[2,3] | 0.4 | 0.7 | 1.1 |
| Gorin silt loam, 5 to 9 percent slopes, eroded[2,3] | 0.5 | - | 0.5 |
| Haig silt loam, 0 to 2 percent slopes | 5.1 | 4.0 | 9.1 |
| Haplaquents-Urban land complex, 0 to 2 percent slopes | - | 0.7 | 0.7 |
| Hartwell silt loam, 1 to 3 percent slopes, eroded[1,3] | - | 1.5 | 1.5 |
| Lightning silt loam, 0 to 2 percent slopes, occasionally flooded | - | 1.2 | 1.2 |
| Mandeville silt loam, 5 to 9 percent slopes[2,3] | 0.5 | - | 0.5 |
| Norris channery silt loam, 5 to 14 percent slopes[3] | 1.8 | - | 1.8 |
| Sampsel silty clay loam, 2 to 5 percent slopes | 3.2 | 4.2 | 7.4 |
| Sampsel silty clay loam, 5 to 9 percent slopes, severely eroded[2,3] | 0.6 | 1.1 | 1.7 |
| Zook silty clay loam, 0 to 2 percent slopes, frequently flooded | 0.7 | 0.3 | 1.0 |
| **Total Acreages** | **13** | **13.7** | **26.7** |

[1] Prime Farmland
[2] Farmland of Statewide Importance.
[3] Highly Erodible Soils.

impacts to soils will be minimized. The existing NPDES and SWPPP documents apply to the current Whiteman AFB property only, and will be updated prior to the beginning of construction. In the future, BMPs will include measures to limit erosional soil loss, e.g., use of silt fencing, hay bales, re-vegetation of disturbed areas, etc. No significant impacts to soils are anticipated from implementation of the Proposed Action.

Approximately 1.7 acres of Prime Farmland and 3.8 acres of Farmland of Statewide Importance will be temporarily disturbed during fence removal/installation activities (see Tables 9 and 10, Figures 9 and 10). Prime Farmland and Farmland of Statewide Importance are protected under the Farmland Protection Policy Act (FPPA) (7 USC 658) which regulates federal programs that contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. Approximately 1.9 acres of these special farmland soils will be disturbed during fence removal operations, and approximately 3.7 acres will be disturbed during fence installation. Following construction, fence installation areas will be converted to gravel track and maintained grassland, although the underlying soil map units will remain intact. Not all of these 5.5 acres of special farmland soils are currently in agriculture. The majority of the 1.9-acre fence removal area is already in agriculture, and will likely remain in agriculture post-construction. Additionally, Section 3 (Applicability and Exemptions) of the FPPA states that "acquisition or use of farmland by a federal agency for national defense purposes is exempted by section 1547(b) of the Act, 7 USC 4208(b)." As noted above, full implementation of BMPs will ensure that erosional soil loss during construction activities will be minimized and therefore impacts are expected to be less than significant.

Approximately 7.1 acres of soils classified as highly erodible by the USDA (1990) will be disturbed during fence construction activities. However, short-term adverse impacts to these soils through erosion will be minimized through the implementation of BMPs during fence removal/installation and are therefore less than significant. No long-term impacts to highly erodible soils are anticipated.

Wildlife harassment techniques are not anticipated to have any soil impacts within the ROI. The conversion of approximately 516 acres of row crops to grassland may have minor, short-term soil impacts associated with farm equipment furrowing the land. However, all land in this area has been in agriculture for many years, and therefore the soils have been previously impacted several times. Although, approximately 516 acres of row crops will be converted to grassland, the soils in these areas will not be converted to non-agricultural uses. The grassland would subsequently be maintained through grazing and/or mowing, and therefore, the FPPA does not apply.

### 4.5.2 No Action Alternative

Under the No Action Alternative no land would be acquired at this time, no fence removal or installation would occur, and no additional BASH reduction strategies would be implemented. Therefore, no alterations to physical resources would take place, and no impacts to physical resources would be expected under this alternative.

## 4.6 HAZARDOUS MATERIALS AND HAZARDOUS WASTE

Hazardous materials at Whiteman AFB are managed in accordance with AFI 32-7086, Hazardous Material Management (Air Force 2004d). The AFI includes requirements for the procurement, handling, storage, and issuing of hazardous materials and the redistribution/reuse of hazardous materials. The majority of hazardous materials used at Whiteman AFB are controlled through a HMMP (Air Force 2003). The HMMP addresses

hazardous materials that may be encountered during renovation or demolition activities, such as ACM, lead-based paint, and mercury-containing thermostats. The Whiteman AFB IWMP (Air Force Undated [a]) describes handling procedures and management responsibilities for hazardous wastes. The IWMP includes processes to ensure hazardous and special wastes are management consistently and in accordance with federal, state, and local regulatory requirements. The Whiteman AFB SWMP (Air Force Undated [b]) establishes procedures for the management and disposal of solid waste. The qualitative and quantitative assessment of impacts from hazardous materials and hazardous waste management focuses on how and to what degree the proposed land acquisition affects hazardous materials usage and management, hazardous waste generation and management, and waste disposal. A substantial increase in the quantity or toxicity of hazardous substances used or generated would be considered potentially significant. If a substantial increase in human health risk or environmental exposure was generated at a level that could not be ameliorated to achieve acceptable standards, impacts would be considered significant.

### 4.6.1 Proposed Action

Under the Proposed Action, no significant adverse effects with respect to hazardous materials and waste management are anticipated. In response to findings of the Phase II EBS, site remediation on parcel 10.1 will be completed so that hazardous substances or petroleum product releases on this parcel will be fully removed or remediated. It is anticipated that the Phase II EBS will conclude by either finding that the parcel has not been impacted by releases of hazardous substances and petroleum products, or that releases have occurred, and will identify the extent of impacts. If impacts from releases are not identified, the drums will be removed and properly disposed of by a licensed waste disposal company following proper procedures and laws. If releases are identified, contaminated soils will be removed and properly disposed. All hazardous materials will be handled, stored, and disposed of in accordance with federal, state, and local regulations and laws. Required permits for handling and disposal of hazardous materials will be obtained. No adverse impacts associated with the clean up and disposal are anticipated.

It is anticipated that the HMPP will be applied to management of the acquisition parcels, resulting in a net positive benefit to the environment through control and abatement of ACMs, mercury-containing thermostats, fluorescent lights, and other hazardous materials associated with components of vacant buildings on parcels 5, 7, 9, and 12. It is anticipated that the HMPP, SWMP, and IWMP will be applied to the discarded debris observed on several of the acquisition tracts, resulting in a net positive benefit through the removal of these wastes from the parcels, followed by proper disposal in a licensed solid waste disposal facility.

Existing structures on the parcels proposed for acquisition may have the potential to contain ACM and LBP. Materials containing ACM may include floor tile, adhesive, window caulk, and roofing material associated with the structures on the proposed parcels. AFI 32-1052, Facilities Asbestos Management (Air Force 1994b), requires that when safety and budgetary considerations permit, complete removal of asbestos-containing material would be included in military construction program facility projects. Asbestos surveys (taking samples and obtaining analysis by a state certified laboratory) would be performed prior to any activity associated with the structures to locate all ACM. Where asbestos is found, the demolition contractor would perform any and all asbestos work in accordance with applicable laws. With appropriate management requirements in effect, there would be no anticipated adverse impacts resulting from asbestos contamination, and therefore impacts would be less than significant. Materials that may contain LBP include interior baseboards, windowsills, metal doorframes, window frames, exterior wood trims, and soffits. LBP-containing materials do

not have to be treated as hazardous waste as long as these materials are not removed from the structure prior to any structural modifications or demolition. Prior to any activities, LBP surveys would be required. Appropriate abatement and disposal requirements for LBP would be followed, as specified in the Whiteman AFB Lead-Based Paint Management Plan (Air Force Undated [d]); therefore no adverse impacts from LBP would be expected, and impacts would be less than significant.

The removal of existing fencing at the Whiteman AFB boundary, combined with the installation of new fencing at the future boundary, will result in minor increases in the handling and utilization of petroleum products such as motor fuels and lubricating oils. These petroleum products will be used by clearing, excavating, and other equipment associated with the fence removal and installation project.

### 4.6.2 No Action Alternative

Under the No Action Alternative, trash and debris observed on several of the tracts would likely remain in place. Drums of used oil on parcel 10.1, some observed to be leaking, will likely remain in place, resulting in additional releases of used oil to the property. Several vacant structures are present on the parcels, including residences at parcels 5, 7, 9, and 12. It is likely that under the No Action Alternative these structures would continue to deteriorate, potentially resulting in releases of hazardous materials associated with components of the building, such as ACMs, to the environment. Therefore, under the No Action Alternative, significant negative impacts from hazardous materials and hazardous waste would occur.

## 4.7 SAFETY

This section addresses flight and ground safety issues associated with the Proposed Action and No Action Alternatives. Safety impacts would be considered significant if implementation of the Proposed Action or No Action Alternatives were to render existing and proposed installation resources and assets incompatible with safety criteria (e.g., safety zones, AT/FP).

### 4.7.1 Proposed Action

The Proposed Action would improve ground safety in that acquisition of the property to include the CZ and APZ I would guarantee compatible land use in those areas. Acquisition of this land would be in accordance with safety-related recommendations found in AFI 32-7063 (Air Force 2005a).

The proposed land acquisition would also improve force protection by providing increased standoff distance between the installation fence line and facilities that could potentially be targets for outside threats.

BASH reduction measures, as well as elimination of row crops in the acquired parcels, would improve overall flight safety at Whiteman AFB.

Overall, impacts to safety under the Proposed Action would be long-term and beneficial.

### 4.7.2 No Action Alternative

Under the No Action Alternative, the land acquisition would not occur at this time. Compatible land use in the CZ and the APZ would be protected by the Military Airport Zone,

but would not meet Air Force Standards as set forth in AFI 32-7063 (Air Force 2005a). AT/FP concerns would not be addressed. No positive impacts to flight safety from bird aircraft strike hazard reduction would be expected because BASH strategies at Whiteman AFB would continue only as currently implemented and surrounding agricultural land would continue to be an attractant to wildlife. Under the No Action Alternative, significant negative impacts to flight and ground safety are anticipated.

# 5.0 CUMULATIVE IMPACTS

## 5.1 CUMULATIVE EFFECTS ANALYSIS

The CEQ regulations stipulate that the cumulative effects analysis in an EA considers the potential environmental consequences resulting from "the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Chapter 3.0 discusses the baseline conditions of on environmental resources potentially impacted by the Proposed Action and Chapter 4.0 discusses potential consequences. This Chapter identifies and evaluates projects that are reasonably foreseeable that could cumulatively affect environmental resources in conjunction with the Proposed Action.

Assessing cumulative effects begins with defining the scope of other actions and their potential interrelationship with the Proposed Action or alternatives (CEQ 1997). The scope must consider other projects that coincide with the location and timetable of the Proposed Action and other actions. Cumulative effects analyses evaluate the interaction of multiple activities. The first steps of the environmental impact analysis process helped identify other potential and planned actions. During the preparation of the EA, ongoing regional projects were investigated. This research defined the ROI as well as what actions should be considered cumulatively.

