Environmental Assessment
for the Demolition of Buildings 1307 and 1313
Fort Sill, Oklahoma

September 2025

Prepared for:
United States Army Garrison Fort Sill
Fort Sill, Oklahoma
EAXX-007-21-001-1737986370

FINDING OF NO SIGNIFICANT IMPACT (FONSI)
PROPOSED DEMOLITION OF BUILDINGS 1307 AND 1313
UNITED STATES ARMY GARRISON FORT SILL, OKLAHOMA
EAXX-007-21-001-1737986370

Introduction

The attached Environmental Assessment (EA) has been prepared to address the potential environmental impacts associated with demolition of two historic Bachelor Officer Quarters (BOQs) (Buildings (B) 1307 and 1313) and associated non-historic garages (B1336 and B1331, respectively) at the United States (US) Army Garrison (USAG) Fort Sill (Fort Sill), Oklahoma. This EA is in compliance with the *National Environmental Policy Act of 1969* (42 *United States Code* [USC] § 4321 et seq.) (NEPA); *Department of Defense (DoD) National Environmental Policy Act Implementing Procedures, 30 June 2025; and* Army Regulation 200-1. The Army considered other pertinent environmental statutes, regulations, and compliance requirements during the preparation of this EA, which are addressed in relevant sections of the EA. The attached EA is incorporated herein by reference.

Purpose and Need

The purpose of the proposed action is to address the lack of a mission-supporting operational use for B1307, B1313, B1336, and B1331, which, combined with funding constraints and competing priorities, has resulted in the buildings being vacant for years and becoming an attractive nuisance risk to the adjoining family housing area. The buildings have lacked operational use since 2008. Reuse of the buildings for non-housing purposes, such as offices, is hindered by the lack of available parking, undesirability of increasing vehicular and foot traffic in a family housing area, and unsustainability of operating and maintaining small, isolated buildings.

The proposed action is needed to remove the attractive nuisance risk of the vacant structures from their close proximity to adjoining family housing areas. Per the *Memorandum for National Historic Preservation Act Compliance for Deferred Maintenance on Historic Army Buildings*, demolition of a historic building may be necessary if it is highly deteriorated, underutilized, vacant; if hazardous materials or unsafe conditions are present; or if maintaining the building is financially or otherwise unfeasible. Historic buildings should be considered for demolition only after prudent and reasonable alternatives to demolition have been considered and found to be financially or otherwise unfeasible. No productive uses for B1307, B1313, B1331, and B1336 have been identified since the buildings became vacant in 2008. Asbestos-containing materials have been identified within B1313 and B1307. The proposed action is also needed to provide Fort Sill with safe and secure family housing areas to meet the housing needs of soldiers and their dependents. B1307, B1313, B1331, and B1336 are an attractive nuisance risk related to their location within the White Wolf Manor family housing area. Additionally, while the structures do maintain fair to good structural integrity, renovation and reconfiguration of the BOQ building type suitable for family housing would be anticipated to be costly, time consuming, and require extensive modification to the interior configuration of spaces.

Description of the Proposed Action and Alternatives

Alternative 1 (Proposed Action)

Alternative 1 is the proposed action alternative. Under the proposed action, Fort Sill would demolish BOQs (B1307 and B1313) and adjacent garages (B1336 and B1331, respectively). The BOQs are located within the New Post Historic District. These buildings meet the criteria for demolition under the *Memorandum for Adverse Effect and Termination of Consultation Under the National Historic Preservation Act* (NHPA) because they are underutilized and vacant, and maintaining the buildings is not financially or otherwise unfeasible. Demolition is a defined adverse effect per the NHPA's implementing regulations at 36 CFR § 800.5(a)(2)(i).

No Action Alternative

Under the no action alternative, the BOQs (B1307 and B1313) and the adjacent garages (B1336 and B1331, respectively) would continue to decline, increasing the issues associated with vacant, deteriorated buildings. The neglect that causes deterioration of a historic property is also a defined adverse effect per 36 CFR § 800.5(a)(2)(vi). The no action alternative was included in Fort Sill's consultation with the Oklahoma State Historic Preservation Office (SHPO), and the resolution of the adverse effect of demolition by neglect is part of a Memorandum of Agreement (MOA) that Fort Sill is pursuing with the SHPO.

Summary of Findings

Potentially affected environmental resources were identified through communications with state and federal agencies and review of environmental documentation. The attached EA analyzes potential environmental consequences of the following resource areas: land use, air quality, noise, geological and soil resources, water resources, biological resources, cultural resources, infrastructure (utilities, traffic, transportation), hazardous and toxic materials and waste, socioeconomics, and human health and safety.

Land Use

Under the proposed action, there would be a long-term, beneficial impact to Fort Sill by removing the attractive nuisance risk of the vacant structures in close proximity to family housing areas. The purpose of the family housing land use designation is to provide Fort Sill with safe and secure family housing that meets the needs of the soldiers and their dependents residing at Fort Sill. This includes meeting the ongoing needs of the dependents while the soldiers are deployed or otherwise away from home.

Air Quality

Under the proposed action, there would be short-term, negligible, adverse impacts to air quality. Short-term emissions resulting from demolition would remain well below the applicable thresholds for air quality standards.

Noise

Under the proposed action, there would be short-term, minor, adverse impacts to noise-sensitive receptors from demolition activities. The noise-sensitive receptors include adjacent residences, as well as two recreational facilities: the White Wolf Family Housing Area Playground and basketball court and the Prichard Field recreation facilities.

Geological and Soil Resources

Under the proposed action, there would be no impacts to geology or topography; however, there would be short-term, negligible, adverse impacts to soils. Best management practices for soil conservation would be implemented as necessary to prevent soil erosion.

Water Resources

Under the proposed action, there would be short-term, negligible, adverse impacts to surface water and stormwater from exposing soils and increasing erosion potential during demolition and grading activities. No impacts to groundwater, wetlands, or floodplains are anticipated under the proposed action.

Biological Resources

Under the proposed action, there would be short-term, negligible, adverse impacts to biological resources. The tricolored bat (*Perimyotis subflavus*) is proposed for listing as endangered under the Endangered Species Act. The structures are not known to be or identified as hibernacula; however, Fort Sill has identified that the action could result in some form of take. To the extent practicable, Fort Sill would implement the proposed demolition during the late fall and winter seasons when tricolored bats are least likely to occur. If the tricolored bat listing status changes before the proposed action is initiated, the Army would reevaluate the proposed action.

Cultural Resources

Under the proposed action, there would be an adverse effect to historic architectural properties. Fort Sill is developing a MOA with the Oklahoma SHPO to document the resolution of adverse effects through avoidance, minimization, and mitigation as determined by Fort Sill and SHPO.

Infrastructure (Utilities, Traffic, and Transportation)

Under the proposed action, there would be long-term, beneficial impacts to the electricity, potable water, and sanitary sewer/wastewater systems; no impact to solid waste; and short-term, minor, adverse impacts to traffic and transportation.

Hazardous and Toxic Materials and Waste

Under the proposed action, there would be short-term, minor, adverse impacts to hazardous materials and wastes; no impacts to Installations Restoration Program sites; and short-term, negligible, adverse impacts from encountering pesticides, such as chlordane, during demolition.

Socioeconomics

Under the proposed action, there would be direct, long-term, moderate, beneficial impacts related to protection of children from demolition of the structures. The structures are an attractive nuisance risk and are located in close proximity to family housing areas where children reside.

Human Health and Safety

Under the proposed action, there would be short-term, minor, adverse impacts to safety during demolition activities, but there would be long-term, moderate, beneficial impacts to safety from removal of the vacant, deteriorated buildings.

Cumulative Impacts

The EA considered cumulative impacts, which are effects on the environment that result from the incremental effects of the proposed action or alternatives when added to the effects of other past, present, and reasonably foreseeable actions, regardless of what agency or person undertakes such other actions. When considered in conjunction with the incremental effects of past, present, and reasonably foreseeable actions on Fort Sill, no significant cumulative impacts would be anticipated to occur with implementation of the proposed action.

Public Review and Interagency Coordination

On 14 June 2024, Fort Sill published a public notice in *The Lawton Constitution*, notifying the availability of documentation for review. The documents were placed at the Lawton Public Library, 110 SW 4th Street, and at Fort Sill, Building 2515 on Ringgold Road. On 30 April 2025, following SHPO concurrence on the MOA, a second public notice was similarly posted for the MOA.

Fort Sill invited the public and other interested stakeholders to review and comment on the EA and Draft FONSI. Accordingly, a Notice of Availability of the EA and Draft FONSI was published in *The Lawton Constitution* on 18 and 20 July 2025 to commence a 30-day public comment period.

Fort Sill coordinated with federally recognized Indian Tribes, in accordance with the NHPA, and the US Fish and Wildlife Service, in accordance with the *Endangered Species Act of 1973*. Fort Sill also notified state agencies, including the Oklahoma SHPO, Oklahoma Archeological Survey, and Oklahoma Department of Environmental Quality. The Oklahoma SHPO and Oklahoma Archeological Survey were consulted on issues related to NHPA Section 106 compliance. The Oklahoma Department of Environmental Quality was consulted on issues related to air quality, water quality, hazardous waste, and human health effects.

During the public comment period, the EA and Draft FONSI were available online for view or download at https://sill-www.army.mil/usag/dpw/environmental/. Printed copies were available for review at the Fort Sill Environmental Quality Division office in Building 2515 and at the following local libraries:

- Lawton Public Library, 110 SW 4th St, Lawton, Oklahoma,
- Nye Library, 1640 Randolph Road, Fort Sill, Oklahoma,

Fort Sill received two comments during the public comment period on the EA:

1. The Comanche Nation Historic Preservation Office reviewed the project to identify areas that may potentially contain prehistoric or historic archaeological materials. The location of the project was cross referenced against Comanche Nation site files, and no historic or archaeological properties were identified. The Comanche Nation notified Fort Sill that "No Properties" have been identified in accordance with 36 CFR 800.4(d)(1).
2. The Oklahoma Department of Environmental Quality completed an environmental impact review for the proposed action and determined that no adverse environmental impacts under that office's jurisdiction were anticipated.

Conclusion

Certification Related to Deadline. The EA represents Fort Sill's good-faith effort to fulfill NEPA's requirements within the congressional timeline in accordance with DoD NEPA Implementing Procedures Part 1.5(f). The one-year timeline for this EA started on 26 November 2024; the expected date of the signed FONSI is 19 September 2025, prior to the NEPA one-year timeline. The EA effort is substantially complete, has thoroughly considered the factors mandated by NEPA, and the analysis contained therein is adequate to inform and reasonably explain Fort Sill's final decision regarding the proposed action.

Finding of No Significant Impact. After review of the attached EA prepared in accordance with the requirements of NEPA, DoD NEPA Implementing Procedures, and Army Regulation 200-1, and which is hereby incorporated by reference, I have determined that the proposed action would not have a significant impact on the quality of the human environment, including the natural environment. This decision was made after considering all submitted information, including a review of agency and public comments submitted during the 30-day public comment period, and considering a full range of practical alternatives that meet project requirements and are within the legal authority of Fort Sill. Accordingly, an Environmental Impact Statement will not be prepared.

DEREK R. BAIRD
Colonel, US Army
Commanding

22 Sep 2025
DATE

This Environmental Assessment (EA) is provided for public comment in accordance with the National Environmental Policy Act (NEPA) Title 42 *United States Code* § 4321 et seq.; *Department of Defense National Environmental Policy Act Implementing Procedures, 30 June 2025;* and Army Regulation 200-1, *Environmental Protection and Enhancement*. The Environmental Analysis of Army actions provides an opportunity for public input on Army decision-making, allows the public to offer inputs on alternative ways for the Army to accomplish what it is proposing, and solicits comments on the Army's analysis of environmental effects.

Public commenting allows the Army to make better, informed decisions. Letters or other written or oral comments provided may be published within the EA. As required by law, comments provided will be addressed in the EA and made available to the public. Providing personal information is voluntary. Any personal information provided will be used only to identify your desire to make a statement during the public comment portion of any public meetings or hearings or to fulfill requests for copies of the EA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of EA; however, only the names of the individuals making comments and specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the EA.

Information regarding the EA is available online at:
https://sill-www.army.mil/usag/dpw/environmental/

Questions can be addressed to:

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COVER SHEET

Environmental Assessment for the
Demolition of Buildings 1307 and 1313, US Army Garrison Fort Sill
Fort Sill, Oklahoma
EAXX-007-21-001-1737986370

a. *Responsible Agency: United States Army*

b. *Location: US Army Garrison Fort Sill, Fort Sill, Oklahoma*

c. *Designation: Environmental Assessment*

d. *Point of Contact: Richard McDaniel, NEPA Coordinator, Environmental Quality Division, Directorate of Public Works, richard.a.mcdaniel49.civ@army.mil*

Abstract:

This Environmental Assessment (EA) has been prepared to address the potential environmental impacts resulting from the lack of mission-supporting operational use of two historic Bachelor Officer Quarters (BOQs) (Buildings [B] 1307 and 1313) and associated non-historic garages (B1336 and B1331, respectively) at the United States Army Garrison (USAG) Fort Sill (Fort Sill), Oklahoma. The EA was prepared in compliance with the *National Environmental Policy Act of 1969* (Title 42 *United States Code* § 4321 et seq.) (NEPA); *Department of Defense NEPA Implementing Procedures, 30 June 2025;* and Army Regulation 200-1, *Environmental Protection and Enhancement*. The Council on Environmental Quality regulations for implementing the procedural provision of NEPA (Title 40 *Code of Federal Regulations* [CFR] Parts 1500–1508) and 32 CFR Part 651, *Environmental Analysis of Army Actions*, were used in preceding draft versions, but have been removed from the current document in accordance with Executive Order 14154.

The purpose of the proposed action is to address the lack of a mission-supporting operational use for B1307, B1313, B1336, and B1331, which, combined with funding constraints and competing priorities, has resulted in the buildings being vacant for years and becoming an attractive nuisance risk to the adjoining family housing area. In accordance with the *Memorandum for National Historic Preservation Act Compliance for Deferred Maintenance on Historic Army Buildings*, demolition of a historic building may be necessary if it is highly deteriorated, underutilized, vacant; if hazardous materials or unsafe conditions are present; or if maintaining the building is financially or otherwise unfeasible.

The EA assesses the potential environmental consequences associated with the proposed action and the no action alternative. Potential effects identified during the initial planning stages include effects to land use, air quality, noise, geological and soil resources, water resources, biological resources, cultural resources, infrastructure (utilities, traffic, transportation), hazardous and toxic materials and waste, socioeconomics, and human health and safety. The EA examines the cumulative effects of the proposed action in combination with past, present, and reasonably foreseeable future actions within and in the vicinity of Fort Sill.

The EA analysis has determined that the proposed action would result in adverse impacts to cultural resources. Fort Sill is pursuing a Memorandum of Agreement with the Oklahoma State Historic Preservation Office to mitigate these effects. The EA analysis has determined that the proposed action would not have a significant impact on the quality of the human environment, including the natural environment. Accordingly, an Environmental Impact Statement will not be prepared.

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ACRONYMS AND ABBREVIATIONS

°F	degree(s) Fahrenheit
ACAM	Air Conformity Applicability Model
ACM	asbestos-containing material
AEC	United States Army Environmental Command
AMPV	armored multi-purpose vehicle
APE	Area of Potential Effect
APZ	accident potential zone
Army	United States Army
AR	Army Regulation
B	Building
BEA	Bureau of Economic Analysis
BLS	Bureau of Labor Statistics
BOQ	Bachelor Officer Quarters
CAA	Clean Air Act
CFR	Code of Federal Regulations
CT	Census tract
CWA	Clean Water Act
dB	decibels
dBA	A-weighted decibel
DNL	Day-Night Average Sound Level
DoD	Department of Defense
EA	Environmental Assessment
EISA	Energy Independence and Security Act
EO	Executive Order
ESA	Endangered Species Act of 1973, as amended
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
ft	foot/feet
ft^2	square feet
HAZMAT	hazardous materials
HMWMP	Hazardous Material/Hazardous Waste Management Plan
HWRP	Hazardous Waste Reduction Plan
HUD	Department of Housing and Urban Development
LBP	lead-based paint
mgd	million gallons per day
MOA	Memorandum of Agreement
NAAQS	National Ambient Air Quality Standard
NEPA	National Environmental Policy Act of 1969, as amended
NHPA	National Historic Preservation Act of 1966, as amended
NPHD	New Post Historic District
NPDES	National Pollutant Discharge Elimination System
NRE	National Register of Historic Places Eligible
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
OAS	Oklahoma Archeological Survey
ODEQ	Oklahoma Department of Environmental Quality
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyls
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
PM_{10}	particulate matter less than or equal to 10 microns in diameter
ppb	parts per billion
ppm	parts per million
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act

ROI	Region of Influence
RSL	regional screening level
SHPO	State Historic Preservation Office
SGT STOUT	Maneuver-Short Range Air Defense
SOIAQCR	Southern Oklahoma Intrastate Air Quality Control Region
SWMP	Stormwater Management Plan
TCP	Traditional Cultural Property
tpy	tons per year
TSCA	Toxic Substance Control Act
$\mu g/m^3$	micrograms per cubic meter
US	United States
USACE	United States Army Corps of Engineers
USAG	United States Army Garrison
USC	United States Code
USCB	United States Census Bureau
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

CHAPTER 1 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

This Environmental Assessment (EA) has been prepared to address the potential environmental impacts resulting from the lack of mission-supporting operational use of two historic Bachelor Officer Quarters (BOQs) (Buildings (B) 1307 and 1313) and associated non-historic garages (B1336 and B1331, respectively) at the United States (US) Army Garrison (USAG) Fort Sill (Fort Sill), Oklahoma, in compliance with the *National Environmental Policy Act of 1969* (42 *United States Code* [USC] § 4321 et seq.) (NEPA); *Department of Defense (DoD) NEPA Implementing Procedures, 30 June 2025;* and Army Regulation (AR) 200-1, *Environmental Protection and Enhancement*. Fort Sill intends to utilize the NEPA process for *National Historic Preservation Act* (54 USC § 300101 et seq.) Section 106 purposes in accordance with 36 CFR § 800.8(c). Fort Sill considered other pertinent environmental statutes, regulations, and compliance requirements during the preparation of this EA, which are addressed in relevant sections.

The information presented in this EA is intended to facilitate agency planning and informed decision-making, helping proponents and other decision-makers understand the potential extent of environmental impacts of a proposed action and its alternatives, and whether those impacts (or cumulative impacts) are significant.

1.2 LOCATION AND BACKGROUND

Fort Sill, comprising approximately 93,679 acres of land, is located in Comanche County in southwestern Oklahoma. Fort Sill covers approximately 27 miles in an east-to-west direction and, depending on location, between 2.5 to 9 miles in a north-to-south direction. The proposed action is within the Fort Sill cantonment area; the cantonment area covers approximately 7,139 acres and is located on the southeastern part of Fort Sill (**Figure 1-1**). Mostly rural areas and the Wichita Mountains Wildlife Refuge border Fort Sill to the north. Lawton, Oklahoma, borders Fort Sill to the south.

Fort Sill is home to the Fires Center of Excellence, which is an organization that combines the Army Field Artillery Center and School and the Army Air Defense Artillery Center and School. Principal operational units at Fort Sill include the 75th, 428th, and 434th Field Artillery brigades, and the 30th and 31st Air Defense Artillery brigades. Fort Sill is also one of four locations for Army Basic Combat Training and hosts numerous tenant organizations not directly headquartered on the Installation. The mission of Fort Sill is to train, educate, and develop soldiers and leaders; create and develop capabilities; engage, collaborate, and partner with stakeholders; and provide a Fires Force to support the Joint Warfighting Commanders across the spectrum of operations in Joint and Multinational Environments (Fort Sill, 2020a). Approximately 22,000 soldiers and 6,500 civilian employees live, train, and/or work at Fort Sill. The two BOQs (B1307 and B1313) are unoccupied, have detached garages (B1336 and B1331, respectively), and are located within a family housing area (**Figure 1-2**). B1307, constructed in 1934, and B1313, constructed in 1915, are two-story brick BOQs that are contributing resources in the New Post Historic District (NPHD). The NPHD (**Figure 1-3**) includes the area at Fort Sill that was designed and constructed as the New Post and retains its historic integrity. Additional building and historic district background information is included in **Appendix A** of this EA.