The CEQ identified and defined eight ways in which effects can accumulate: time crowding; time lag; space crowding; cross boundary; fragmentation; compounding effects; indirect effects; and triggers and thresholds. Cumulative effects can arise from single or multiple actions and through additive or interactive processes (CEQ 1997).

Actions not identified in Chapter 2.0 as part of the Proposed Action, but that could be considered as connected actions may include projects that affect areas on or near Whiteman AFB. The analysis presented in this Chapter addresses three questions to identify potential cumulative effects:

- Does a relationship exist such that elements of the Proposed Action might interact with elements of past, present, or reasonably foreseeable actions?
- If one or more elements of the Proposed Action and another action could be expected to interact, would the Proposed Action affect or be affected by impacts of the other action?
- If such a relationship exists, does an assessment reveal any potentially significant impacts not identified when the Proposed Action is considered alone?

An effort has been made to identify actions within the ROI that are being considered or in the planning phase at this time. To the extent that details regarding such actions exist and the actions have a potential to interact with the proposal, these actions are included in this cumulative analysis.

### 5.1.1 Past, Present, and Reasonably Foreseeable Actions

Recent past and ongoing military action in the region were considered as part of the baseline or existing conditions in the ROI. Each project was reviewed to consider the implication of each action in conjunction with the Proposed Action and No Action Alternative.

Whiteman AFB is an active military installation that experiences evolving training and mission requirements. This process of change is consistent with the United States defense policy that the Air Force must be ready to respond to threats to American interests throughout the world. The base, like other major military installations, also requires new construction, facility improvements, and infrastructure upgrades. All new construction complies with land use controls. The two approved construction projects currently in progress at Whiteman AFB are the MQ-1 (Predator) beddown project and the EOD operations complex. The MQ-1 (Predator) beddown project, through which Whiteman AFB will serve as a ground control station for the unmanned MQ-1 Predator drone, is currently under construction and approximately 50 percent complete. This project involves the provision of additional office space only, and no additional aircraft are associated with the project. Construction is expected to be completed by spring 2011. The EOD operations complex project is currently in the design phase, with design approximately 95 percent complete. This project involves the construction of a new building in the southwestern corner of the industrial portion of the base. No personnel increases are associated with this project; the new building will house personnel already working at Whiteman AFB.

Future actions resulting from the Proposed Action could also include the demolition of the structures acquired as part of the land acquisition, construction of additional roads and trails, as well as further habitat management techniques (such as the management or removal of other vegetation [e.g., forested areas] as well as water bodies) to further reduce bird aircraft strike hazards. In order to comply with Whiteman AFB land use management goals and to further enhance safety, these activities may be considered at sometime in the future and, if necessary, would be evaluated in separate environmental analysis.

No known non-federal actions are currently planned within the vicinity of Whiteman AFB.

### 5.1.2 Cumulative Effects Analysis by Resource

The following analysis examines how the impacts of the projects and actions presented above might be affected by those resulting from the Proposed Action and No Action Alternative at Whiteman AFB, and whether such a relationship would result in potentially significant impacts not identified when the Proposed Action or No Action Alternative was considered individually.

#### *5.1.2.1 Land Use*

The Proposed Action will result in minor long-term impacts from the expansion of the Military Airport Zone and fence construction activities. Short-term impacts to traffic circulation may also occur through construction-related congestion. These impacts are less than significant without mitigation. Significant or adverse cumulative effects to land use resources in the region are not anticipated.

Under the No Action Alternative there would be a long-term adverse impact to land use management. However, no additional cumulative effects would be expected from implementation of the No Action Alternative.

### *5.1.2.2 Socioeconomics and Environmental Justice*

The Proposed Action is not expected to generate significant adverse impacts to populations or economic activity in the ROI. Economic pursuits in the region are not expected to experience any major limitations or negative effects under implementation of the Proposed Action separately or in conjunction with relevant past, present, and reasonably foreseeable future actions. Incremental effects of the land acquisition, in combination with potential impacts associated with reasonably foreseeable actions, would not be expected to create any significant or adverse cumulative effect to socioeconomic resources in the region.

The activities associated with the Proposed Action are not expected to generate significant adverse impacts, separately or cumulatively, on minority, low-income, or youth populations in the ROI. The incremental effects of this proposal, in combination with potential impacts associated with the relevant past, present, and reasonably foreseeable future actions would also not be expected to have any cumulative environmental justice effects.

No cumulative effects to socioeconomics and environmental justice are expected through implementation of the No Action Alternative.

### *5.1.2.3 Cultural Resources*

It is not anticipated that the Proposed Action will significantly impact cultural resources. No reasonably foreseeable future actions which may affect cultural resources are anticipated. All projects are subject to compliance with NEPA and Section 106 of the NHPA with the result that effects would be mitigated, reducing cumulative impacts that could occur.

No cumulative effects to cultural resources are expected through implementation of the No Action Alternative.

### *5.1.2.4 Biological Resources*

Minor short- and long-term impacts to biological resources within the ROI will result from the Proposed Action. Incremental effects of the Proposed Action, in combination with potential impacts associated with relevant past, present, and reasonably foreseeable future actions, would not be expected to create any significant or adverse cumulative effect to biological resources.

No cumulative effects to biological resources are expected through implementation of the No Action Alternative.

### *5.1.2.5 Physical Resources*

Physical resources within the ROI will be impacted to a minor extent in both the short- and long-term through implementation of the Proposed Action.

The activities associated with the Proposed Action are not expected to generate significant adverse impacts, separately or cumulatively, on physical resources in the ROI.

No cumulative effects to physical resources are expected through implementation of the No Action Alternative.

#### *5.1.2.6 Hazardous Materials and Hazardous Waste*

Within the ROI, hazardous materials and hazardous waste elements will experience a minor impact resulting from implementation of the Proposed Action. However, there are no reasonably foreseeable actions which would affect hazardous materials and hazardous waste, and therefore no significant or adverse cumulative effects to these resources are anticipated.

Implementation of the No Action Alternative will likely result in minor short- and long-term significant adverse impacts through continuing oil drum leaks and deterioration of vacant structures. However, no reasonably foreseeable actions affecting hazardous materials and hazardous waste are anticipated under this alternative, and therefore no cumulative effects would be expected.

#### *5.1.2.7 Safety*

Flight and ground safety associated with the Proposed Action are not expected to have any negative cumulative effects in conjunction with other past, present, and reasonably foreseeable actions.

Although flight or ground safety would not be expected to improve, no cumulative effects would be expected from implementation of the No Action Alternative.

## 5.2 OTHER ENVIRONMENTAL CONSIDERATIONS

### 5.2.1 Relationship Between Short-Term Uses and Long-Term Productivity

CEQ regulations (40 CFR Part 1502.16) specify that environmental analysis must address "…the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity." Special attention should be given to impacts that narrow the range of beneficial uses of the environment in the long-term or pose a long-term risk to human health or safety. This section evaluates the short-term benefits of the Proposed Action compared to the long-term productivity derived from not pursuing this proposal.

Generally, short-term effects to the environment are defined as a direct consequence of a project in its immediate vicinity. Short-term effects could include localized disruptions such as dust or transportation delays due to construction activities. Other short-term effects are summarized in Table 4. Under the Proposed Action, these short-term uses would have a negligible cumulative effect. Although there would be a change in land use under the Proposed Action, a significant impact to the long-term productivity of the land is not anticipated.

### 5.2.2 Irreversible and Irretrievable Commitment of Resources

Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the use of these resources have on future generations. Irreversible effects primarily result from the use or destruction of specific resources (such as energy or minerals) that cannot be replaced within a reasonable timeframe. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the Proposed Action.

Most impacts related to the Proposed Action at Whiteman AFB are short-term and temporary (such as potential fugitive dust resulting from fence construction) or longer lasting but negligible (such as conversion from row crops to grassland). Construction for fencing would use materials (e.g., metal, concrete) and energy (e.g., fuel, electricity) that would be irretrievably lost. Air Force and contractor personnel would use vehicles and equipment that would consume fuel, oil, and lubricants. None of these activities would be expected to significantly decrease the availability of resources or have cumulative environmental consequences.

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## 6.0 LIST OF PREPARERS

Whiteman AFB

Glenn Golson
509 CES/CEAN
Environmental Element Chief

Hank Borghardt
509 CES/CEAOR
Realty Officer

Joe Joyner
509 CES/CEA
Asset Management Flight Chief

BHE Environmental, Inc.

David Bell, PhD
Doctor of Philosophy in Ecology
Years of Experience: 13

Christa Stumpf
Master of Science in Forest Resources and Land Use Planning
Years of Experience: 14

Eric Riekert
Bachelor of Science in Chemistry
Years of Experience: 21

Dane Vandewater
Bachelors of Science in Environmental Biology
Years of Experience: 11

Samantha Williams
Master of Science in Environmental Studies
Years of Experience: 4

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**FIGURES**

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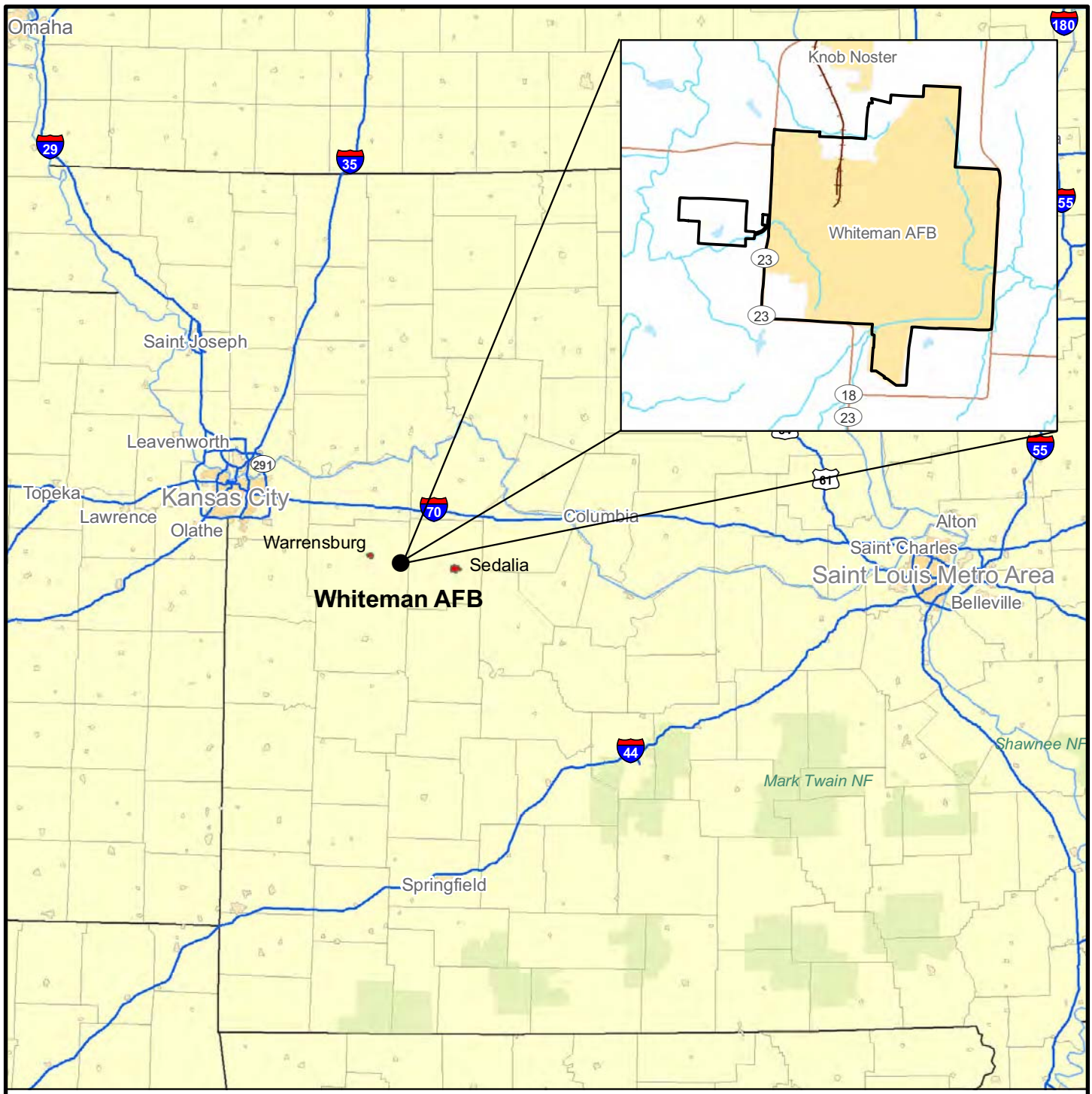


**Legend**

Installation Boundary — Freeway System — County Boundary — State Boundary

Figure 1. Regional Location of Whiteman AFB.