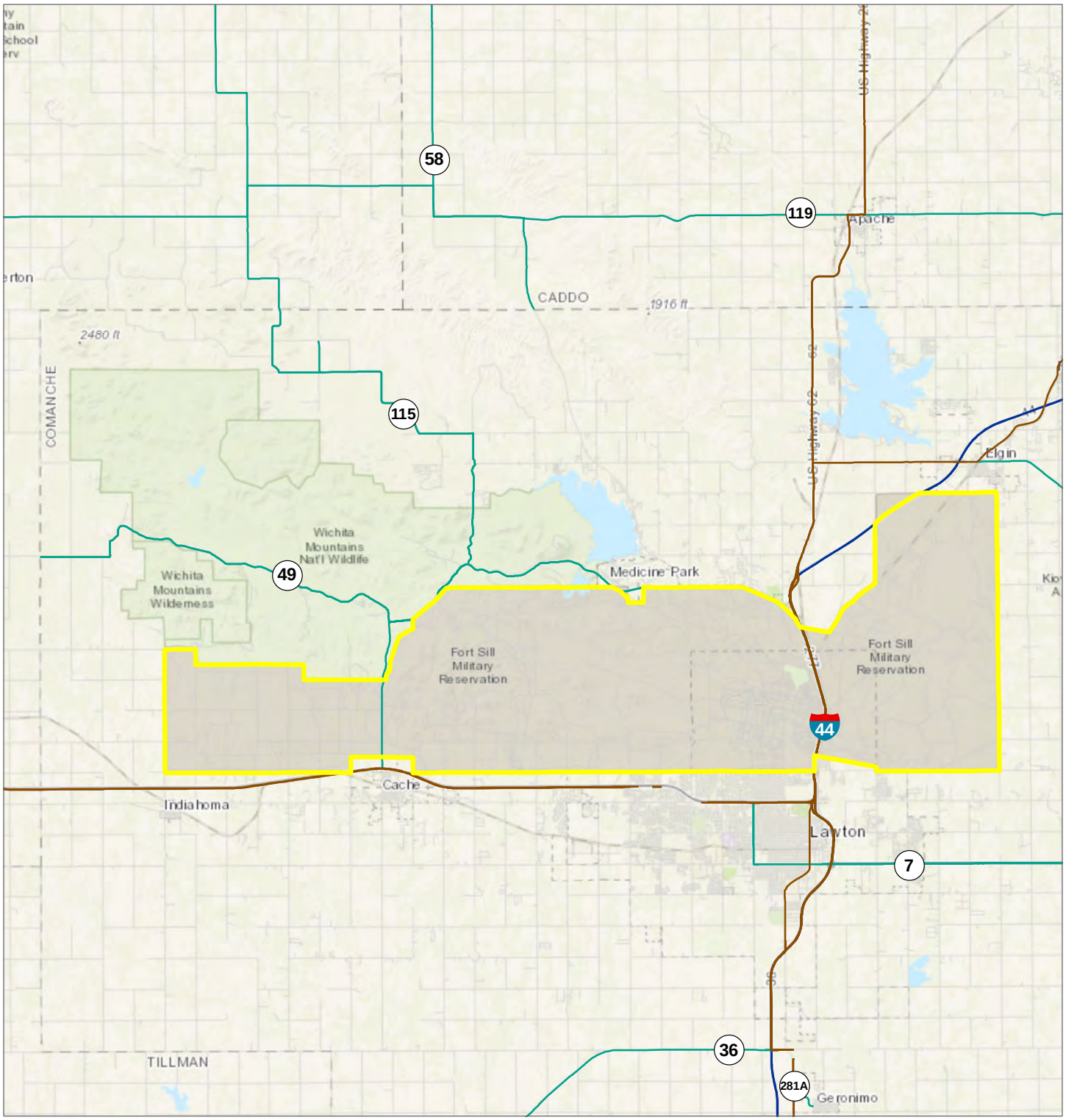


FIGURE 1-1
Fort Sill Vicinity

Interstate Highway
State Highway
US Highway
Fort Sill

N

0 4 8 Miles

Imagery: ESRI, 2021.
Coordinate System: NAD 83 UTM Zone 14N

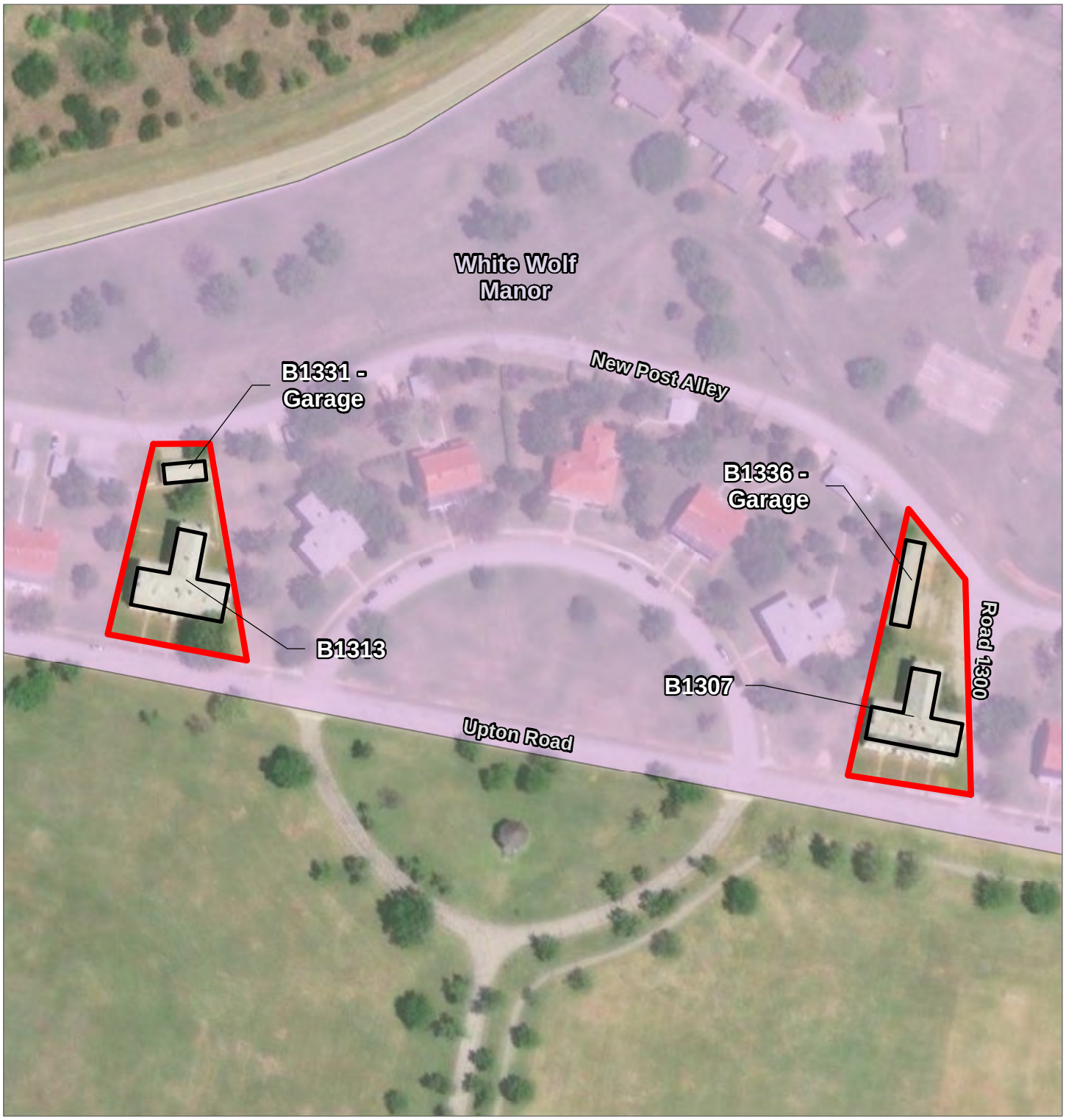


FIGURE 1-2
Buildings Proposed for Demolition

Building Proposed for Demolition

Proposed Action Boundary

White Wolf Manor Family Housing Area

N

0 125 250 Feet

Imagery: ESRI, 2021.
Coordinate System: NAD 83 UTM Zone 14N

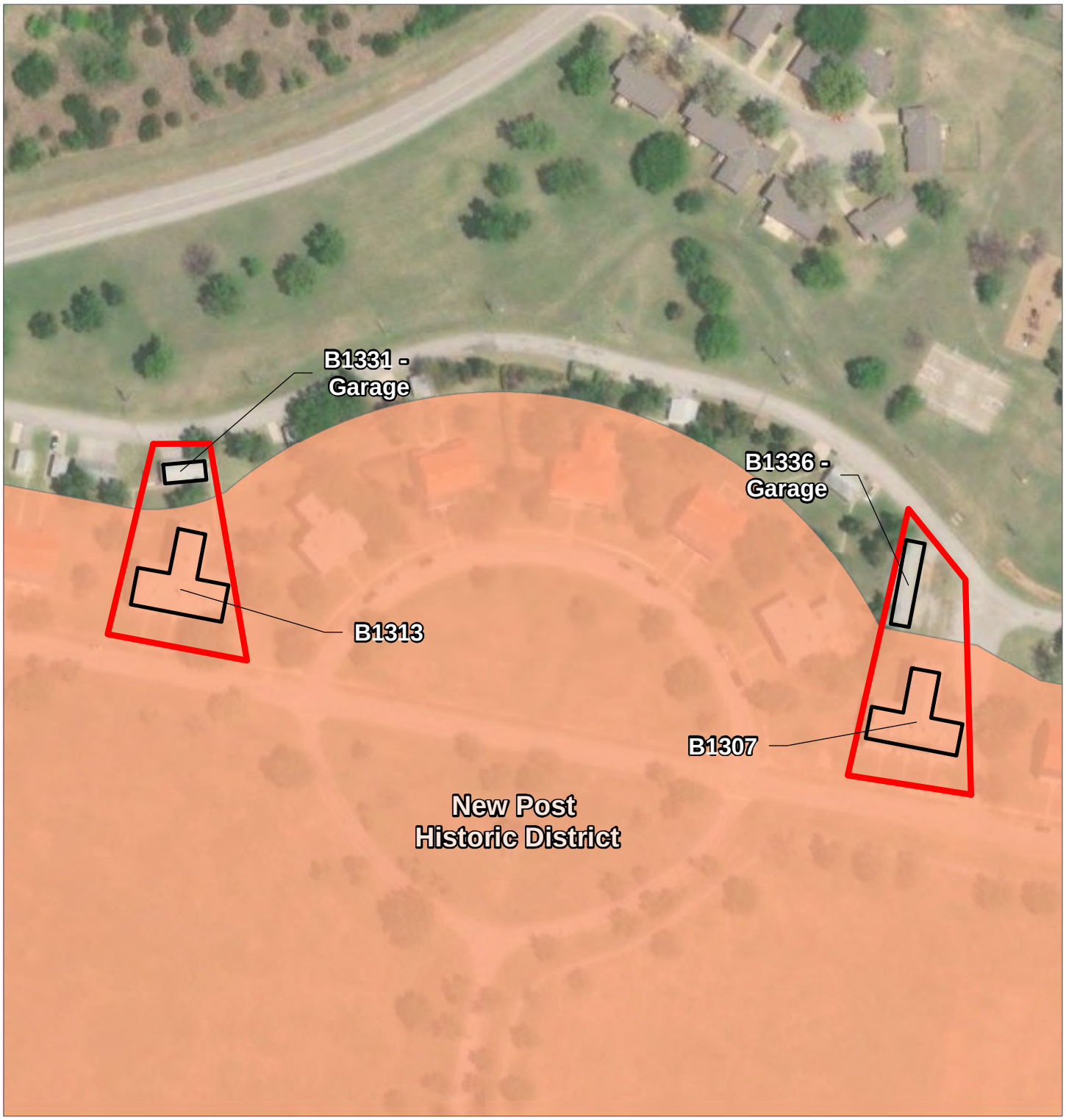


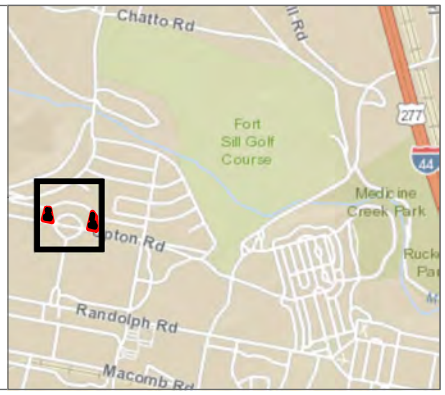
FIGURE 1-3
New Post Historic District

Buildings Proposed for Demolition
Proposed Action Boundary
New Post Historic District

N

0 125 250 Feet

Imagery: ESRI, 2021.
Coordinate System: NAD 83 UTM Zone 14N



1.3 PURPOSE OF AND NEED FOR THE ACTION

The purpose of the proposed action is to address the lack of a mission-supporting operational use for B1307, B1313, B1336, and B1331, which, combined with funding constraints and competing priorities, has resulted in the buildings being vacant for years and becoming an attractive nuisance risk to the adjoining family housing area. The buildings have lacked operational use since 2008. Reuse of the buildings for non-housing purposes, such as offices, is hindered by the lack of available parking, undesirability of increasing vehicular and foot traffic in a family housing area, and unsustainability of operating and maintaining small, isolated buildings.

The proposed action is needed to remove the attractive nuisance risk of the vacant structures from their close proximity to adjoining family housing areas. Per the *Memorandum for National Historic Preservation Act Compliance for Deferred Maintenance on Historic Army Buildings*, demolition of a historic building may be necessary if it is highly deteriorated, underutilized, vacant; if hazardous materials or unsafe conditions are present; or if maintaining the building is financially or otherwise unfeasible (Army, 2020). Historic buildings should be considered for demolition only after prudent and reasonable alternatives to demolition have been considered and found to be financially or otherwise unfeasible. No productive uses for B1307, B1313, B1331, and B1336 have been identified since the buildings became vacant in 2008. Asbestos-containing materials (ACM) have been identified within B1313 and B1307 (Fort Sill, 2022). The proposed action is also needed to provide Fort Sill with safe and secure family housing areas to meet the housing needs of soldiers and their dependents. This includes meeting the ongoing needs of the dependents while the soldiers are deployed or otherwise away from home. B1307, B1313, B1331, and B1336 are an attractive nuisance risk related to their location within the White Wolf Manor family housing area. Additionally, while the structures do maintain fair to good structural integrity, as shown in a recently conducted structural assessment (provided as **Appendix B**), renovation and reconfiguration of the BOQ building type suitable for family housing would be anticipated to be costly, time consuming, and require extensive modification to the interior configuration of spaces.

1.4 INTERGOVERNMENTAL COORDINATION, PUBLIC AND AGENCY PARTICIPATION

The environmental analysis process includes public and agency review of information pertinent to a proposed action and alternatives. Through the process of interagency coordination, the proponent must notify concerned federal, state, and local agencies and allow them sufficient time to evaluate potential environmental consequences of a proposed action. Accordingly, Fort Sill notified federal agencies with jurisdiction that could potentially be affected by the proposed action and alternatives via written correspondence during the development of this EA. A mailing list of the recipients of this correspondence is included in **Appendix C**.

1.4.1 Government-to-Government Consultation

The *National Historic Preservation Act of 1966*, as amended (54 USC § 300101 et seq.) (NHPA) and implementing regulations for Section 106 of the NHPA at 36 CFR Part 800 direct federal agencies to consult with federally recognized Native American Tribes. Consistent with the NHPA and DoD Instruction 4710.02, *DoD Interactions with Federally Recognized Tribes*, Fort Sill invited federally recognized Tribes that are historically affiliated with lands in the vicinity of the proposed action to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the Tribes. The Fort Sill point of contact for consultation with Native American Tribes is the Garrison Commander. As part of the correspondence provided to the consulting parties, the Garrison Commander designated in writing the official Fort Sill representatives for NHPA matters. A sample of the outgoing correspondence and all responses received are included in **Appendix C.**

1.4.2 Other Agency Consultations

Agency actions at Fort Sill involve consultation with several organizations and agencies. Fort Sill coordinated with the following government agencies regarding potential effects of the proposed action:

- *Endangered Species Act of 1973* (ESA) Section 7 consultation – US Fish and Wildlife Service (USFWS);
- NHPA Section 106 compliance – Oklahoma State Historic Preservation Office (SHPO) and the Oklahoma Archeological Survey (OAS); and
- Air quality, water quality, hazardous wastes, and human health effects – Oklahoma Department of Environmental Quality (ODEQ).

A sample of the outgoing correspondence and all responses received are included in **Appendix C**.

1.4.3 Public Involvement

On 14 June 2024, Fort Sill published a public notice in *The Lawton Constitution*, notifying the availability of documentation for review. The documents were placed at the Lawton Public Library, 110 SW 4th Street, and at Fort Sill, Building 2515 on Ringgold Road. On 30 April 2025, following SHPO concurrence on the Memorandum of Agreement (MOA), a second public notice was similarly posted for the MOA. Copies of both public notices are provided in **Appendix D**.

Fort Sill invited the public and other interested stakeholders to review and comment on the EA and Draft Finding of No Significant Impact (FONSI). Accordingly, a Notice of Availability of the EA and Draft FONSI was published in *The Lawton Constitution* on 18 and 20 July 2025 to commence a 30-day public comment period.

During the public comment period, the EA and Draft FONSI were available online for view or download at https://sill-www.army.mil/usag/dpw/environmental/. Additionally, printed copies of the EA and Draft FONSI were available by request (see **Cover Sheet**) and placed at the following local libraries for review:

- Lawton Public Library, 110 SW 4th St, Lawton, Oklahoma
- Nye Library, 1640 Randolph Road, Fort Sill, Oklahoma

During the public comment period, Fort Sill received comments from the Comanche Nation. The Comanche Nation reviewed the project to identify areas that may potentially contain prehistoric or historic archaeological materials. The location of the project was cross referenced against Comanche Nation site files, and no historic or archaeological properties were identified.

During the public comment period, Fort Sill also received comments from the ODEQ. The ODEQ completed an environmental impact review for the proposed action and determined that no adverse environmental impacts under ODEQ jurisdiction were anticipated.

1.5 Scope of the Environmental Analysis

This EA has been developed in accordance with NEPA regulations, DoD NEPA Implementing Procedures, and AR 200-1. The EA will inform Army decision-makers, agencies, Native American tribes, the public, and others of the potential human and natural environmental consequences that could result from the demolition of B1307 and B1313 at Fort Sill.

An interdisciplinary team comprising environmental scientists, biologists, planners, economists, engineers, cultural resource specialists, and military technicians has analyzed the proposed action relative to existing conditions and identified the potential impacts associated with implementation of the proposed action. The proposed action and the no action alternative are described in Chapter 2. Conditions existing as of 2025, considered to be the “baseline” conditions, are described in Chapter 3. The potential impacts of the proposed action are presented immediately following the description of the existing conditions. Chapter 3 also addresses the potential for reasonably foreseeable impacts and identifies mitigation measures that can be implemented where appropriate.

CHAPTER 2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

The proposed action would eliminate hazards associated with the facilities. This section provides a description of the standards used in selecting the proposed action and alternatives; a detailed description of the proposed action and alternatives, including the no action alternative; identification of alternatives considered but eliminated from further analysis; comparison of environmental consequences of the alternatives; and mitigation measures.

2.2 DESCRIPTION OF THE PROPOSED ACTION

Under the proposed action, Fort Sill would demolish BOQs (B1307 and B1313) and adjacent garages (B1336 and B1331, respectively). The BOQs are located within the NPHD, which is one of 11 historic districts located within Fort Sill (see **Figure 1-3**). The associated garage structures are located outside the boundaries of the NPHD (Fort Sill, 2007). These buildings were determined not eligible for listing on the NRHP in consensus with the SHPO (Savage, 2008). B1331 is a four-car garage and B1336 is a nine-car garage.

Under the proposed action, all four buildings would be demolished. These buildings meet the criteria for demolition under the *Memorandum for Adverse Effect and Termination of Consultation Under the National Historic Preservation Act* because they are underutilized and vacant, and maintaining the buildings is not financially or otherwise feasible (Army, 2020). Demolition is a defined adverse effect per the NHPA's implementing regulations at 36 CFR § 800.5(a)(2)(i). Under the proposed action, the adjacent utility building (B1387) would not be demolished, as it provides electrical services to more than just B1313 and B1331.

2.3 SELECTION STANDARDS FOR ALTERNATIVES SCREENING

Selection standards were developed to establish a means for determining the reasonableness of an alternative and whether an alternative should be carried forward for further analysis in the EA. The following selection standards meet the purpose of and need for the proposed action and were used to identify reasonable alternatives for analysis in the EA. The supporting alternatives must:

1. respond to Fort Sill's purpose and need;
2. be consistent with existing laws, regulations, and policies;
3. avoid or substantially lessen one or more significant socioeconomic or environmental effects of the project;
4. be technically feasible and practical, meaning implementation of the alternative is likely given past and current practice, technology and/or site conditions as determined and documented by Fort Sill's technical experts;
5. be economically feasible and practical, meaning implementation of the alternative is feasible due to reasonable costs as determined by Fort Sill's technical and economic experts;
6. not be remote or speculative; and
7. not be substantially similar in design to an alternative that is analyzed in detail.

Based on the selection standards, two alternatives to the components of the proposed action were considered on a preliminary basis but were eliminated for further analysis. A discussion of alternatives eliminated for further analysis is provided in **Section 2.5**.

2.4 ALTERNATIVES

DoD NEPA Implementing Procedures mandate the consideration of reasonable alternatives to the proposed action. "Reasonable alternatives" are those that could meet the purpose of and need for the

proposed action. The NEPA process is intended to support flexible, informed, decision-making; the analysis provided by this EA and feedback from stakeholders will inform decisions about whether, when, and how to execute the proposed action. Among the alternatives evaluated for each project is a no action alternative, which evaluates the potential consequences of leaving the buildings in their current state and serves to establish a comparative baseline for analysis.

2.4.1 Alternative 1 – Demolition of Buildings 1307 and 1313 and Garages 1331 and 1336

Alternative 1 is described in detail in **Section 2.2**.

2.4.2 No Action Alternative

DoD NEPA Implementing Procedures require evaluation of the no action alternative. The no action alternative serves as a baseline for evaluating the impacts of the proposed action.

Under the no action alternative, the BOQs (B1307 and B1313) and the adjacent garages (B1336 and B1331, respectively) would continue to decline, increasing the issues associated with vacant, deteriorated buildings. The neglect that causes deterioration of a historic property is also a defined adverse effect per 36 CFR § 800.5(a)(2)(vi).

2.5 Alternatives Considered but Eliminated from Further Analysis

During the evaluation of alternatives, two alternatives were considered but were eliminated from further analysis.

2.5.1 Mothballing

The mothballing effort involves controlling the long-term deterioration of the building while it is unoccupied as well as finding methods to protect it from sudden loss by fire or vandalism. This requires securing the building from unwanted entry, providing adequate ventilation to the interior, and shutting down or modifying existing utilities. Once the building is de-activated or secured, the long-term success would depend on periodic maintenance and surveillance monitoring (Park, 1993). Mothballing buildings requires anticipated future use, as well as substantial investment to stabilize the buildings and ongoing monitoring and maintenance. Mothballing B1307 and B1313 was eliminated from further consideration because it would not be practical given the location of the buildings within the family housing areas. This alternative did not satisfy the selection standards outlined in **Section 2.3** because it did not respond to Fort Sill's purpose and need by identifying a future use and was not economically feasible or practical to mothball the property without an identified future use. Therefore, this alternative was eliminated from further consideration**.**

2.5.2 Rehabilitation

The second alternative eliminated from further analysis was rehabilitating the structures. Rehabilitating the structures would include completing all necessary structural, aesthetic, and safety renovations to beneficially reuse the property. Overall, B1307 and B1313 are in fair condition. While the finishes are typically in poor to fair condition, the structures of the buildings are generally in fair to good condition. The structural analysis of the buildings determined that reinforcement of infrastructure to support existing wood framing would be necessary for rehabilitation (see **Appendix B** of this EA).

This alternative was eliminated from further consideration because it was economically infeasible and would require a compatible use to be identified. Fort Sill has attempted to identify a compatible use for the properties for 15 years without success. The repairs needed to bring the buildings up to date to building and life safety codes would be significant in the face of funding challenges. Further, this alternative would be technically infeasible due to the lack of parking, increased traffic in the residential areas, maintenance requirements, and costs of having multiple dispersed small buildings versus consolidating small offices into a single building. This alternative did not satisfy the selection standards outlined in **Section 2.3** and was eliminated from further consideration**.**

Based on the selection standards outlined in **Section 2.3**, the Army identified no reasonable alternatives to the proposed action.

2.6 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The potential impacts associated with the proposed action and no action alternative are summarized in **Table 2-1**. The summary is based on information discussed in detail in **Chapter 3** (Affected Environment and Environmental Consequences) of this EA and includes a concise definition of the issues addressed and the potential environmental impacts associated with each alternative.

Table 2-1
Summary of Environmental Consequences

Resource	Proposed Action	No Action
Land Use	Under the proposed action, demolition activities would result in long-term, beneficial impacts by removing the attractive nuisance risk of the vacant structures in close proximity to family housing areas. The proposed action would comply with, and be consistent with, existing and future Installation land use plans and policies.	Under the no action alternative, moderate, adverse impacts to land use would occur at Fort Sill.
Air Quality	Under the proposed action, demolition activities would result in short-term, negligible, adverse impacts to air quality. Short-term emissions from demolition would remain well below the applicable thresholds for air quality standards.	Under the no action alternative, no impacts to air quality would occur at Fort Sill.
Noise	Under the proposed action, demolition activities would result in short-term, minor, adverse impacts to noise-sensitive receptors.	Under the no action alternative, there would be no change to the noise environment at Fort Sill.
Geological and Soil Resources	Under the proposed action, short-term, negligible, adverse impacts to soils would occur from exposing soils and increasing erosion potential during demolition and grading activities.	Under the no action alternative, there would be no change the geology, topography, or soils at Fort Sill.
Water Resources	Under the proposed action, short-term, negligible, adverse impacts to surface water would occur from exposing soils and increasing erosion potential during demolition and grading activities.	Under the no action alternative, there would be no impacts to water resources at Fort Sill.
Biological Resources	Under the proposed action, short-term, negligible, adverse impacts would occur to the habitat of the tricolored bat (*Perimyotis subflavus*), which is proposed for listing as endangered under the *Endangered Species Act of 1973*, as amended.	Under the no action alternative, there would be no impacts to biological resources at Fort Sill.

Resource	Proposed Action	No Action
Cultural Resources	Under the proposed action, there would be an *adverse effect* to historic architectural properties and to the New Post Historic District. These effects would be mitigated by a Memorandum of Agreement between Fort Sill and the Oklahoma State Historic Preservation Office.	Under the no action alternative, B1307 and B1313 would continue to decline, resulting in long-term, moderate, adverse impacts. The neglect that causes deterioration of a historic property is a defined adverse effect. The no action alternative was included in State Historic Preservation Office consultation, and the resolution of the adverse effect of demolition by neglect is part of the Memorandum of Agreement.
Infrastructure (Utilities, Traffic, and Transportation)	Under the proposed action, long-term, minor, beneficial impacts would occur from the removal of outdated infrastructure.	Under the no action alternative, there would be minor, adverse impacts to infrastructure and utilities through the continued degradation of the buildings.
Hazardous and Toxic Materials and Waste	Under the proposed action short-term, minor, adverse impacts to hazardous materials and wastes would occur during demolition. The presence pesticides, such as chlordane, in the soil would result in short-term, negligible, adverse impacts during demolition activities.	Under the no action alternative, there would be minor, adverse impacts to hazardous and toxic materials and wastes from the continued degradation of the buildings. B1307 and B1313 would continue to contain asbestos-containing material, and the vacant status of the buildings would increase the potential for deterioration of these buildings and exposure of their hazardous materials.
Socioeconomics	Under the proposed action, demolition of the structures would result in direct, long-term, moderate, beneficial impacts related to protection of children. The existing structures are an attractive nuisance risk and are located in close proximity to adjoining family housing areas where children reside.	Under the no action alternative, the buildings would continue to degrade, increasing the attractive nuisance risks associated with vacant, deteriorated buildings. The structures would continue to pose a potential risk to children living in nearby family housing areas.
Human Health and Safety	Under the proposed action, demolition activities would result in short-term, minor, adverse impacts to safety. The proposed action would result in long-term, beneficial impacts to safety on Fort Sill.	Under the no action alternative, the four buildings would continue to pose a risk to Army personnel and their dependents that may reside in nearby family housing areas, resulting in long-term, moderate, adverse impacts to safety on Fort Sill.

CHAPTER 3 EXISTING CONDITIONS AND ENVIRONMENTAL CONSEQUENCES

3.1 FRAMEWORK FOR ANALYSIS

To provide a framework for the analyses in this EA, the authors defined a study area specific to each resource or sub-resource area. Referred to as a Region of Influence (ROI), these areas delineate a boundary where possible effects from the considered alternatives would have a reasonable likelihood to occur. Beyond these ROIs, potential adverse effects on resources would not be anticipated. For the purposes of analysis, potential effects are described as follows:

- **Beneficial –** positive effects that improve or enhance resource conditions
- **Adverse –** negative or harmful results
- **Negligible –** effects likely to occur but at levels not readily observable by evaluation
- **Minor –** observable, measurable, tangible effects qualified as below one or more significance threshold(s)
- **Moderate –** tangible effects that are readily apparent, qualified as below one or more significance threshold(s)
- **Significant –** obvious, observable, verifiable effects qualified as above one or more significance threshold(s); not mitigable to below significance

When relevant to the analyses in this EA, potential effects are further defined as direct or indirect; and temporary, intermittent, or permanent.

Based upon the nature of the proposed action and the affected environment, both qualitative and quantitative thresholds were used as benchmarks to qualify effects.

3.2 RESOURCES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

Fort Sill considered but eliminated from further analysis airspace and the electromagnetic spectrum because the proposed action would not involve any activities with the potential to impact airspace or electromagnetic spectrum.

3.3 RESOURCES CARRIED FORWARD FOR DETAILED ANALYSIS

Based on the results of internal and external scoping (see **Section 1.4**), the following resources were carried forward for analysis: land use, air quality, noise, geological and soil resources, water resources, biological resources, cultural resources, infrastructure (utilities, traffic, and transportation), hazardous and toxic materials and waste, socioeconomics, and human health and safety.

3.4 LAND USE

3.4.1 Definition of the Resource

The term “land use” refers to real property classifications that indicate either natural conditions or the types of human activity occurring on a parcel. In many cases, land use descriptions are codified in local zoning laws; however, no nationally recognized convention or uniform terminology has been adopted for describing land use categories. As a result, the meanings of various land use descriptions, labels, and definitions vary among jurisdictions. Land use on Fort Sill is broadly classified by land use designations, or areas that contain common functions and types of operational activities.

The ROI for land use is the cantonment area of Fort Sill.

3.4.2 Existing Conditions

Eight land use categories have been established for land management within the cantonment area of Fort Sill: airfield, family housing, industrial, medical and dental, other, recreational, training, and troop housing. Their names are descriptive of their general function. Training, industrial, recreational, and family housing account for the majority of the Installation's cumulative area.

Use of B1307, B1313, B1336, and B1331 was discontinued in 2008. The structures are an attractive nuisance risk and are located in close proximity to adjoining family housing areas where children reside. Risks to trespassers of the vacant structures include exposure to ACM, lead-based paint (LBP), diseases from pests and rodents, and other hazards. Although the area containing these buildings is restricted with temporary construction fencing, they pose a potential risk to children living in nearby family housing areas. The structures are located within the White Wolf Manor family housing area within the Fort Sill cantonment area. The housing area is bounded by Upton Road to the south and King Road to the north; the proposed action buildings are located on Upton Road (**Figure 3-1**).

The White Wolf Manor family housing area has various recreational facilities within the housing area and in the near vicinity. The White Wolf Manor family housing area playground and basketball court borders the proposed action area to the north. The community center/pool recreational facilities on the south side of King Road support family housing within the White Wolf Manor family housing area. The White Wolf Manor family housing area is bordered to the north and south by recreational areas and to the west by additional troop housing. The recreational vehicle park and golf course north of King Road recreational facilities support the entire Installation. The New Post Parade Ground to the south is used for both recreational and training purposes. Barrack buildings are located to the south and west of the New Post Parade Ground, although not all of the buildings are currently used for barracks.

3.4.3 Environmental Consequences

3.4.3.1 Evaluation Criteria

Potential impacts on land use are based on the level of land use sensitivity in areas potentially affected by a proposed action as well as compatibility of the action with existing conditions. In general, a land use impact would be adverse if it meets one of the following criteria:

- inconsistent or noncompliant with existing land use plans or policies,
- precludes the viability of existing land use,
- precludes continued use or occupation of an area,
- incompatible with adjacent land use to the extent that public health or safety is threatened, or
- conflicts with planning criteria established to ensure the safety and protection of human life and property.

3.4.3.2 Proposed Action

Under the proposed action, B1307, B1313, B1336, and B1331 would be demolished. As shown in **Figure 3-1**, these four buildings are in a family housing area on Fort Sill and sit on two different parcels within the NPHD (see **Section 3.10**). The buildings are no longer in use because of a lack of mission-supporting operational use that has caused the buildings to remain vacant.

FIGURE 3-1
Land Use by Principal Activity

- Buildings Proposed for Demolition
- Government Owned Parcel
- Family Housing
- Prichard Field
- Recreational
- Troop Housing

N

0 250 500 Feet

Imagery: ESRI, 2021
Coordinate System: NAD 1983 UTM Zone 14N

The purpose of the family housing land use designation is to provide Fort Sill with safe and secure family housing that meets the needs of the soldiers and their dependents. This includes meeting the ongoing needs of the dependents while the soldiers are deployed or otherwise away from home. Removing the structures would remove the attractive nuisance risk currently located in close proximity to the adjoining family housing areas where children reside. Removing the structures would remove the potential risk to children living in nearby family housing areas including exposure to ACM, LBP, diseases from pests and rodents, and other hazards. The proposed action would have a long-term, beneficial impact to Fort Sill by removing the attractive nuisance risk of the vacant structures in close proximity to family housing areas.