N W E S

0 5 10 20 30 40 Miles

November 2010

BHE PN: 1939.001

Background data provided by: ESRI Data and Maps 2009

GIS layers provided by: Whiteman Air Force Base

BHE ENVIRONMENTAL

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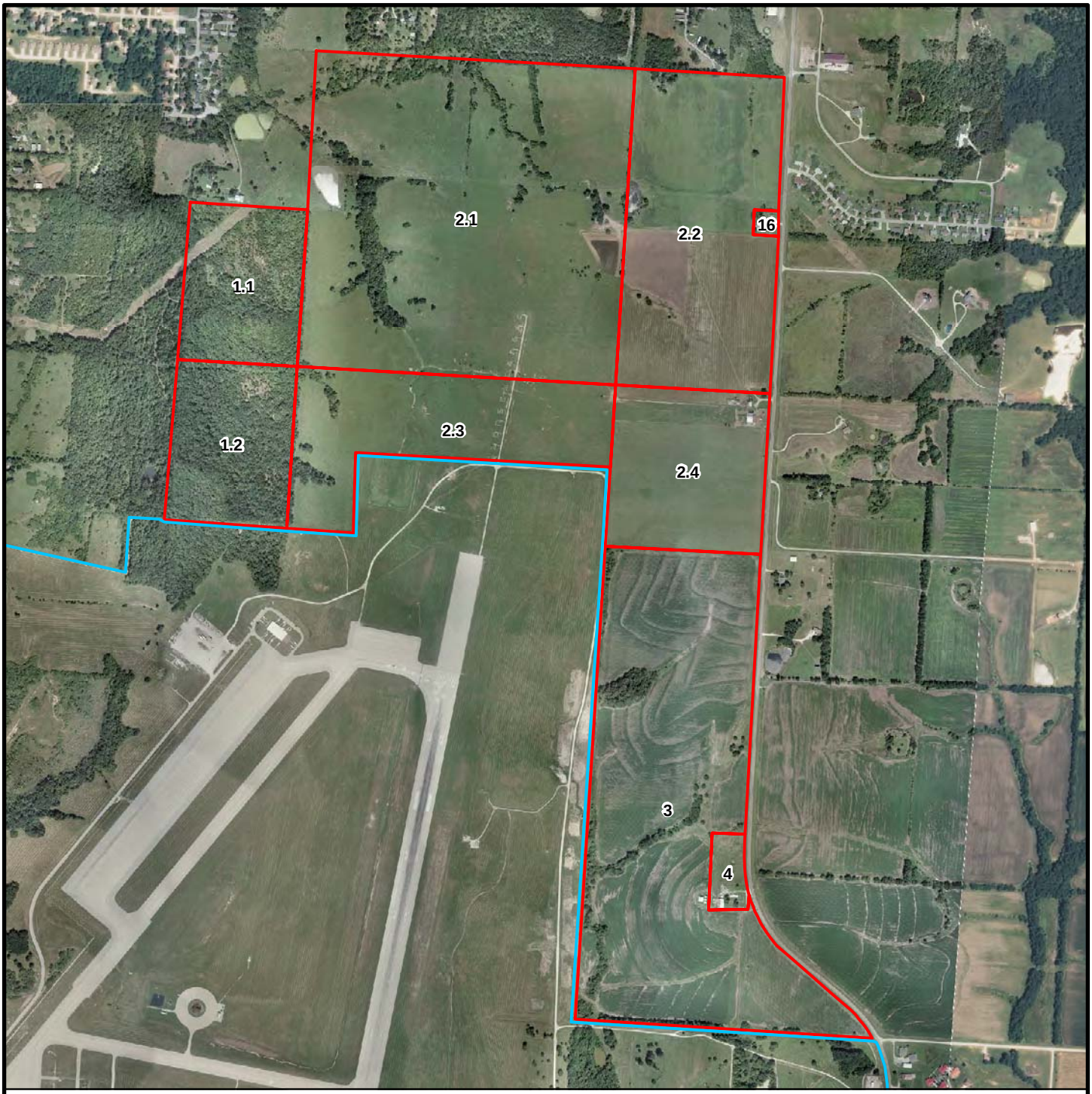


Legend

Whiteman AFB Boundary

Parcels Proposed for Acquisition

Figure 2. Property Proposed for Acquisition: Northern Portion.

N

W E

S

0 250 500 1,000 1,500 2,000 Feet

November 2010

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Background data provided by:
Whiteman Air Force Base (2008 Aerial)
NAIP (2010 Aerial)

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Whiteman Air Force Base

BHE ENVIRONMENTAL

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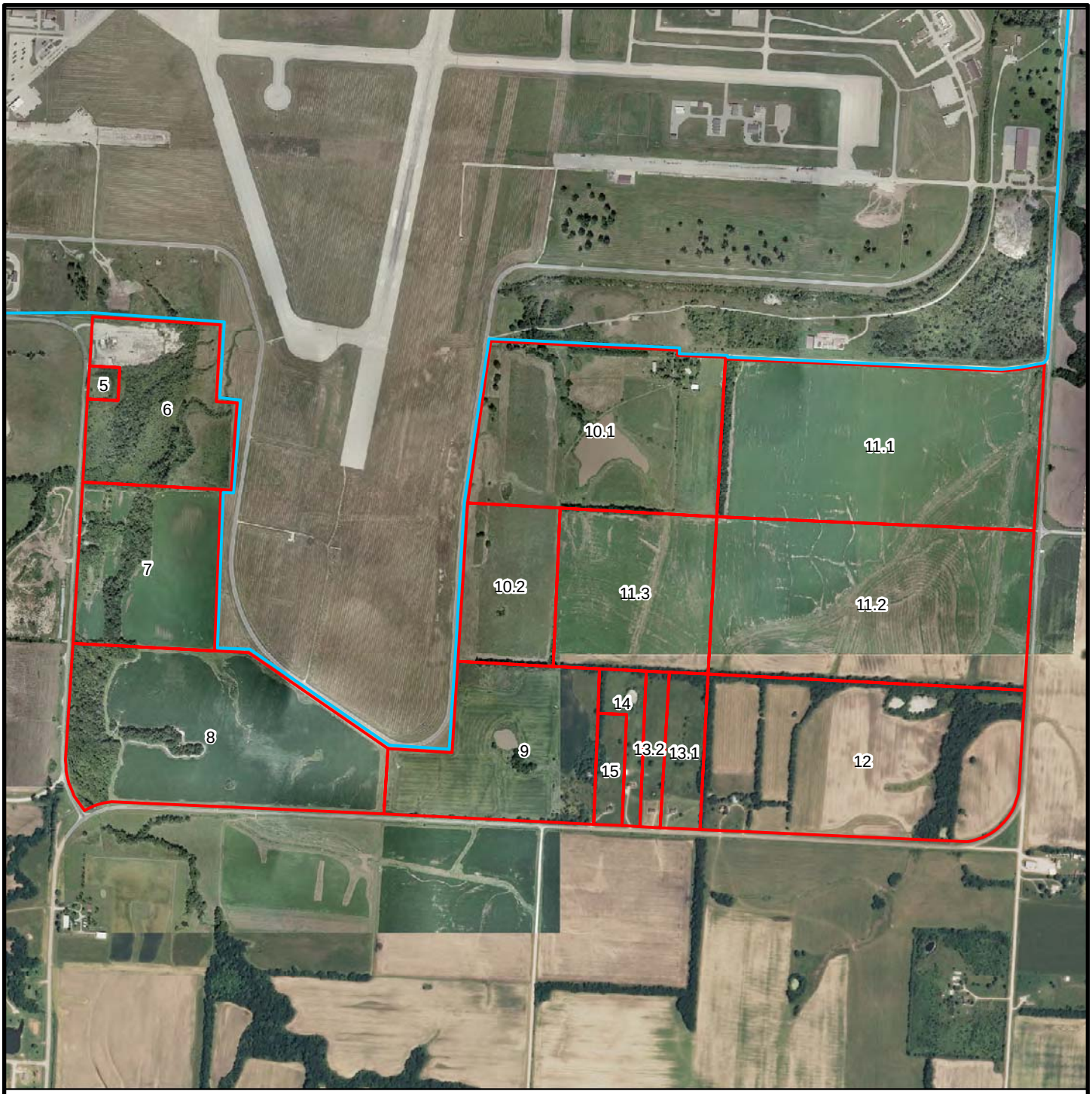


Legend

Whiteman AFB Boundary

Parcels Proposed for Acquisition

Figure 3. Property Proposed for Acquisition: Southern Portion.