3.4.3.3 No Action Alternative

The no action alternative would result in moderate, adverse impacts to land use. Demolition activities would not occur, and deterioration of the four structures would continue. The attractive nuisance risk of the vacant structures in close proximity to family housing areas is incompatible with adjacent land use to the extent that public health or safety is threatened. The parcels where the structures are located would remain unusable for future safe and secure family housing areas.

3.5 AIR QUALITY

3.5.1 Definition of the Resource

Air pollution is a threat to human health and damages trees, crops, other plants, waterbodies, and animals. It creates haze or smog that reduces visibility in national parks and cities and interferes with aviation. To improve air quality and reduce air pollution, Congress passed the *Clean Air Act* (42 USC § 7401 et seq.) (CAA) and its amendments in 1970 and 1990, which set regulatory limits on air pollutants to ensure basic health and environmental protection from air pollution.

The US Environmental Protection Agency (USEPA) divided the country into geographical regions known as air quality control regions to evaluate compliance with the National Ambient Air Quality Standards (NAAQS). Fort Sill is located in Comanche County, Oklahoma, which is in the Southern Oklahoma Intrastate Air Quality Control Region (SOIAQCR) (40 CFR § 81.125) and serves as the ROI for the proposed action.

3.5.1.1 Criteria Pollutants

In accordance with CAA requirements, the air quality in each region is measured by the concentration of various pollutants in the atmosphere. Measurements of these “criteria pollutants” in ambient air are expressed in units of parts per million (ppm) or in units of micrograms per cubic meter.

The CAA directed the USEPA to develop, implement, and enforce environmental regulations that would ensure clean and healthy ambient air quality. To protect public health and welfare, the USEPA developed numerical concentration-based standards (i.e., NAAQS) for pollutants that have been determined to impact human health and the environment and established both primary and secondary NAAQS under the provisions of the CAA (**Table 3-1**). The primary NAAQS represent maximum levels of background air pollution that are considered safe, with an adequate margin of safety to protect public health. Secondary NAAQS represents the maximum pollutant concentration allowable for the protection of vegetation, crops, and other public resources in addition to maintaining visibility standards.

Ozone is not usually emitted directly into the air but is formed in the atmosphere by photochemical reactions involving sunlight and previously emitted pollutants, or “ozone precursors.” These ozone precursors consist primarily of nitrogen oxides and volatile organic compounds that are directly emitted from a wide range of emission sources. For this reason, regulatory agencies limit atmospheric ozone concentrations by controlling volatile organic compound pollutants (also identified as reactive organic gases) and nitrogen oxides.

Table 3-1
National Ambient Air Quality Standards

Pollutant		Primary/ Secondary[a,b]	Averaging Time	Level[c]	Form
Carbon monoxide		Primary	8 hours	9 ppm	Not to be exceeded more than once per year
			1 hour	35 ppm	
Lead		Primary and Secondary	Rolling 3-month average	0.15 µg/m^3	Not to be exceeded
Nitrogen dioxide		Primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Primary and Secondary	1 year	53 ppb	Annual mean
Ozone		Primary and Secondary	8 hours	0.070 ppm	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution	$PM_{2.5}$	Primary	1 year	12.0 µg/m^3	Annual mean, averaged over 3 years
		Secondary	1 year	15.0 µg/m^3	Annual mean, averaged over 3 years
		Primary and Secondary	24 hours	35 µg/m^3	98th percentile, averaged over 3 years
	PM_{10}	Primary and Secondary	24 hours	150 µg/m^3	Not to be exceeded more than once per year onaverage over 3 years
Sulfur dioxide		Primary	1 hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

Source: NAAQS table

µg/m^3 = micrograms per cubic meter; NAAQS = National Ambient Air Quality Standards; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; PM_{10} = particulate matter less than or equal to 10 microns in diameter; ppb = parts per billion; ppm = parts per million; USEPA = US Environmental Protection Agency

a. Primary Standards: the levels of air quality necessary, with an adequate margin of safety to protect public health. Each state must attain the primary standards no later than three years after that state's implementation plan is approved by the USEPA.
b. Secondary Standards: the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
c. Concentrations are expressed first in units in which they were promulgated.
   (1) In areas designated nonattainment for the lead standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m^3 as a calendar quarter average) also remain in effect.
   (2) The level of the annual nitrogen dioxide standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.
   (3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) ozone standards are not revoked and remain in effect for designated areas. Additionally, some areas may have certain continuing implementation obligations under the prior revoked 1-hour (1979) and 8-hour (1997) ozone standards.
   (4) The previous sulfur dioxide standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous sulfur dioxide standards or is not meeting the requirements of a state implementation plan call under the previous sulfur dioxide standards (40 CFR § 50.4(3)). A state implementation plan call is a USEPA action requiring a state to resubmit all or part of its state implementation plan to demonstrate attainment of the required NAAQS.

3.5.1.2 General Conformity and Attainment

When a region or area meets NAAQS for a criteria pollutant, that region or area is classified as in "attainment" for that pollutant. When a region or area fails to meet NAAQS for a criteria pollutant, that region or area is classified as "nonattainment" for that pollutant. In cases of nonattainment, the affected state, territory, or local agency must develop a state implementation plan for USEPA review and approval. The state implementation plan is an enforceable plan developed at the state level that identifies how the state

will comply with air quality standards. If air quality improves in a region that is classified as nonattainment, and the improvement results in the region meeting the criteria for classification as attainment, then that region is reclassified as a "maintenance" area.

Under the CAA, the General Conformity Rule requires proposed federal agency activities in designated nonattainment or maintenance areas (i.e., attainment areas reclassified from a prior nonattainment designation) to demonstrate conformity with the state implementation plan for attainment of NAAQS. Agencies are required to show that the net change in emissions from a federal proposed action would be below applicable *de minimis* threshold levels (i.e., so minor as to merit disregard).

3.5.1.3 New Source Review

Per the CAA, the USEPA's Prevention of Significant Deterioration (PSD) New Source Review permit program regulates criteria and certain non-criteria air pollutants for air quality control regions designated as unclassified or in attainment status with respect to the federal standards. In such areas, a PSD review is required for new "major source" or "major modification of existing source" emissions that exceed 100 or 250 tons per year (tpy) of a regulated CAA pollutant, dependent on the type of major stationary source. For "minor source" emissions, a PSD review is required if a project increases a "major source" threshold.

3.5.1.4 Operating Permits

Permitting requirements for federal owners and operators are largely based on a "potential to emit," defined as the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design or configuration. Calculations are used to determine whether a federal facility is defined as a "major source" under the CAA requiring a Title V Operating Permit; however, some "non-major" or "minor source" federal owners or operators are subject to other stationary permitting requirements.

3.5.2 Existing Conditions

The SOIAQCR, in which the ROI is located, is in attainment for all NAAQS pollutants.

Fort Sill operates under a "synthetic minor" air permit because the controlled emissions of each of the criteria pollutants are below the major source threshold of 100 tpy and the hazardous air pollutant emissions are below the 10 tpy threshold for a single hazardous air pollutant and below the 25 tpy threshold for any combination of hazardous air pollutants. The primary source of emissions is the range activities associated with artillery maneuvering, firing, and projectile explosion. These actions are considered a grandfathered fugitive activity and are not subject to emission limits. These activities are conducted in the center of the post area for safety reasons, and any particulate matter generated mostly will have settled to the ground by the time it reaches the post boundaries (ODEQ, 2022a).

3.5.2.1 Regional Climate

The regional climate of the Fort Sill area tends to be humid and subtropical. July and August are the hottest months, with an average daily high temperatures of 97.2 and 96.4 degrees Fahrenheit (°F), respectively. Average temperatures in spring, summer, and fall are 61.7°F (April), 84.4°F (July), and 63.4°F (October), respectively. Winter temperatures tend to be cold; January is the coolest month of the year, with an average temperature of 40.5°F and an average daily low temperature of 27.4°F (National Oceanic and Atmospheric Administration, 2024).

Precipitation in the Fort Sill area occurs almost entirely in the form of rain. Fort Sill normally receives about 27.47 inches of precipitation annually (National Oceanic and Atmospheric Administration, 2024). The highest amount of rainfall occurs in the spring, with 3.72 inches in May and 3.98 inches in June on average. Winter snowfall is light, and Fort Sill averages only 2 to 3 inches of snowfall annually.

3.5.3 Environmental Consequences

3.5.3.1 Evaluation Criteria

The environmental impact methodology for criteria pollutant air quality impacts presented in this EA estimates air emissions for each specific criteria and precursor pollutant, as defined in the NAAQS. The proposed action is broken down into basic units, taking into account demolition (square feet [ft^2]), grading (ft^2), and construction timelines. These data are then input into the Air Conformity Applicability Model (ACAM), which models emissions based on the inputs. The calculated emissions are then compared against the applicable threshold based on the attainment status of the ROI. If the annual net increase in emissions from the project are below the applicable thresholds, then the proposed action is not considered significant and would not be subject to any further conformity determination. Assumptions of the model, methods, and detailed summary results are provided in **Appendix E** of this EA.

The SOIAQCR is in attainment for all NAAQS standards (40 CFR § 81.337) (USEPA, 2024a). Due to the toxicity of lead, the use of the lead general conformity *de minimis* threshold as an indicator of potential air quality impact insignificance is not protective of human health or the environment. Therefore, the general conformity *de minimis* value for lead is used, which is 25 tpy.

3.5.3.2 Proposed Action

Air Emissions

The estimated air emissions for the proposed action from the ACAM model analysis over the course of implementation of the proposed action are presented in **Table 3-2**, which summarizes the highest estimated annual emissions for each pollutant under the proposed action compared to their respective thresholds within the SOIAQCR.

The proposed projects under the proposed action include 12,836 ft^2 of demolition and up to 52,000 ft^2 of grading. The year of demolition was assumed to be 2025 for the ACAM model; however, the emissions would be anticipated to be the same regardless of what year the proposed action occurs. Emissions from the demolition projects would be expected to be short term and would all be significantly below thresholds of significance within the SOIAQCR.

Table 3-2
Estimated Highest Annual Air Emissions and Thresholds – Proposed Action

Pollutant	Annual Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (yes or no)
Volatile organic compound	0.317	250	No
Nitrogen oxides	2.821	250	No
Carbon monoxide	3.373	250	No
Sulfur oxides	0.005	250	No
PM_{10}	2.281	250	No
$PM_{2.5}$	0.116	250	No
Lead	0.00	25	No
Ammonia	0.002	250	No

$PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; PM_{10} = particulate matter less than or equal to 10 microns in diameter

3.5.3.3 No Action Alternative

The no action alternative would result in no impacts to the quality environment beyond the baseline. B1307, B1313, B1331, and B1336 would remain in place and continue to degrade. Demolition activities would not take place, and the temporary air quality impacts associated with the proposed action would not occur.

3.6 NOISE

3.6.1 Definition of the Resource

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air or water, and are sensed by the human ear. Noise is generally described as unwanted sound. Unwanted sound can be grounded in objectivity (e.g., hearing loss or damage to structures) or subjectivity (e.g., an individual's level of tolerance or annoyance to different sounds). Noise events elicit varying responses within a population or area based on the activity generating noise and its perceived importance and related factors, such as setting, time of day, exposure period or duration, and receptor sensitivity. In addition to humans, noise may also affect wildlife as indicated by behavioral changes during nesting, foraging, migration, or other life-cycle activities (USEPA, 1978).

The ROI for noise is the area within 800 ft of the demolition activity of the proposed action on Fort Sill.

3.6.1.1 Noise Metrics

Noise and sound levels are expressed in logarithmic units measured by decibels (dB). A sound level of 0 dB is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech equates to a sound level of approximately 60 dB, sound levels above 120 dB begin to be felt inside the human ear as discomfort, and sound levels between 130 and 140 dB are felt as pain (Berglund and Lindvall, 1995). To mimic the human ear's non-linear sensitivity and perception of different frequencies of sound, the spectral content is weighted to de-emphasize very low and very high frequencies to better replicate human sensitivity and is denoted as an A-weighted decibel (dBA). All sound levels presented in this document are in units dBA unless otherwise noted.

In accordance with DoD guidelines and standard practice for environmental impact analysis documents, the noise analysis herein uses the Day-Night Average Sound Level (DNL) and the Onset-Rate Adjusted DNL. DNL is a cumulative measure of multiple flight and engine maintenance activities throughout an average year.

The *Noise Control Act of 1972* (Public Law 92-574) directs federal agencies to comply with applicable federal, state, and local noise control regulations. In 1974, the USEPA provided information suggesting that continuous and long-term noise levels greater than 65 dBA are normally unacceptable for noise-sensitive receptors such as residences, schools, churches, and hospitals (USEPA, 1974).

3.6.2 Existing Conditions

The primary sources of noise at Fort Sill are blast noise from artillery and impacting artillery rounds, fixed and rotary-wing aircraft, close air support training, general personnel activities, and roadway noise. Noise that potentially could have significant impact is mitigated to less than significant through the management and scheduling of training activities. Fort Sill manages the duration, frequency, and timing of noise-generating training events to reduce potential impacts to sensitive noise receptors and the surrounding communities.

Noise-sensitive receptors in the ROI are primarily associated with residences, schools, healthcare facilities, recreation and conservation lands (including the wildlife that inhabits these areas), and places of religion. Noise-sensitive receptors within the ROI, that is, those who could reasonably be expected to hear demolition noise under the proposed action, include the following:

- Prichard Field (recreation facilities) – across the street from the proposed action area,
- White Wolf Manor family housing area playground and basketball court (recreation facilities) – across the street from the proposed action area, and
- Residents of the surrounding and directly adjacent White Wolf Manor family housing area.