N

W E

S

0 250 500 1,000 1,500 2,000 Feet

November 2010

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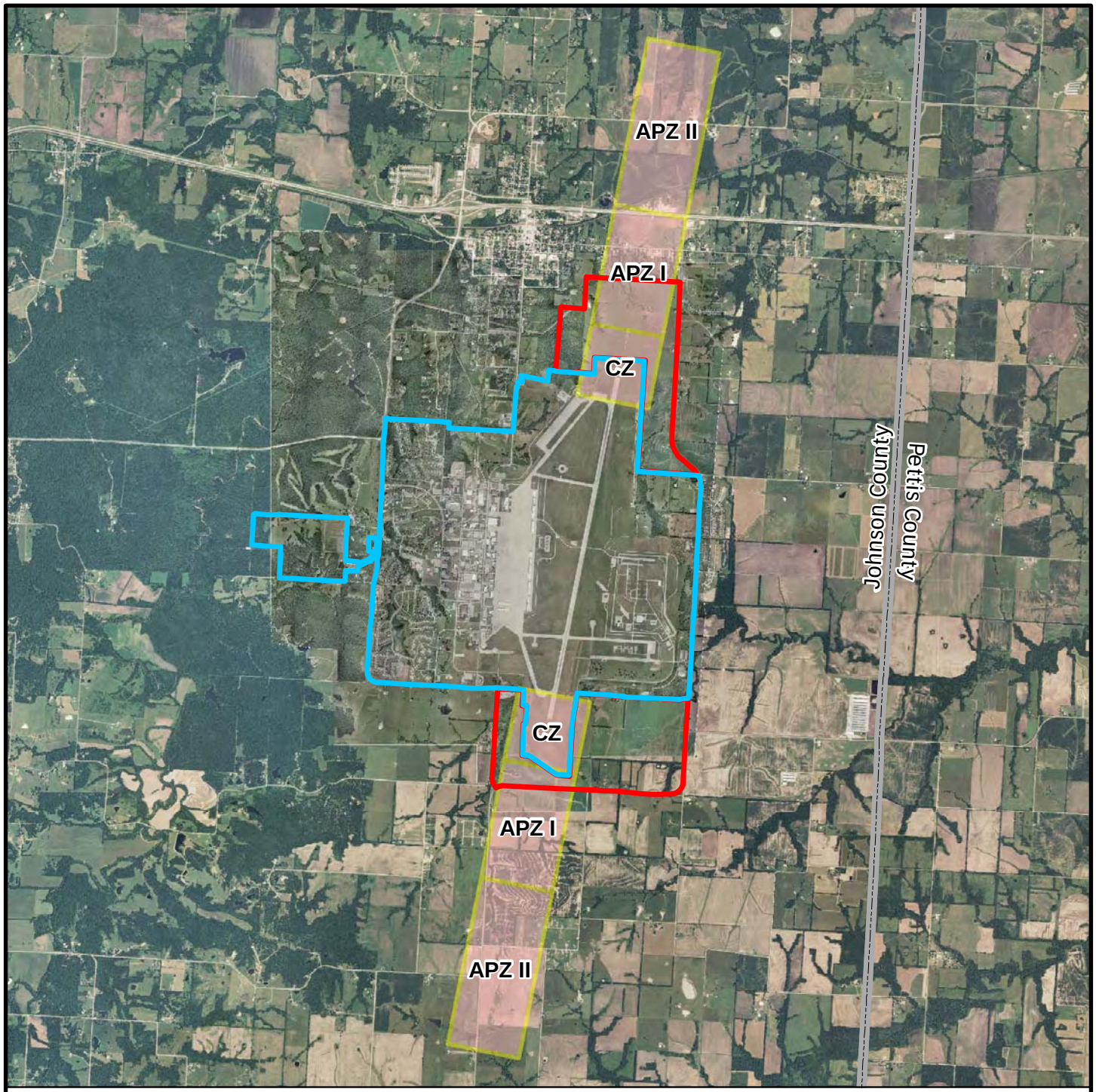


Legend

Existing Whiteman AFB Boundary

Clear Zone (CZ) and Accident Potential Zones (APZ)

Parcels Proposed for Acquisition

County Boundary

Figure 4. Whiteman AFB Clear Zones and Accident Potential Zones.

N W E S

0 1,750 3,500 7,000 10,500 Feet

November 2010

BHE PN: 1939.001

Background data provided by:
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NAIP (2010 Aerial)

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BHE ENVIRONMENTAL

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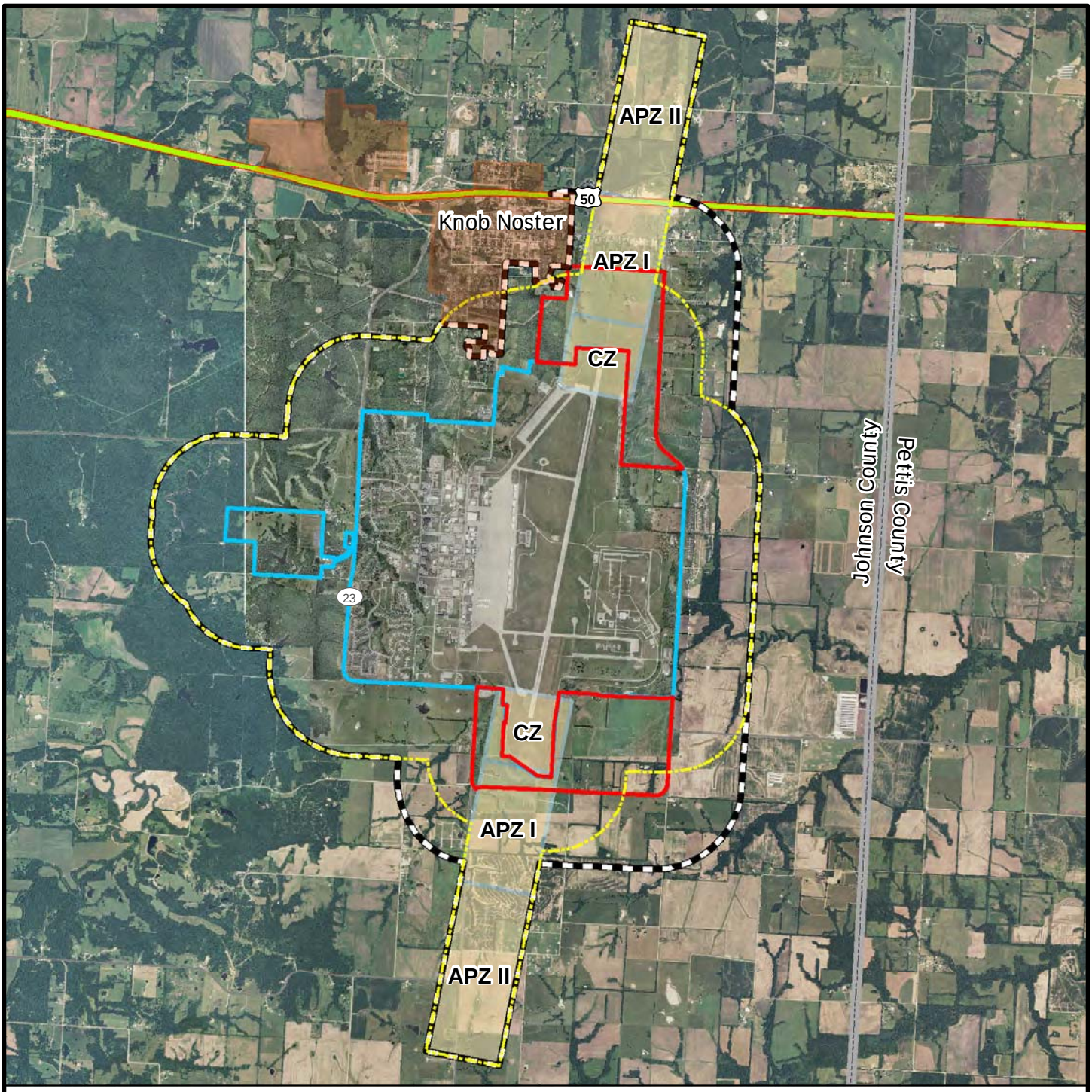


Legend

- Knob Noster Municipal Boundary
- County Boundary
- Existing Whiteman AFB Boundary
- Clear Zone (CZ) and Accident Potential Zones (APZ)
- Parcels Proposed for Acquisition
- Existing Military Airport Zone
- Proposed New Military Airport Zone

Figure 5. Military Airport Zone Surrounding Whiteman AFB.

N W E S

0 1,650 3,300 6,600 9,900 Feet

November 2010

BHE PN: 1939.001

Background data provided by:
Whiteman Air Force Base (2008 Aerial)
NAIP (2010 Aerial)

GIS layers provided by:
Whiteman Air Force Base,
MSDIS (1994)

BHE ENVIRONMENTAL

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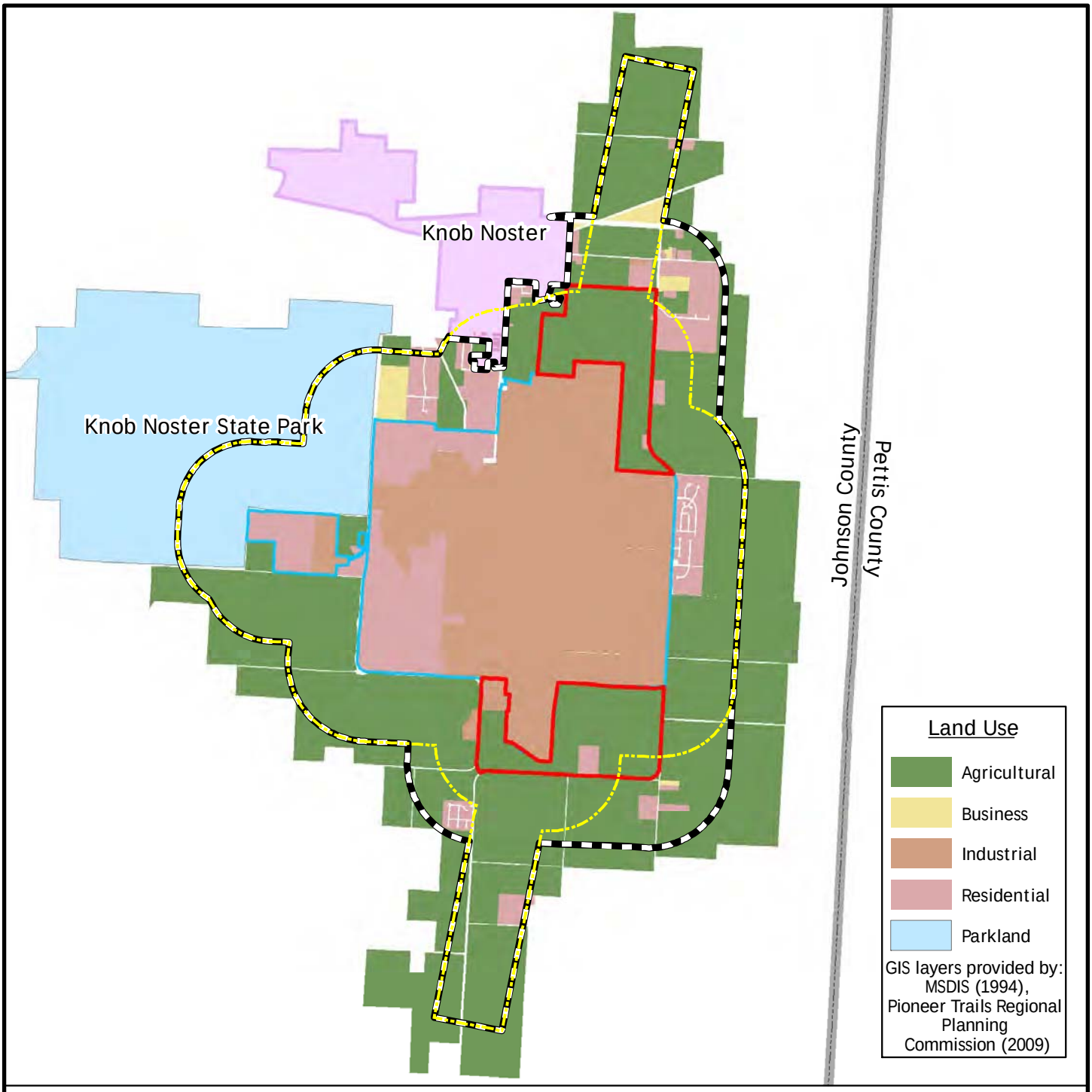


Legend

- Existing Military Airport Zone
- Proposed New Military Airport Zone
- Parcels Proposed for Acquisition
- Existing Whiteman AFB Boundary
- Knob Noster Municipal Boundary
- County Boundary

Figure 6. Existing and Future Land Use: Whiteman AFB and Environs.

N W E S

0 1,750 3,500 7,000 10,500 Feet

November 2010

BHE PN: 1939.001

GIS layers provided by:
Whiteman Air Force Base, MSDIS (1994),
Pioneer Trails Regional Planning Commission (2009)

BHE ENVIRONMENTAL

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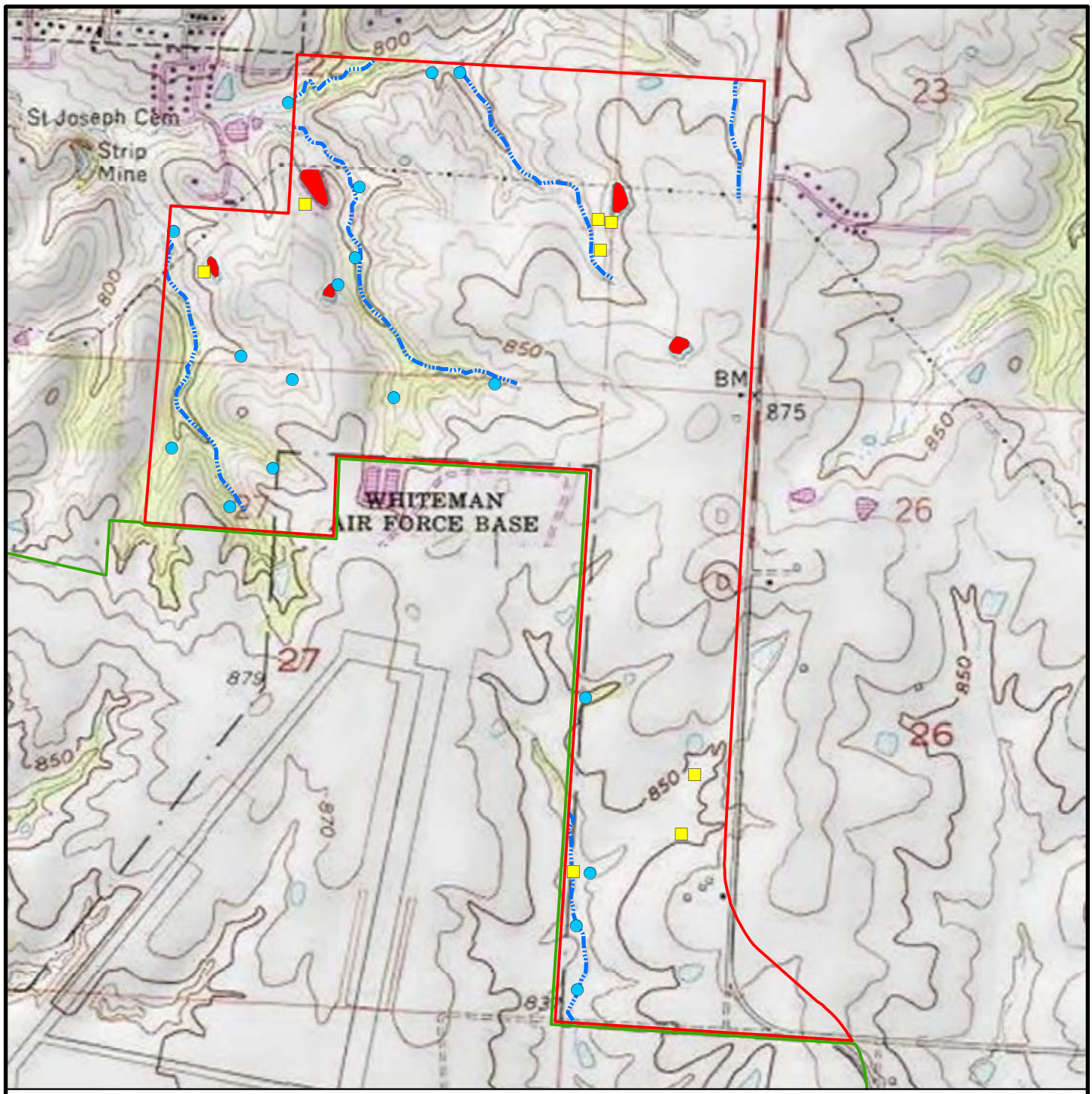


Legend

Whiteman AFB Boundary

Parcels Proposed for Acquisition

Mapped Streams (NHD)

NWI Wetlands

PUB

Field Verified Data

Wetland Areas

Stream Points

Figure 7. Wetland, Stream, and Floodplain Resources: Northern Portion.

N W E S

0 250 500 1,000 1,500 2,000 Feet

November 2010

BHE PN: 1939.001

Background data provided by: Whiteman Air Force Base (2008 Aerial), USGS (2009)

GIS layers provided by: Whiteman Air Force Base, NHD (2009), USFWS (2009), Field Survey (2010)

BHE ENVIRONMENTAL

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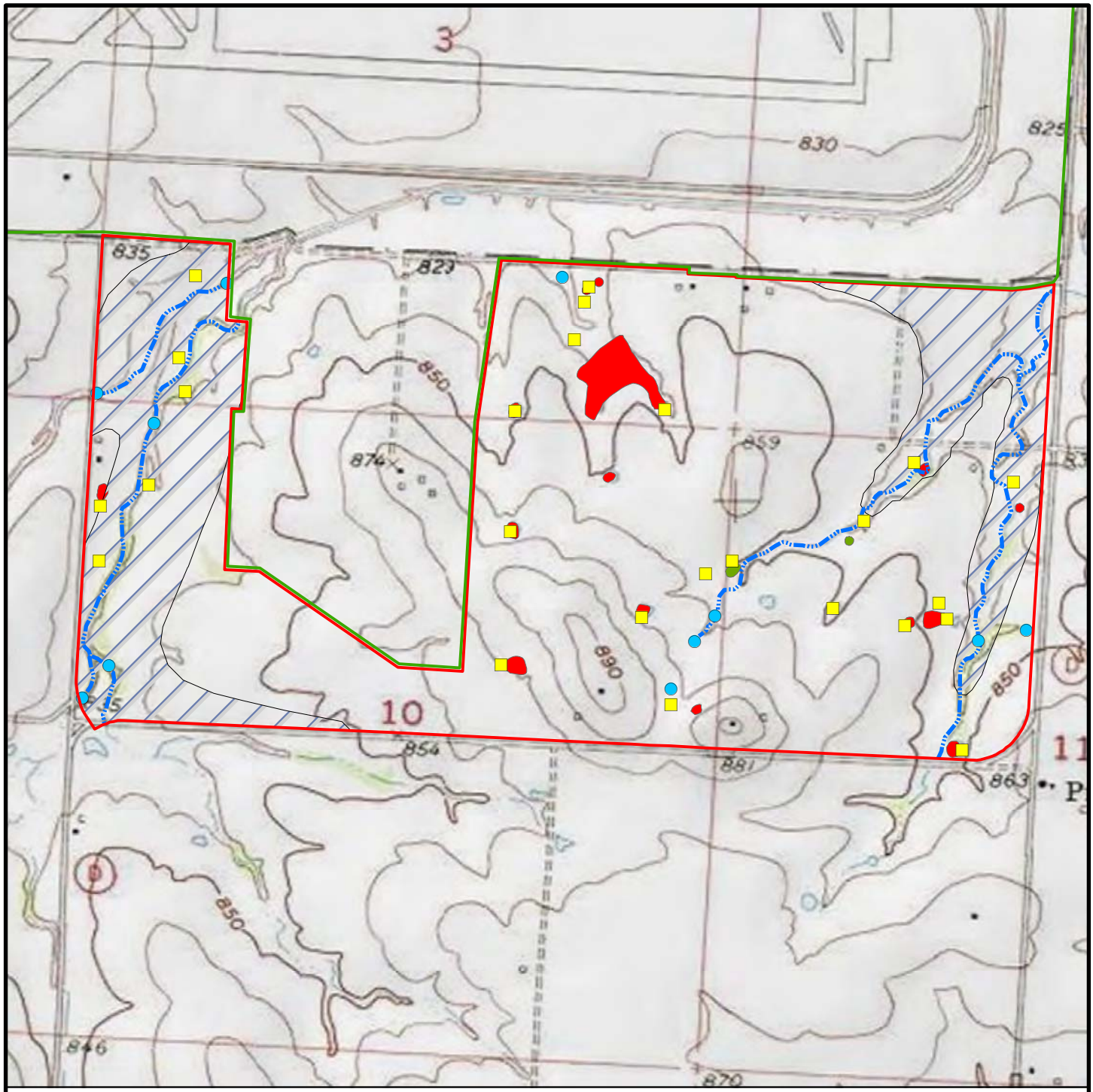


## Legend

- Whiteman AFB Boundary
- Parcels Proposed for Acquisition
- Mapped Streams (NHD)
- 100-yr Floodplain

NWI Wetlands
- PEM
- PUB

Field Verified Data
- Wetland Areas
- Stream Points

Figure 8. Wetland, Stream, and Floodplain Resources: Southern Portion.

N W E S

0 250 500 1,000 1,500 2,000 Feet

November 2010

BHE PN: 1939.001

Background data provided by: Whiteman Air Force Base (2008 Aerial), USGS (2009)

GIS layers provided by: Whiteman Air Force Base, NHD (2009), USFWS (2009), FEMA (2009), Field Survey (2010)