The family housing area and recreational facilities are shown in **Figure 3-1**.

3.6.3 Environmental Consequences

3.6.3.1 Evaluation Criteria

When evaluating noise effects, several aspects are examined:

- the degree to which noise levels generated by training and operations, as well as construction, demolition, and renovation activities, would be higher than the ambient noise levels;
- the degree to which there would be hearing loss and/or annoyance; and
- the proximity of noise-sensitive receptors to the noise source.

3.6.3.2 Proposed Action

The proposed action demolition activities would occur entirely within the boundaries of Fort Sill. These actions would be short term, implemented over time, and would not contribute to the long-term baseline noise environment. Sound would be generated from demolition equipment and traffic. The sound levels representative of standard demolition equipment are listed in **Table 3-3**.

Table 3-3
Peak Sound Pressure Level of Demolition Equipment from 50 Feet

Equipment	Sound Pressure Level (dBA)
Bulldozer	95
Scraper	94
Front Loader	94
Backhoe	92
Grader	91
Crane	86

Source: Federal Highway Administration, 2006
dBA = A-weighted decibel

Noise associated with the operation of demolition equipment generally would be short term, intermittent, and localized, with the loudest machinery typically producing peak sound pressure levels ranging from 86 to 95 dBA at a 50-foot distance from the source. However, the equipment would be operated intermittently during demolition, and potential noise impacts would be short term and limited to daylight hours. Sound from demolition would be confined to the Installation and would be localized at the project location.

The proposed action has the potential to affect the residents of the White Wolf Manor housing area. Residences are located within 50 feet of both sides of each parcel. Additionally, two recreation land noise-sensitive receptors—the Prichard Field athletic fields and the White Wolf Manor family housing area playground and basketball court—are across the street from the proposed action area. These areas have the potential to experience noise from equipment during the demolition of the buildings. The proposed action would cause short-term, minor impacts during these demolition activities. There would be no new operational noise in these areas and thus no long-term operations impacts to the noise environment with the implementation of the proposed action.

3.6.3.3 No Action Alternative

The no action alternative would result in no impact to the noise environment beyond baseline conditions. There would be no demolition activities and the deterioration of B1307, B1313, B1331, and B1336 would continue. The temporary increases in noise from demolition equipment usage would not occur.

3.7 GEOLOGICAL AND SOIL RESOURCES

3.7.1 Definition of the Resource

Geological and soil resources consist of surface and subsurface materials and their properties, including the physiography, topography, geology, and soils, of a given area. Physiography and topography are the shape and arrangement of a land surface, including its height and the position of its natural and human-made features. Geology is the study of the Earth's composition and structure and configuration of surface and subsurface features.

Soils are the unconsolidated materials overlying bedrock or other parent material. Soils are typically described in terms of their complex type, slope, and physical characteristics. Attributes of soil such as their structure, elasticity, load-bearing capacity, shrink-swell potential (the extent certain clay materials will enlarge when wet and shrink when dry), and erosion potential determine their suitability to support land uses. Soil properties must be examined for their compatibility with particular activities or types of land use.

The ROI for geological and soil resources is the immediate area surrounding the parcels of land within the cantonment area.

3.7.2 Existing Conditions

3.7.2.1 Geology and Topography

The Fort Sill cantonment area is located within the bottomlands south of the Wichita Mountains. Bedrock of Fort Sill consists mostly of Cambrian rhyolite and granite. Notable geologic or topographic features of Fort Sill include Mission Ridge, Medicine Bluffs, Rumbough Hill, and Chatto Ridge (US Geological Survey [USGS], 2022). These large-scale geologic and topographic features are located within 10 miles of the proposed action area.

The elevation of the Fort Sill cantonment area ranges from 1,140 to 1,200 feet. The cantonment area is relatively flat and gently sloping (USGS, 2022).

3.7.2.2 Soils

Dominant soil types in the ROI are Foard and Tillman and the Ashport Loam (United States Department of Agriculture, 2024) (**Figure 3-2**).

The Foard and Tillman soil is on nearly level to gently sloping terrain; slopes range from 1 to 3 percent. This soil type consists of 9 inches of silt loam, followed by a thick clay layer. This soil type is moderately well drained but its susceptibility to runoff is very high.

The Ashport Loam soil is on nearly level to gently sloping terrain; slopes range from 0 to 1 percent. This soil type consists of 16 inches of loam, followed by a silty clay loam layer from 16 to 36 inches below ground surface, followed by loam. This soil type is well drained and has negligible susceptibility to runoff.

Chlordane was historically applied to foundations of the structures at Fort Sill as a pesticide until it was banned in 1988. It is a persistent bio accumulative and toxic pesticide that was often applied to the soil around building foundations to control termites (Agency for Toxic Substances and Disease Registry, 2018). Soil samples were taken from the around the foundations of the B1307 and B1313 and detached garages B1331 and B1336. To evaluate potential soil exposure pathways, soil data were compared with USEPA regional screening levels (RSLs) for residential soil. There were no exceedances of the RSLs in any soil sample. The details of this analysis are provided as **Appendix F** to this EA. Additional detail about historic chlordane usage is in **Section 3.12.2.4**.

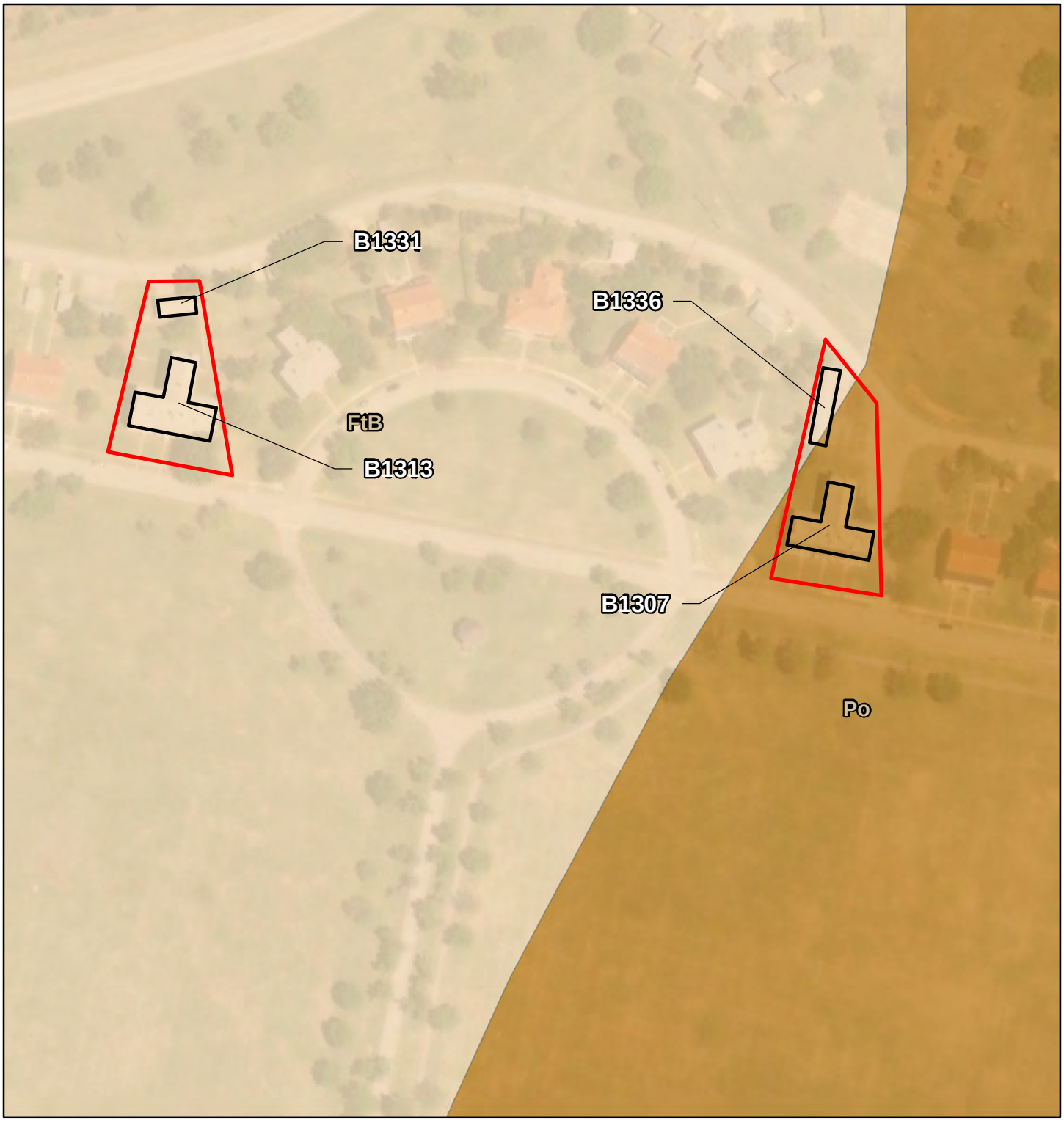


FIGURE 3-2
Soils

- Building Proposed for Demolition
- Proposed Action Boundary
- Po — Ashport Loam, 0 to 1 percent slopes
- FtB — Foard and Tillman Soils, 1 to 3 percent slopes

N

0 125 250 Feet

Imagery: ESRI, 2021
Coordinate System: NAD 1983 UTM Zone 14N

3.7.3 Environmental Consequences

3.7.3.1 Evaluation Criteria

Evaluation of environmental consequences to earth resources considers potential impacts to unique or important geological features, soil erosion, and the siting of facilities in relation to potential geologic hazards. Impacts can be avoided or minimized if proper construction techniques, erosion control measures, and structural engineering design are incorporated into project development.

Potential adverse impacts to geological and soil resources would occur if the proposed action

- substantially alters unique or valued geologic or topographic features,
- develops on soils or underlying geology that are considered unsuitable for intended purpose,
- is incompatible with the seismic risk of the project area, or
- alters geological structure that affects underlying aquifer systems.

3.7.3.2 Proposed Action

Geology/Topography
Demolition activities under the proposed action would not substantially alter the topography, affect any important geologic features, or diminish slope stability. Grading would occur after demolition; however, all actions would occur in topographically flat areas and locations that have been previously developed. No impacts to or from geological resources would be anticipated under the proposed action.

Soils
Up to 52,000 ft^2 of previously developed land would be disturbed by demolition and grading under the proposed action. There is potential for increased erosion and soil loss during construction activities, which would be limited through best management practices. Seeding and erosion control measures would be implemented to avoid and/or minimize surface erosion. Short-term, minor impacts to soils from construction would be anticipated; however, the removal of the four structures under the proposed action would have no long-term, adverse impacts to the soil structure or composition within the project area.

There were no exceedances of the chlordane RSLs in any soil sample taken during the 2024 assessment (see **Appendix F**). The study concluded that grading and stockpiling soils would not be restricted or impacted by chlordane within the soils and no additional soil handling measures would need to be taken with implementation of the proposed action.

3.7.3.3 No Action Alternative

The no action alternative would result in no impact to geological and soil resources beyond baseline conditions. The deterioration of B1307, B1313, B1331, and B1336 would continue. There would be no demolition activities and the soil disturbance associated with the removal of the buildings and grading the parcels would not take place. The temporary risk for soil erosion during these activities would not occur.

3.8 WATER RESOURCES

3.8.1 Definition of the Resource

Water resources include surface water, groundwater, stormwater, and floodplains. The *Federal Water Pollution Control Act of 1948*, as amended by the *Clean Water Act* (33 USC § 1251 et seq.) (CWA), was enacted to protect water resources vulnerable to contamination and quality degradation. The CWA provides the authority to establish water quality standards, control discharges into surface and subsurface waters (including groundwater), develop waste treatment management plans and practices, and issue permits for discharges. A National Pollutant Discharge Elimination System (NPDES) permit under Section 402 of the CWA is required for discharges into navigable waters. The USEPA oversees the issuance of NPDES

permits at federal facilities as well as water quality regulations (CWA, Section 401) for both surface- and groundwater.

The ROI for water resources is the Elmer Thomas Lake-Medicine Creek watershed.

3.8.1.1 Surface Water

The USEPA defines surface waters as waters of the US, which are primarily lakes, rivers, estuaries, coastal waters, and wetlands. Jurisdictional waters, including surface water resources, as defined in 33 CFR § 328.3, are regulated under Sections 401 and 404 of the CWA and Section 10 of the *Rivers and Harbors Act*. Man-made features not directly associated with a natural drainage, such as upland stock ponds and irrigation canals, are generally not considered jurisdictional waters.

3.8.1.2 Stormwater

Stormwater is surface water runoff generated from precipitation and has the potential to introduce sediments and other pollutants into surface waters. Stormwater is regulated under the CWA Section 402 NPDES program. Impervious surfaces such as buildings, roads, parking lots, and even some natural soils increase surface runoff. Stormwater management systems are designed to contain runoff on site during construction and to maintain predevelopment stormwater flow characteristics following development through either the application of infiltration or retention practices. The *Energy Independence and Security Act* (EISA) (Public Law 110-140) establishes stormwater design requirements for development and redevelopment projects. Under these requirements, federal facility projects larger than 5,000 ft^2 must maintain or restore, to the maximum extent feasible, the predevelopment hydrology of the property with respect to the water temperature, rate, volume, and duration of flow.