BHE ENVIRONMENTAL

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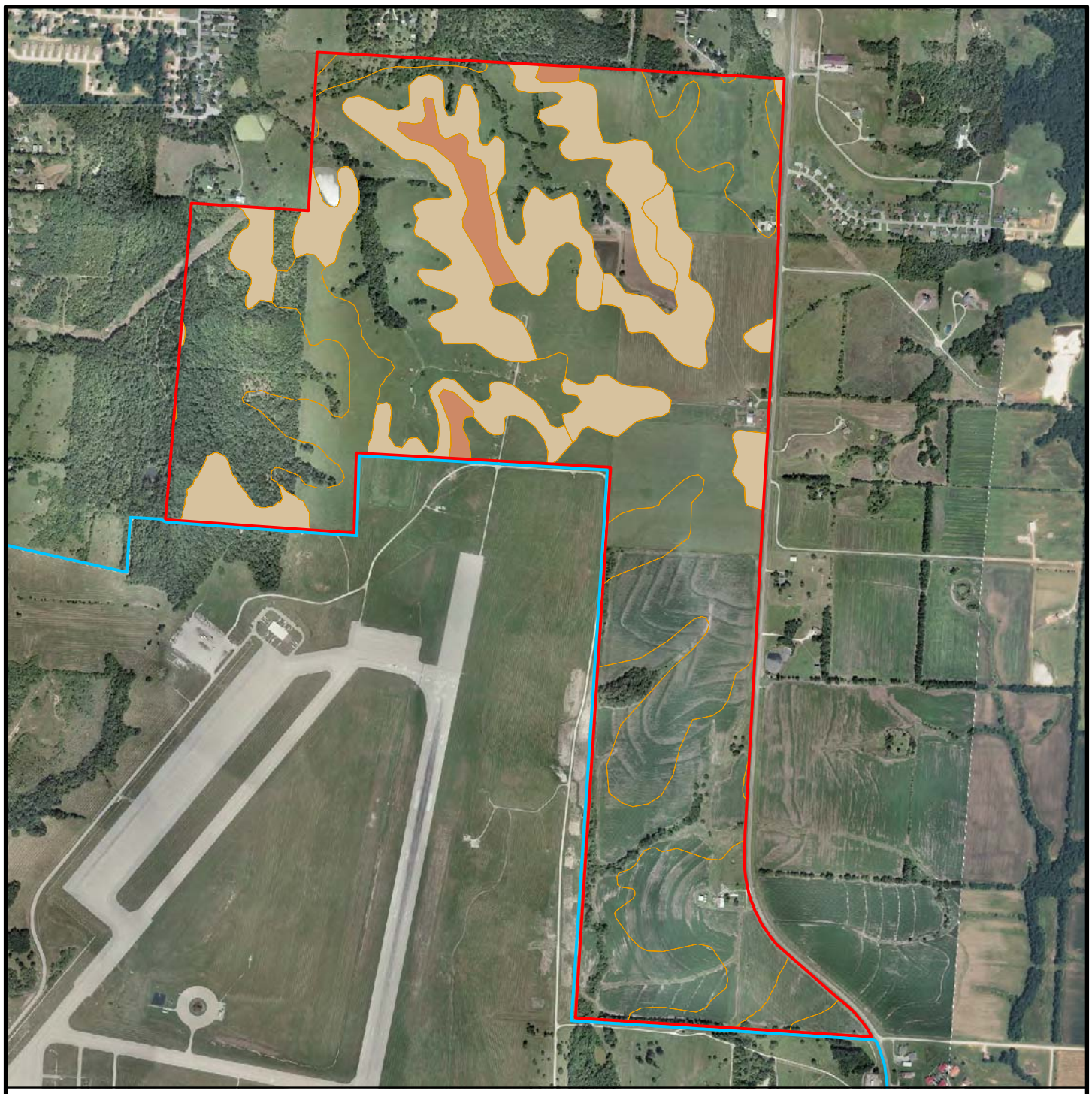

Legend

- Whiteman AFB Boundary
- Parcels Proposed for Acquisition
- Soil Map Units
- Prime Farmland
- Farmland of Statewide Importance

Figure 9. Soil Map Units, Including Farmland Classifications: Northern Portion.

N
W E
S

0 250 500 1,000 1,500 2,000 Feet

November 2010

BHE PN: 1939.001

Background data provided by:
Whiteman Air Force Base (2008 Aerial)
NAIP (2010 Aerial)

GIS layers provided by:
Whiteman Air Force Base
NRCS (2009)

BHE ENVIRONMENTAL

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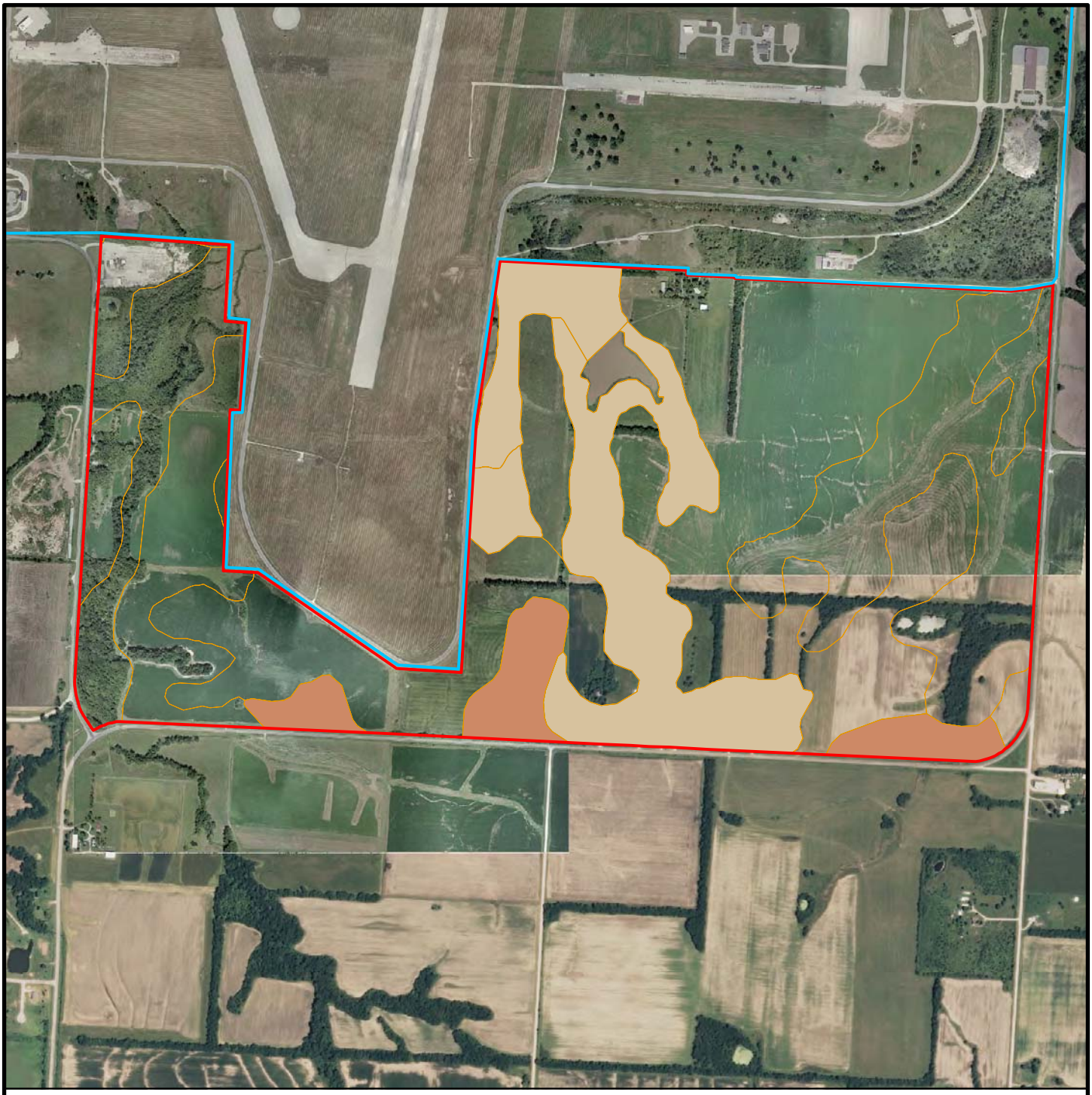

Legend

- Whiteman AFB Boundary
- Parcels Proposed for Acquisition
- Soil Map Units
- Prime Farmland
- Farmland of Statewide Importance

Figure 10. Soil Map Units, Including Farmland Classifications: Southern Portion.

N
W E
S

0 250 500 1,000 1,500 2,000 Feet

November 2010

BHE PN: 1939.001

Background data provided by:
Whiteman Air Force Base (2008 Aerial)
NAIP (2010 Aerial)

GIS layers provided by:
Whiteman Air Force Base
NRCS (2009)

BHE ENVIRONMENTAL

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**APPENDIX A**

Public and Agency Involvement

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**DEPARTMENT OF THE ARMY**
KANSAS CITY DISTRICT, CORPS OF ENGINEERS
635 FEDERAL BUILDING
KANSAS CITY, MISSOURI 64106-2824

REPLY TO
ATTENTION OF

Real Estate Division
CENWK-RE-M

June 4, 2010

SUBJECT: Land Acquisition North and South Boundaries Project, Whiteman Air Force Base, Missouri

SAMPLE LETTERS

Knob Noster, Missouri 65336

Dear Mr. & Mrs.

You are invited to attend a meeting at 7:00 p.m., Tuesday evening, 15 June, 2010 at the William R. Waters Memorial VFW Post 4195 Building, 56 SE Highway D, Knob Noster, Missouri. The purpose of the meeting is to explain the proposed Whiteman Air Force Base Land Acquisition North and South Boundaries Project. We will discuss the properties that we would like to purchase, the acquisition process, needed items from proposed land owners and the entire acquisition process. We will also try to answer any question or concern that you desire to be addressed.

Please let us know if you are able to attend by returning the enclosed card or calling John Nicol, Realty Specialist at 816-389-3755. If you will not able to attend, we will provide the information that will be covered at the meeting.

We hope to see you there.

Sincerely,

Greg G. Wilson
Chief, Real Estate Division
Corps of Engineers, Kansas City District

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**DEPARTMENT OF THE ARMY**
KANSAS CITY DISTRICT, CORPS OF ENGINEERS
635 FEDERAL BUILDING
KANSAS CITY, MISSOURI 64106-2824

REPLY TO
ATTENTION OF

Real Estate Division
CENWK-RE-M

June 15, 2010

SUBJECT: Project FY10 CI, Land Acquisition North and South Boundaries YWHG081001, Whiteman Air Force Base, Missouri

1) Welcome

2) Introduction of Vice Wing Commander, Whiteman Air Force Base.

3) Introduction of Chief of Real Estate, Greg G. Wilson, Chief of Military Branch, Barbara J. Cunningham, and Realty Specialist, John M. Nicol, MAJ Leland Grooms, Project Manager, Kansas City District Corps of Engineers

4) Steps in coming months with permissions for:

A. Appraisal

1. Owner contact

B. Land Survey

1. Owner contact

C. Environmental Studies, Environmental Baseline Survey (EBS) and Environmental Assessment (EA) Major Leland Grooms

1. Owner contact

D. Permission granted by Right-of-Entry

4) Project Approval

A. Purchase offer based on original or updated Appraisal

B. Sale, Closing and Relocation

C. Eligibility for Relocation Assistance

5) Contact: John Nicol
Telephone No. 816-389-3755 Fax No. 816-389-2016
Email: john.m.nicol@usace.army.mil

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6-15-10

# Sign-In Sheet

| Name | Phone Number |
| --- | --- |
| Marion Louann Bordhardt | |
| Rep. Marion Sibert | 816-678-3047 Cell |
| Jerry & Debbie Thompson | 660-563-5296 |
| Marvin W. Lyle | 660-563-3979 |
| Tom Weeth | 660-563 3588 |
| Alan & Teresa Thomas | 660-563-2817 |
| Hoyt Dunn / Vernon Draper | 660-233-3627 |
| Representing Ed / Linda Price | |
| Vivian Draper / | 660-909-8777 |
| Denicel & Marilyn Cockrum | 660-563-2569 |
| PAUL + Becky Landkamer | 660 429 3796 |
| Bob Kendrick | 660 287 2520 |
| Jesse & Alissa Haines | 660-563-3261 |
| Aaron & Carol Warner | 660-620-3276 |
| KEVIN GEABICC | 913-927-1123 |
| Charles Sherman | 660 563-2657 |
| RICK CARNES MARJORIE PALMER | 660 563-3907 |
| Paul & Glenda Logan | 660-563-5552 |
| Martin Lyle | |

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## David Bell

**From:** Nicol, John M NWK [John.M.Nicol@usace.army.mil]
**Sent:** Tuesday, September 28, 2010 11:56 AM
**To:** David Bell
**Cc:** Borghardt, Hank O Civ USAF AFGSC 509 CES/CEAOR
**Subject:** RE: Attendance request letter, sign-in sheet, agenda for stakeholder meeting 15 June 2010 for Whiteman AFB

David,

From the KC COE Real Estate were: Greg G. Wilson, Chief of the Real Estate Division
Barbara J. Cunningham, Chief of the Military Branch
Kevin L. Bishop, Team Leader, Installation Support Team
and John M. Nicol, Realty Specialist, Installation Support Team

Hank is probably the best one to provide the Whiteman list, it included him, Joe Joyner, Ken Nugent, Glen Golson, the Dept. Wing Commander and some others (legal?).

Thanks, John

-----Original Message-----
From: David Bell [mailto:dbell@bheenvironmental.com]
Sent: Tuesday, September 28, 2010 10:20 AM
To: Nicol, John M NWK
Cc: Christa Stumpf; Eric Riekert; Borghardt, Hank O Civ USAF AFGSC 509 CES/CEAOR; Gehrt, Alan K NWK; Golson, Glenn S Civ USAF AFGSC 509 CES/CEAN
Subject: RE: Attendance request letter, sign-in sheet, agenda for stakeholder meeting 15 June 2010 for Whiteman AFB

Thanks John,

I don't believe we will need signed meeting attendance letters instead of the sample at this stage.

I had one other question regarding the meeting - is there an list anywhere of who attended the June 15, 2010 meeting from Whiteman AFB and KCCOE? If so, could we get a copy?

Thanks, Dave

-----Original Message-----
From: Nicol, John M NWK [mailto:John.M.Nicol@usace.army.mil]
Sent: Tuesday, September 28, 2010 10:45 AM
To: David Bell
Cc: Christa Stumpf; Eric Riekert; Borghardt, Hank O Civ USAF AFGSC 509 CES/CEAOR
Subject: RE: Attendance request letter, sign-in sheet, agenda for stakeholder meeting 15 June 2010 for Whiteman AFB

David,

Sorry for the missing attachments. For your files, did you need copies of signed meeting attendance letters instead of the sample?

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DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, KANSAS CITY DISTRICT
635 FEDERAL BUILDING
601 E 12TH STREET
KANSAS CITY MO 64106-2824

REPLY TO
ATTENTION OF

The Kansas City District, in support of the U.S. Air Force, 509th Bomb Wing, is preparing an environmental analysis to assess the potential environmental consequences of a proposal to acquire approximately 1,100 acres of land near the north and south ends of the runway at Whiteman Air Force Base (AFB), Missouri. Attachment 1 provides the proposed locations of the property being considered for acquisition.

The environmental analysis will be prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), Council on Environmental Quality (CEQ) Regulations, 40 CFR Parts 1500-1508, and Title 32 Chapter VII, Part 989, "Environmental Impact Analysis Process (EIAP)". The environmental analysis will address the acquisition of land; demolition of existing fencing and installation of new fencing; and vegetation management. A "No Action Alternative" that does not include land acquisition at this time will also be analyzed. The proposal under consideration does not require expansion of the existing airspace.

In an effort to analyze the potential effects of this proposal, Kansas City District or its contractor, BHE Environmental, Inc. may be contacting you on behalf of the Air Force in its data collection efforts. Please provide any comments or information you may have that is relevant to the analysis. Comments and information must be received not later than 31 October 2010 in order to be considered in the preparation of the Draft EA.

If you have any specific questions, please contact Mr. Glenn Golson, Base Natural Resources Manager, at 660 10th Street, Suite 211, Whiteman AFB, MO 65305. Mr. Golson can also be reached at 660-687-6347.

Thank you for your assistance in this matter.

Sincerely,

Alan K. Gehrt
Project Manager

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**WHITEMAN AFB: LAND ACQUISITION ENVIRONMENTAL ASSESSMENT**

**Distribution List: IICEP**

| Agency | Contact | Address | Phone/Email |
|---|---|---|---|
| Kansas City District, Corps of Engineers | Mr. Mark Frazier, Chief Regulatory Branch | 601 East 12th Street<br>Kansas City, MO 64106 | (816) 389-3664;<br>mark.d.frazier@usace.army.mil |
| USEPA Region 7 | Mr. Joe Cothern, Environmental Review/NEPA Coordinator | 901 North 5th Street<br>Kansas City, KS 66101 | (913) 551-7765;<br>cothern.joe@epa.gov |
| U.S. Fish and Wildlife Service | Mr. Charlie Scott, Field Supervisor, Columbia Ecological Services Field Office | 101 Park DeVille Drive<br>Suite A<br>Columbia, MO 65203-0057 | (573) 234-2132;<br>ColumbiaES@fws.gov |
| Missouri Department of Conservation | Peggy Barry, Office Supervisor, Policy Coordination Unit | 2901 W. Truman Blvd.<br>Jefferson City, MO, 65102 | 573) 522-4115 Ext. 3367<br>peggy.barry@mdc.mo.gov |
| Missouri Department of Natural Resources | Ruben Zamrippa, Federal Facilities Section, Hazardous Waste Program | P.O. Box 176<br>Jefferson City, MO 65102 | (573) 751-7428 |
| State Historic Preservation Office | To Whom It May Concern | P.O. Box 176<br>Jefferson City, MO 65102 | (800) 361-4827<br>(573) 751-7858<br>moshpo@dnr.mo.gov |
| US House of Representatives | Congressman Ike Skelton (address to "Congressman" or "The Honorable") | **DC Office:**<br>2206 Rayburn House Office Building,<br>Washington, DC 20515-2504<br><br>**Sedalia Office**<br>908 Thompson Road,<br>Sedalia, MO 65301-4593<br><br>**Liaison for mailing EA & associated documents):**<br>Kyle Wilkens,<br>Congressman Skelton,<br>514 B Northwest 7th Highway, Blue Springs, MO 64013 | **DC Office:**<br>(202) 225-2876<br><br>**Sedalia Office:**<br>(660) 826-2675 |
| State Senate | Senator David Pearce | 201 W Capitol Ave., Rm. 419, Jefferson City, MO 65101 | (573) 751-2272 |
| Johnson County Commissioners Office | William Brenner, Presiding Commissioner | 300 N. Holden Street<br>Warrensburg, MO 64093 | (660) 747-2112<br>countyclerk@jococourthouse.com |
| Johnson County Military Airport Zoning Commission | Charles E. (Chuck) Copper Jr., Chairman | Military Airport Zoning Commission,<br>c/o Chairman Charles E. Copper Jr..<br>991 NE 250,<br>Knob Noster, MO. 65336 | (660) 563-5851<br>cjranch991@sbcglobal.net |

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STATE OF MISSOURI
Jeremiah W. (Jay) Nixon, Governor • Kip A. Stetzler, Acting Director
DEPARTMENT OF NATURAL RESOURCES
www.dnr.mo.gov

October 19, 2010

Alan K. Gehrt
Project Manager
Kansas City District, Corps of Engineers
635 Federal Building
Kansas City, Missouri 64106-2894

Re: Whiteman Air Force Base Land Acquisition (COE/USDOD) Johnson County, Missouri

Dear Mr. Gehrt:

Thank you for submitting information on the above referenced project for our review pursuant to Section 106 of the National Historic Preservation Act (P.L. 89-665, as amended) and the Advisory Council on Historic Preservation's regulation 36 CFR part 800, which require identification and evaluation of cultural resources.

We have reviewed the information provided concerning the above referenced project. We have determined that there is a moderate to high potential for the presence of archaeological sites near and within the area of the proposed project, as indicated by the topographic location, and that an archaeological survey, with deep testing as deemed appropriate, should be conducted. This survey should be completed prior to the initiation of project-related construction activities.

A list of independent archaeological contractors who can perform such services is available through the Department of Natural Resources, Division of Administrative Support. The list can be obtained by calling (573) 751-0958 and requesting the "archaeological contractors list." Note that any 36 CFR Part 61 qualified archaeologist may perform an archaeological survey. If you choose a contractor not on the list, please be certain to include his or her curriculum vitae in the report. We would appreciate one (1) hard copy and one (1) pdf copy of the archaeological survey report when it is finished so we may complete the review and comment process.

If you have any questions, please write Judith Deel at State Historic Preservation Office, P.O. Box 176, Jefferson City, Missouri 65102 or call Ms. Deel at 573/751-7862. Please be sure to include the SHPO Log Number **(001-JO-11)** on all future correspondence or inquiries relating to this project.

Sincerely,

STATE HISTORIC PRESERVATION OFFICE

Mark A. Miles
Director and Deputy
State Historic Preservation Officer

c Glenn Golson, Whiteman AFB

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DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, KANSAS CITY DISTRICT
635 FEDERAL BUILDING
601 E 12TH STREET
KANSAS CITY MO 64106-2824

REPLY TO
ATTENTION OF

CENMW-PM-ED

Ms. Judith Deel
State Historic Preservation Office
PO Box 176
Jefferson City, Missouri 65102

Dear Ms. Deel:

This letter is in reference to Mr. Mark Miles' letter of 19 October 2010 regarding Whiteman Air Force Base Land Acquisition (COEIUSDOD) Johnson County, Missouri, SHPO Log Number (001 -JO-11) and our follow-on phone conversation.

The subject land acquisition does not include any follow-on construction, other than a protective security perimeter fence. When the design and footprint for the fence are determined, appropriate cultural resources surveys of the area will be conducted.

If you have any further questions, please contact me at (816) 389-3142.

Thank you.

Sincerely,

GEHRT.ALAN.KIRK.1231350795

Digitally signed by GEHRT.ALAN.KIRK.1231350795
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=GEHRT.ALAN.KIRK.1231350795
Date: 2010.12.06 09:48:44 -06'00'

Alan K. Gehrt
Project Manager

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STATE OF MISSOURI
Jeremiah W. (Jay) Nixon, Governor • Kip A. Stetzler, Acting Director
DEPARTMENT OF NATURAL RESOURCES
www.dnr.mo.gov

November 22, 2010

Mr. David Bell
Biologist & Project Manager
BHE Environmental, Inc.
11733 Chesterdale Road
Cincinnati, OH 45246

Re: Environmental Assessment for Land Acquisition, Whiteman Air Force Base, Missouri.

Dear Mr. Bell:

The Missouri Department of Natural Resources (Department) appreciates the opportunity to review the scoping information for the Draft Environmental Assessment for the land acquisition proposed near Whiteman Air Force Base, Missouri. The Department offers the following comments for consideration.

Water Quality

*Legal Description*: The northern section of the proposed land acquisition lies within Sections 22, 23, 26 and 27, Township 46 North, Range 24 West and the southern section within Sections 2, 3, 10 and 11, Township 45 North, Range 24 West.

*Ecological Drainage Unit*: The proposed land acquisition lies within the Central Plains/ Blackwater/Lamine Ecological Drainage Unit.

*Watersheds*: The northern section of the proposed land acquisition is part of three sub-watersheds, Long Branch Sub-Watershed (HUC 10300103 04 02), Clear Fork Sub-Watershed (HUC 10300104 03 03) and Walnut Creek Sub-Watershed (HUC 10300104 03 05). The southern section is wholly contained in the Long Branch Sub-Watershed.