3.8.1.3 Groundwater

Groundwater is water that exists in the saturated zone beneath the earth's surface in pore spaces and fractures and includes aquifers. Groundwater is recharged through percolation of water on the ground's surface (e.g., precipitation and surface water bodies) and upward movement of water in lower aquifers through capillary movement. Groundwater is an essential resource that can be used for drinking, irrigation, and industrial processes, and can be described in terms of depth from the surface, aquifer or well capacity, water quality, recharge rate, and surrounding geologic formations. Groundwater quality and quantity are regulated under several different programs. The federal underground injection control regulations, authorized under the *Safe Drinking Water Act of 1974* (Public Law 93-523; 42 USC §§ 300f–300j) require a permit for the discharge or disposal of fluids into a well. The federal sole-source aquifer regulations, also authorized under the *Safe Drinking Water Act*, protect aquifers that are critical to water supply.

3.8.1.4 Floodplains

Floodplains are areas of low-level ground along rivers, stream channels, or coastal waters that provide a broad area to inundate and temporarily store floodwater. In their natural vegetated state, floodplains slow the rate at which the incoming overland flow reaches the main water body. Floodplains are subject to periodic or infrequent inundation due to rain or melting snow. The risk of flooding is influenced by local topography, the frequency of precipitation events, and the size and characteristics of the watershed upslope of the floodplain.

The Federal Emergency Management Agency (FEMA) evaluates and maps flood potential, which defines the 100-year (regulatory) floodplain. The 100-year floodplain is the area that has a one-percent annual chance of inundation by floodwater. FEMA uses letter designations for flood zone classification. Zone A designates 100-year floodplains where flood depths (base flood elevations) have not been calculated and further studies are needed. Zone AE floodplains include calculated base flood elevations. Base flood elevations are minimum elevation standards for buildings. Zone X indicates areas outside of the FEMA 100-year regulatory floodplain and indicate a low risk of flooding hazards (FEMA, 2023). Federal, state, and local regulations often limit floodplain development to passive uses, such as recreational and preservation activities, to reduce the risks to property and human health and safety.

Executive Order (EO) 11988, *Floodplain Management*, provides guidelines that agencies should carry out as part of their decision-making process on projects that have potential impacts to or within the floodplain. This EO requires that federal agencies avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and avoid direct and indirect support of floodplain development wherever there is a practicable alternative.

3.8.1.5 Wetlands

The CWA regulates discharges of pollutants in surface waters of the US. Section 404 of the CWA established a program to regulate the discharge of dredged and fill material into waters of the US, including wetlands. The US Army Corps of Engineers (USACE) defines wetlands as "those areas that are inundated or saturated with ground or surface water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions" (Environmental Laboratory, 1987). Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR Part 328). Federal protection of wetlands is also promulgated under EO 11990, *Protection of Wetlands*, the purpose of which is to reduce adverse impacts associated with the destruction or modification of wetlands. This EO directs federal agencies to provide leadership in minimizing the destruction, loss, or degradation of wetlands.

3.8.2 Existing Conditions

3.8.2.1 Surface Water

The proposed action would be located within the Elmer Thomas Lake-Medicine Creek watershed, within the Red River drainage basin (USEPA, 2024b). Medicine Creek, which is an outflow of Lake Lawtonka and Lake Elmer, flows to the east along the north side of the Fort Sill cantonment area (**Figure 3-3**). Medicine Creek is a tributary of East Cache Creek located to the east of Fort Sill. East Cache Creek flows south and is a tributary of the Red River. Medicine Creek flows into a section of East Cache Creek categorized as a 2022 CWA Section 303(d) impaired surface water. Impaired surface waters contain pollutants that exceed protective water quality standards (USEPA, 2024a). A 17.08-mile portion of East Cache Creek from Ellsworth Lake to the Fort Sill wastewater treatment facility is categorized as a 2022 CWA Section 303(d) impaired surface water for enterococcus, dissolved oxygen, and sulfate (ODEQ, 2022b).

3.8.2.2 Stormwater

Stormwater runoff has the potential to become contaminated throughout the Installation and may contain such pollutants as concrete truck washout, construction debris, sediment, and sanitary wastes (Fort Sill, 2024). Fort Sill maintains various stormwater permits for construction, industrial, and municipal separate storm sewer system management activities that occur on the Installation. The Fort Sill *Stormwater Management Plan* (SWMP) provides pollution controls and techniques to minimize pollutants to stormwater runoff (Fort Sill, 2021a). The Oklahoma Pollution Discharge Elimination System stormwater program authorizes NPDES permits for construction stormwater runoff through the *General Permit OKR10 for Stormwater Discharges from Construction Activities Within the State of Oklahoma* (ODEQ, 2024).

3.8.2.3 Groundwater

Fort Sill is located above a major aquifer known as the Arbuckle Simpson aquifer, which is partially recharged from Fort Sill's surface water (US Army Environmental Command [AEC], 2013). The Arbuckle Simpson aquifer is more than 500 square miles in area and is the principal water source and primary source of drinking water for central Oklahoma (USGS, 2021). This aquifer is designated by the USEPA as a sole-source aquifer, which is an aquifer that supplies at least 50 percent of the drinking water for an area and where, if this water source were to be contaminated, there would be no other reasonably accessible option for drinking water. (USEPA, 2024c).

The Arbuckle Simpson aquifer yields, on average, 25 to 600 gallons of water per minute and produces small amounts of water for municipal, industrial, irrigation, stock, agricultural, and domestic purposes (The Oklahoma Water Resources Board, 2003). This aquifer is a vital source of water for the central Oklahoma and Fort Sill area. Human activities, such as pumping water from the Arbuckle Simpson aquifer, may impact the quantity and quality of the water.

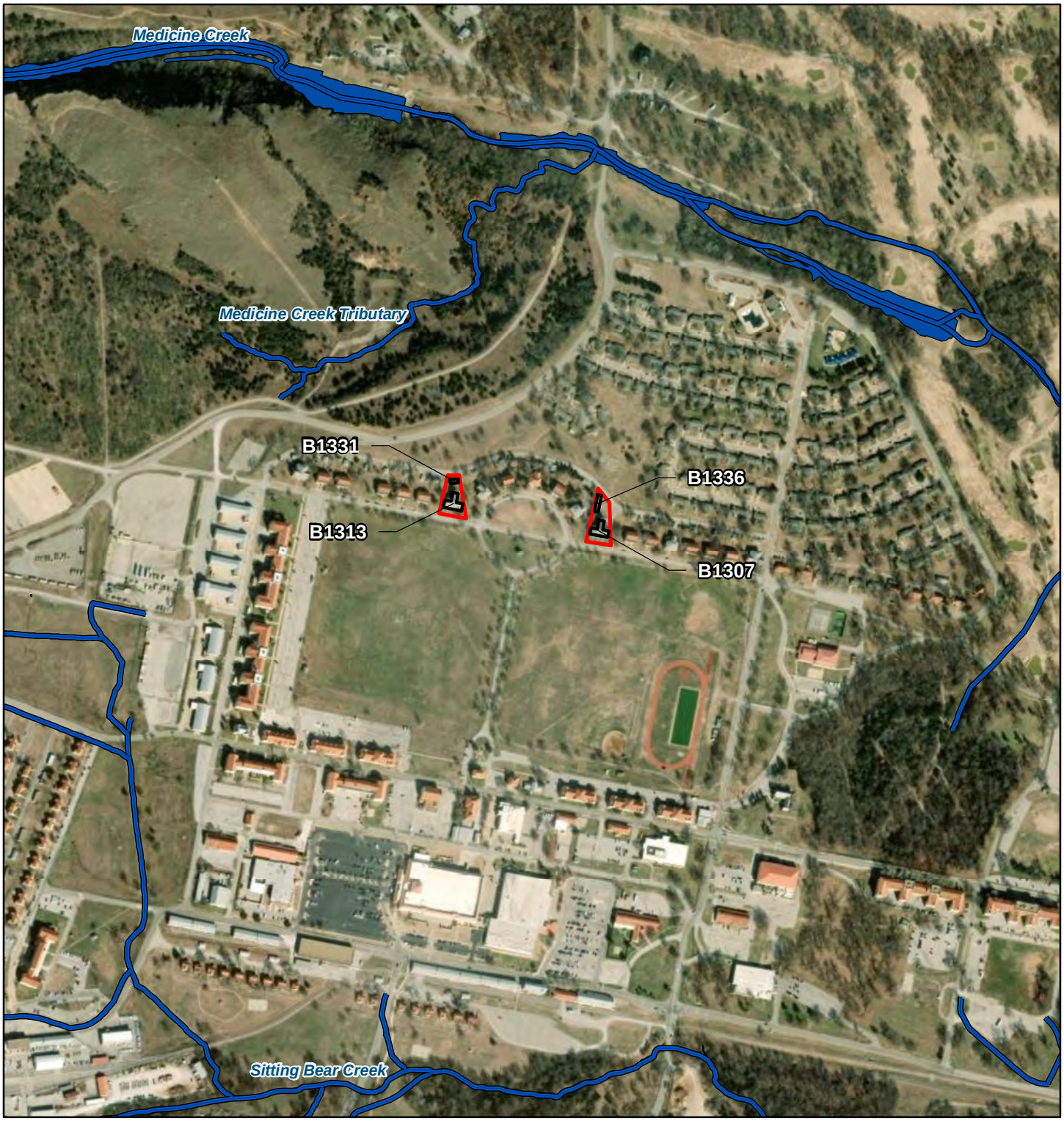


FIGURE 3-3
Waterbodies

Stream
Lake/River
Building proposed for demolition
Proposed action boundary

N

0 0.125 0.25 Miles

Imagery: ESRI, 2022.
Coordinate System: NAD 1983 UTM Zone 14N

Drinking water for Fort Sill is purchased from American Water under a 50-year contract (American Water, 2024). The water is sourced from Lake Lawtonka and treated prior to being distributed throughout the Installation.

3.8.2.4 Floodplains

FEMA maintains and provides flood hazard mapping products to help communities reduce their flood risks. A desktop review was conducted on 18 March 2024 to analyze floodplains in the proposed action area (FEMA, 2024). According to FEMA's Flood Insurance Rate Map number 40031C0275E, the proposed action area is not located within a designated floodplain (**Figure 3-4**). However, there are special flood hazard areas located less than 1 mile from the proposed action area (FEMA, 2024). Flood Zone AE is north of the proposed action area and Flood Zone A is east and south of the proposed action area. These areas have a 1-percent annual chance of flooding in any given year and generally are located within low-lying areas and within close proximity to rivers and lakes. The proposed action area is not within the 100-year flood zone.

3.8.2.5 Wetlands

The USFWS maintains the National Wetlands Inventory (NWI), which provides map views of wetland resources and their associated ecosystems (USFWS, 2024a). A desktop review of the NWI was conducted on 18 March 2024. According to the NWI, no wetlands are located in the proposed action area. Wetlands within the ROI include several palustrine (or freshwater ponds) and riverine wetlands located along Medicine Creek (USFWS, 2024a).

3.8.3 Environmental Consequences

3.8.3.1 Evaluation Criteria

Evaluation criteria for potential impacts on water resources are based on water availability, quality, and use; existence of floodplains; and associated regulations. Potential adverse impacts to water resources would occur if the proposed action

- reduces water availability or supply to existing users,
- overdrafts groundwater basins,
- exceeds safe annual yield of water supply sources,
- adversely affects water quality,
- endangers public health by creating or worsening health hazard conditions, or
- violates established laws or regulations adopted to protect sensitive water resources.

3.8.3.2 Proposed Action

Surface Water
Under the proposed action, demolition activities may cause minor disturbances from removing structures or surfaces, which may expose and erode underlying soils. This could lead to minimal sedimentation (transportation of soil and sand) into nearby Medicine Creek and slight water quality degradation. To mitigate these potential effects, Fort Sill would implement appropriate erosion control measures (**Table 3-4**).

Under the proposed action, use of appropriate control measures would mitigate or prevent the release of dust, debris and sedimentation into nearby Medicine Creek. As a result, short-term, negligible, adverse impacts to surface water would be anticipated with implementation of the proposed action.

FIGURE 3-4
Floodplains

Stream
100-Year Floodplain
Building Proposed for Demolition
Proposed Action Boundary

N

0 0.125 0.25 Miles

Imagery: ESRI, 2022.
Coordinate System: NAD 1983 UTM Zone 14N

Table 3-4
Erosion Control Measures

Control Measure	Description	Purpose
Water Suppression	Use water sprays, misters, or trucks to dampen surfaces and control dust.	Reduces airborne dust.
Dust Screens and Barriers	Set up screens or barriers around the demolition site to contain dust.	Prevents dust from spreading.
Erosion Control Mats	Install erosion control mats or blankets on disturbed soil areas.	Prevents soil erosion.
Silt Fences	Install silt fences around the perimeter of the demolition site.	Traps sediment and prevents runoff.
Windbreaks	Set up barriers, such as fences or vegetation, which will reduce wind speed.	Reduces dust dispersion.
Regular Cleanup	Conduct routine inspections, monitor dust levels, and implement site clean-ups to remove accumulated dust and debris.	Maintains a clean and safe site.
Containment Enclosures	Build enclosures or tents around demolition activities to confine dust and debris.	Controls dust and debris.

Source: USEPA, 2021; Oklahoma Transportation, 2022.

Stormwater

Under the proposed action, Fort Sill would need to obtain coverage under the *General Permit OKR10* for Stormwater Discharges from Construction Activities Within the State of Oklahoma (ODEQ, 2024). Additionally, Fort Sill would follow its SWMP, which is designed to implement pollution controls to minimize pollutants in stormwater runoff. Improper management of disturbed soils could lead to erosion and sediment transport to nearby waterbodies during storm events, potentially harming water quality. To mitigate disturbed soils, Fort Sill would adhere to appropriate erosion and sediment control best management practices.

Through adherence to the Installation's SWMP, the demolition and grading under the proposed action would result in short-term, minor, adverse impacts to stormwater resources.