*Watershed Management Plans*: No watershed plans have been developed or are in the process of being developed by local organizations within the immediate area of the proposed study area.

*Rapid Watershed Assessment*: The U.S. Department of Agriculture, Natural Resources Conservation Service, has assessed several watersheds across the country including the Blackwater Sub-basin. The report and data could provide valuable knowledge of the watershed. Watershed resource information can be found under 'Blackwater Sub-basin, 10300104' at http://www.mo.nrcs.usda.gov/technical/RWAs.html.

*Source Water Protection Plans*: None are known to exist. A Source Water Protection Plan helps safeguard a community water supply through inventorying known and potential sources of contamination, determining susceptibility of water source to contaminants, implementing Best Management Practices to reduce or eliminate threats and risks to the water source, and develop contingency planning strategies to deal with contamination or service interruption emergencies. A plan may provide additional watershed information.

*Classified Streams*: Long Branch, water body identification number 857, is classified for 6.0 miles with the designated beneficial uses of protection of warm water aquatic life and human health-fish consumption, livestock and wildlife watering, and whole body contact recreation-Category B. The stream flows from the south-southwest to the north-northeast in the southern part of the property. Long Branch, through its designated beneficial uses, shall be protected by numeric water quality criteria contained in 10 CSR 20-7.031(4) and Table A.

*Unclassified Streams*: The proposed study area contains three unclassified tributaries to Long Branch in the southern part of the property. The northern part of the property contains four unclassified tributaries to Clear Fork Blackwater River and one unclassified tributary to Long Branch. Unclassified streams are protected by the general water quality criteria outlined in 10 CSR 20-7.031(3).

Project planners should ensure proper Best Management Practices are in place to protect the stream's chemical, physical and biological characteristics, especially when a stream is crossed by equipment. Re-establish vegetation as soon as possible on any stream banks and riparian corridors denuded of vegetation. Heavy equipment must stay out of the water as much as possible.

*Sensitive Waters*: According to the Department's current water quality standards, there are no sensitive waters in the proposed study area. Sensitive waters include outstanding state and national resource waters, cold water fisheries, metropolitan no-discharge streams and biocriteria reference locations.

*Classified Lakes*: No classified lakes exist in the proposed project area.

*Impaired Waters*: Long Branch within the project area is listed as impaired on the 2010 Clean Water Act Section 303(d) list approved by Missouri Clean Water Commission. The two impairments were listed as unknown for unknown pollutant(s) in 2002 and low dissolved oxygen from multiple point and nonpoint sources in 2010. No Total Maximum Daily Load study has been established for either listing.

*Public Drinking Water Protection Areas*: No public drinking water protection areas exist within the two proposed properties. Several certified wells and public drinking water systems are located on the western part of the base and to the north-northwest in or near the City of Knob Noster. If additional information is needed, please contact the Department's Public Drinking Water Branch at (573) 751-5331.

*Water Quality Certification*: A Clean Water Act Section 404 Department of the Army Permit and the Department's Clean Water Act Section 401 Water Quality Certification are needed when placing dredged or fill material into the jurisdictional waters of the United States. Examples are culverts under road crossings, riprap along stream banks and storm water outfall pipes. The term jurisdictional waters refer to large lakes, rivers, streams and wetlands, including those that don't always contain water. Should any jurisdictional waters be impacted, please contact the Army Corps of Engineers' Kansas City District Regulatory Branch at (816) 389-3990 and the Department's 401 Certification Unit at (573) 751-1300 for more information.

*Land Disturbance Permits*: Construction work disturbing an area of one acre or more requires a Land Disturbance Permit to be acquired prior to any earth work. Should the removal and replacement of fencing disturb an acre or more, please contact the Department's Kansas City Regional Office at (816) 622-7000 for permit information.

*National Wetland Inventory*: According to the National Wetland Inventory Data, approximately 0.32 acre of palustrine emergent wetlands exists within the southern section of potential purchase areas. Twenty-two palustrine unconsolidated bottom wet areas (most likely ponds and/or stormwater basins) also exist within the potential purchase areas. The palustrine emergent wetlands exist along an unnamed tributary to Long Branch. If wetlands exist, project planners should take care to avoid and then minimize any impacts through alternatives analyses before compensatory mitigation is considered. If wetlands are not directly impacted but are near any land disturbance, project planners should take care to protect the water quality, especially due to sedimentation.

*Geospatial Data*: Department geospatial data is available upon request, and all published data is available on the Missouri Spatial Data Information Service website at http://msdis.missouri.edu/.

Hazardous Waste

We recommend that project planners coordinate with Whiteman Air Force Base's Environmental Element Chief Glenn Golson regarding demolition of existing fencing, installation of new fencing, and vegetation management around the south side. Per the "Final Long-Term Management and Institutional Control Plan (Environmental Restoration Program, Whiteman Air Force Base, Sites LF-03/SS41, SS-30, LF-34, and LF-42) prepared for Whiteman Air Force Base and Langley Air Force Base" dated May 2007, the following sites are located adjacent to the perimeter fence: LF-03/SS/41, LF-31 and LF-13. At these former landfill sites, vegetation needs to be maintained in order to prevent erosion, which may damage caps and expose landfill contents, which include hazardous substances.

Geology

There are no known sinkholes or underground mines in the project areas. There are no known active faults or earthquake zones within the project areas. Therefore, there are no geologic concerns at this time.

We appreciate the opportunity to provide comments for the scoping information for the Draft Environmental Assessment for the land acquisition proposed near Whiteman Air Force Base,, Missouri. If you have any questions or need clarification, please contact me or Ms. Jane Beetem, phone number (573) 751-3195. The address for correspondence is Department of Natural Resources, P.O. Box 176, Jefferson City, MO 65102. Thank you.

Sincerely,

DEPARTMENT OF NATURAL RESOURCES

Dru Buntin
Deputy Director for Policy

JB:jm

**DEPARTMENT OF THE ARMY**
**KANSAS CITY DISTRICT, CORPS OF ENGINEERS**
**635 FEDERAL BUILDING**
**KANSAS CITY, MISSOURI 64106-2824**

REPLY TO
ATTENTION OF

May 5, 2011

Real Estate Division
CENWK-RE-M

SUBJECT: Land Acquisition North and South Boundaries Project, Whiteman Air Force Base, Missouri

Mr. Robert S. Kendrick
15 A Street
Lake Lotawana, Missouri 64086

Dear Mr. Kendrick:

You are invited to attend a meeting on Tuesday, May 24, 2011 at 7:00 p.m. at the William R. Waters Memorial VFW Post 4195 Building, 56 SE Highway D, Knob Noster, Missouri. The purpose of the meeting is to provide updated information on the proposed Whiteman Air Force Base Land Acquisition North and South Boundaries Project. We anticipate having Colonel Rick L. Milligan, Commander, 509th Mission Support Group, Whiteman Air Force Base, open with remarks. We will bring a specialist in Relocation Assistance to explain that program and what to expect during the relocation process. We will also answer any questions or concerns that you might have.

There will again be light refreshments available. If you have any questions, please call John Nicol, Realty Specialist at 816-389-3755. If you will not able to attend, we will provide the information that will be covered at the meeting. We hope to see you there.

Sincerely,

Greg G. Wilson
Chief, Real Estate Division
Corps of Engineers, Kansas City District

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**DEPARTMENT OF THE ARMY**
**KANSAS CITY DISTRICT, CORPS OF ENGINEERS**
**635 FEDERAL BUILDING**
**KANSAS CITY, MISSOURI 64106-2824**

REPLY TO
ATTENTION OF

Real Estate Division
CENWK-RE-M

May 24, 2011

SUBJECT: Project FY10 CI, Land Acquisition North and South Boundaries YWHG081001, Whiteman Air Force Base, Missouri

1) Welcome by COL Rick Milligan, Whiteman Air Force Base.

2) Project status, Michael (Joe) Joyner

3) Corps of Engineers: Chief of Real Estate, Greg G. Wilson, Chief of Military Branch, Barbara J. Cunningham, Al Gehrt , Environmental Project Manager, and Realty Specialist, and John M. Nicol Kansas City District Corps of Engineers, and Derrick Moton, Chief Civil Branch, Mobile District

4) Project Approval

   A. Purchase offer based on original or updated Appraisal

   B. Eligibility for Relocation Assistance

      Process and what to expect, Derrick Moton

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**Whiteman Air Force Base North/South Acquisition**
**Project YWHG081001 – Meeting May 24, 2011**

**Cullen L. G. Davidson**
**and Caroline M. Davidson**
**Map Tracts 1.1 and 1.2**
Home Phone: **660-563-6667**

**Alan D. Thomas**
**and Teresa M. Thomas**
**Map Tracts 2.1, 2.2, 2.3, and 2.4**
Home Phone: **660-563-2817**
Cell Phone: **660-624-2819**

**Charles Shernaman, Trustee**
**Map Tract 3**
Home: **660-563-2654**
Cell Phone: **660-563-0664**

**Grabill Plumbing, Inc.**
**Ken Grabill, President**
**Map Tract 4**

**Marjorie A. Palmer**
**Map Tract 5**
Home Phone: **660-563-3907**

**Map Tract 6**
**Howard Ready-Mixed Concrete Co.**
**a/k/a LaFarge North America Inc.**
**Kevin Rohner, Land Manager**
Business Phone: **816-257-4034**
Mobile Phone: **913-219-3762**

**Carolyn A. Wheeler**
**Map Tract 7**
Cell Phone: **660-238-5777**

**Robert D. Kendrick**
**and Wendy Kendrick**
**Map Tract 8**
Home Phone: **660-287-2520**

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**Terry G. Thompson**
**and Debbie L. Thompson**
**Map Tract 9**
Home Phone: **660-563-5296**

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**Marvin W. Lyle**
**Map Tract 10.1 and 10.2**
Home Phone: **660-563-3979**

Marvin W Lyle

**Aaron James Warner**
**and Carolyn Susann Warner**
**Map Tract 11.1, 11.2 and 11.3**
Home Phone: **660-620-3276**

Aaron James Warner Carolyn S. Warner

**Louann Borchardt**
~~**For Marion F. Sibert**~~
**Map Tract 12**
Home Phone: **816-356-1126**
Cell Phone: **816-678-3047**

Louann Borchardt

**Diane C. Robertson**
**and Jack A. Robertson**
**Map Tract 12**
Home Phone: **641-236-3682**

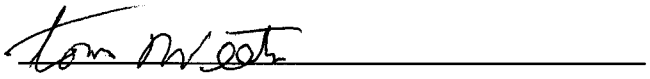
_____

**Edward D. Price**
**and Linda K. Price**
**Map Tract 13.1, 13.2**
Home Phone: **801-820-6443**
Cell Phone: **913-709-5110**

Faye Lynn for Ed & Linda Price

**Jesse W. Haines**
**and Alissa D. Haines**
**Map Tract 14**
Home Phone: **660-563-3261**
Cell Phone: **505-307-5726**

**Thomas Weets**
**Map Tract 15**
Home Phone: **660-563-3588**



**Dincell C. Cockrum**
**and Marilyn L. Cockrum**
**Map Tract 16**
Home Phone: **660-563-2569**

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