Groundwater

Spill containment practices and prevention measures outlined in the Fort Sill SWMP, along with training and good housekeeping practices, would effectively prevent or minimize pollutants from reaching the underlying groundwater in the proposed action area. These good housekeeping practices involve maintaining a clean, organized work environment to prevent environmental contamination. This includes regular cleaning, proper storage and disposal of materials, spill response readiness, equipment maintenance, employee training, and minimizing waste and water use. These measures help reduce the risk of pollutants entering the environment (Fort Sill, 2021a). As a result, no impacts to groundwater would be expected with implementation of the proposed action.

Floodplains

No buildings to be demolished under the proposed action would occur within the 100-year floodplain (see **Figure 3-4**). With use of appropriate management techniques, no impacts to floodplains would be anticipated under the proposed action.

Wetlands

The nearest wetlands, as identified by the NWI, are palustrine and riverine wetlands along Medicine Creek. These are located approximately 1,700 feet north of the proposed action area. Given this distance from the disturbance area, no impacts to wetlands would be anticipated with implementation of the proposed action.

3.8.3.3 No Action Alternative

The no action alternative would result in no impact to water resources beyond baseline conditions. Demolition activities would not occur and the deterioration of B1307, B1313, B1331, and B1336 would continue. The temporary risk for sediment or runoff from demolition activities would not occur, and there would be no potential for impacts to water resources as a result.

3.9 BIOLOGICAL RESOURCES

3.9.1 Affected Environment

3.9.1.1 Definition of the Resource

Biological resources include native and nonnative plants and animals, protected and sensitive flora and fauna species and their associated habitats. Habitat is the resources and conditions in an area that support a defined suite of organisms. Protected species include those species that are federally listed as threatened or endangered under the ESA, migratory birds protected under the *Migratory Bird Treaty Act of 1918* (16 USC §§ 703–712), and eagles protected under the *Bald and Golden Eagle Protection Act of 1940* (16 USC §§ 668–668d). Sensitive species or species of conservation concern do not have a legal definition or protection but may include those species that are recognized by state wildlife agencies as threatened or endangered within the state or identified by natural resource management agencies (e.g., Bureau of Land Management and US Forest Service) as requiring special management attention to prevent further declines in populations and potential listing as federally threatened or endangered in the future.

The ROI for biological resources is the area surrounding the four buildings proposed for demolition extending from Upton Road to the south to New Post Alley to the north (see **Figure 1-2**).

3.9.2 Existing Conditions

3.9.2.1 Vegetation

The vegetation in the ROI is mown grass lawn typical of residential and facility areas within the Fort Sill cantonment area. There are several mature deciduous landscape trees within the lawn area surrounding the buildings (**Figure 3-5**).

3.9.2.2 Wildlife

Due to the developed residential area, the ROI contains no native vegetation or habitat for wildlife. A few species of wildlife that are adapted to human developed landscapes may occur in the ROI. Mammals may include the fox squirrel (*Sciurus niger*), eastern cottontail rabbit (*Sylvilagus floridanus*), red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), western pipistrelle (*Pipistrellus hesperus*), and house mouse (*Mus musculus*) (Fort Sill, 2020b). The building structures may provide roosting sites for bats, including the proposed endangered tricolored bat (*Perimyotis subflavus*) (see **Section 3.9.2.4**). Potential reptiles include species of gartersnakes (*Thamnphis* spp.).

3.9.2.3 Migratory Birds

Although a wide variety of migratory bird species occur on the Installation, the ROI contains no native habitat for any bird species. Several species that may occur in the ROI and are adapted to lawn areas include the American robin (*Turdus migratorius*), northern mockingbird (*Mimus polyglottos*), house finch (*Haemorhous mexicanus*), and the nonnative house sparrow (*Passer domesticus*). Habitat for bald eagles (*Haliaeetus leucocephalus*) or golden eagles (*Aquila chrysaetos*) does not occur in ROI..

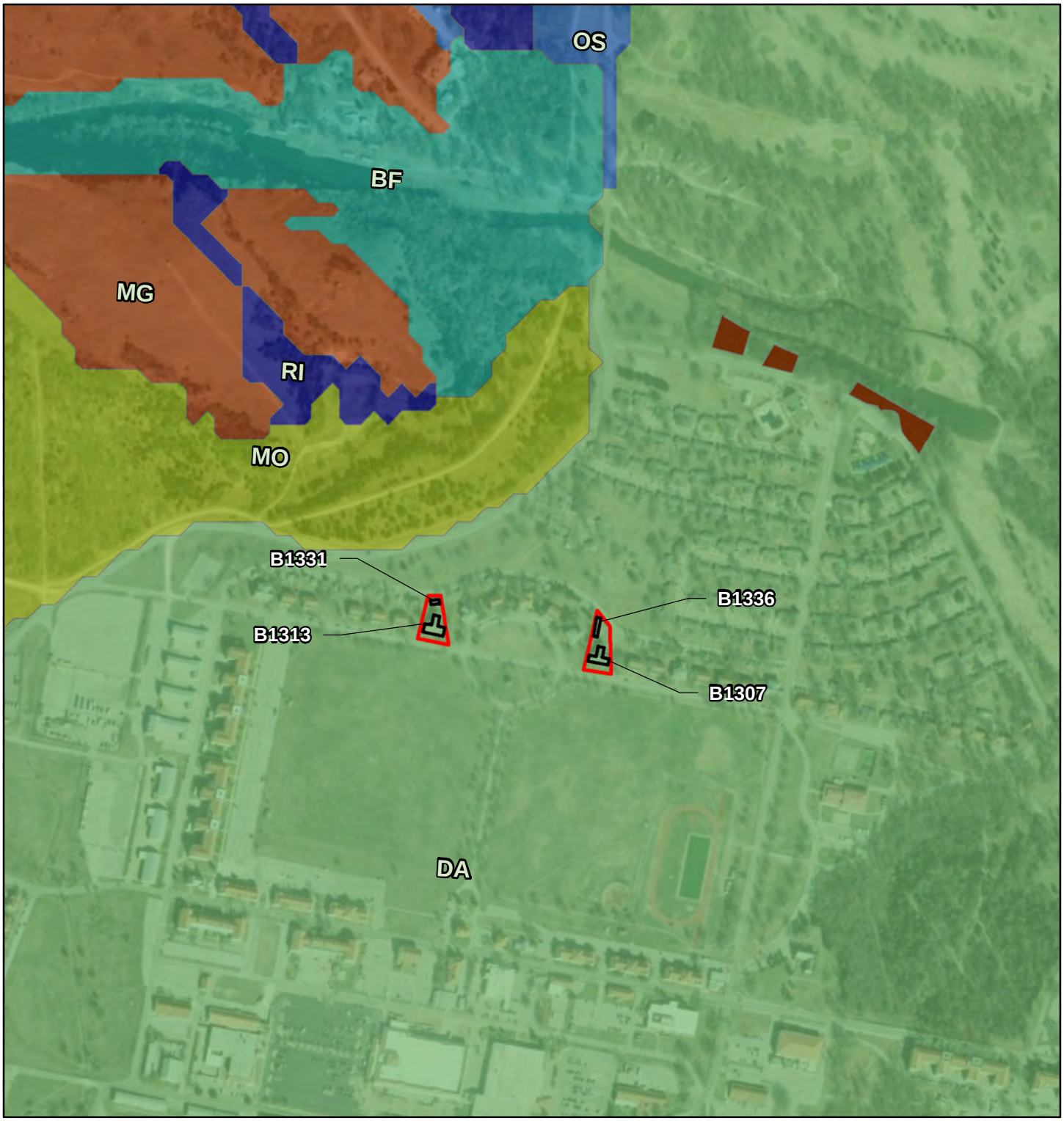


FIGURE 3-5
Vegetation

- Building Proposed for Demolition
- Proposed Action Boundary
- Tree of Heaven Invasive Observation Area
- Bottomland Forest (BF)
- Maintained, built-up, and disturbed areas (DA)
- Mixed Grass (MG)
- Mosaic (MO)
- Oak savanna (OS)
- Riparian (RI)

N

0 0.1 0.2 Miles

Imagery: ESRI, 2021
Coordinate System: NAD 1983 UTM Zone 14N

3.9.2.4 Threatened or Endangered Species

The USFWS Information for Planning and Consultation online review tool was used to obtain a list of potential threatened or endangered and candidate species in the vicinity of the proposed action (see **Appendix C**). Three federally listed species and one species proposed as endangered have the potential to occur in the vicinity of Fort Sill:

- rufa red knot (*Calidris canutus rufa*) – threatened
- piping plover (*Charadrius melodus*) – threatened
- whooping crane (*Grus americana*) – endangered
- tricolored bat – proposed endangered

The three listed bird species would occur only as potential migrants through the region; no habitat exists for these species within the ROI. Other species of significance include the formerly listed black-capped vireo (*Vireo atricapilla*) (Fort Sill, 2020b). However, because of extensive recovery efforts on Fort Sill and other off-site locations, the black-capped vireo was determined to be recovered under the ESA and was delisted 16 April 2018 (83 FR 16228).

The tricolored bat is one of the smallest bats in North America and is known to occur in 39 states, including Oklahoma (50 CFR Part 17). The tricolored bat was proposed for listing as endangered under the ESA in September 2022 because of declines in populations due to mortality from white-nose syndrome disease, wind energy facilities, and loss of habitat and disturbance (87 FR 56381). The earliest study for bats at Fort Sill occurred in 1994 (Fort Sill, 2020b). Currently, monitoring for bat activity is ongoing across the Installation, with a determination that tricolored bats are present at Fort Sill. Fort Sill contains habitat for the tricolored bat for both roosting and hibernation. During the spring, summer, and fall roosting seasons, the tricolored bat uses live and dead leaf clusters of live or recently dead deciduous hardwood trees as roosting sites. Artificial roosts in buildings and bridges may also be used. During the winter hibernation season, the tricolored bat typically uses caves and mines, as well as abandoned buildings. Accordingly, the buildings proposed for demolition in the proposed action area and the surrounding mature deciduous trees represent roosting and hibernation sites for the tricolored bat and other bat species.

Fish surveys and invertebrate surveys conducted in 2020 did not identify the presence of any endangered species (Fort Sill, 2020b).

The monarch butterfly (*Danaus plexippus*) is a candidate species for protection under the ESA. The monarch butterfly migrates seasonally in the spring and fall through Oklahoma. Milkweeds (*Asclepias* spp.) are crucial to the species' breeding process as are the presence of nectar-producing plants. The vegetation in the proposed action area consists of mown grass lawn, as such, suitable summer habitat for the monarch butterfly does not exist in the ROI.

3.9.3 Environmental Consequences

3.9.3.1 Evaluation Criteria

The significance of potential impacts to biological resources is based on

- the importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource;
- the proportion of the resource that would be affected relative to its occurrence in the region;
- the sensitivity of the resource to proposed activities; and
- the duration or ecological ramifications of the impact(s).

A biological resources impact would be adverse if the proposed action

- affects species or habitats of concern over relatively large areas, or
- reduces population size or distribution of a federally listed species.

3.9.3.2 Proposed Action

Vegetation
Vegetation in the ROI is mown grass lawn; no significant vegetation impacts would be anticipated under the proposed action. Impacts to the existing vegetation would occur through the use of machinery to demolish the buildings and grade the land. Once the buildings have been demolished and the land has been appropriately graded, the exposed soil would be returned to match its previously existing grassy conditions. Therefore, impacts to vegetation would be short term, minor, and adverse with implementation of the proposed action.

Wildlife
Impacts to wildlife would occur from loss of habitat from structure and adjacent tree removal. The species most likely impacted would be small mammals and reptiles that have a limited home range but are relatively common on Fort Sill. Small mammals and reptiles displaced under implementation of the proposed action would be anticipated to utilize undeveloped areas of Fort Sill for future habitat. The noise and movement temporarily caused by construction and demolition activities would have negligible, short-term, adverse impacts on wildlife. The demolition of the structures would result in long-term, negligible, adverse impacts to wildlife.

Migratory Birds
The building structures and trees do not provide significant habitat for migratory birds; removing the buildings and trees would not be anticipated to impact migratory birds. Prior to demolition, the structures would be inspected for the presence of any migratory bird species. Therefore, there would be no impacts to migratory birds with implementation of the proposed action.

Threatened or Endangered Species
The previously listed black-capped vireo habitat and species sitings are within certain ranges on Fort Sill; however, no suitable habitat for black-capped vireo is present within the ROI. No habitat exists within the ROI for the listed avian species, and it would be anticipated that the proposed action would have no effect on the federally threatened rufa red knot, piping plover, or the endangered whooping crane. Additionally, the proposed action would have no effect on the monarch butterfly, listed as a candidate species.

The vacant structures that would be demolished and the mature deciduous trees in the surrounding lawn area represent summer roosting habitat and winter hibernation habitat for bats, including the tricolored bat. The tricolored bat is currently proposed for listing under ESA. Even though the tricolored bat is not federally listed, Fort Sill is obligated to review the potential effect of removing the buildings. Fort Sill has identified that the tricolored bat occurs on the installation and has been detected near the buildings proposed for demolition. The structures are not known to be or identified as hibernacula; however, Fort Sill has identified that the action could result in some form of take. In October 2024, the USFWS issued voluntary guidance to assist the environmental review process for development projects that result in the conversion or permanent removal of suitable tricolored bat habitat (USFWS, 2024b). To the extent practicable, Fort Sill would follow the USFWS guidance and implement the proposed demolition when tricolored bats are least likely to occur in the vicinity of the buildings, such as during the late fall and winter seasons. During informal consultation, USFWS determined that the proposed action is unlikely to cause jeopardy to the tricolored bat; records of consultation are included in **Appendix D**. If take occurs, it would be minimal and impacts to the tricolored bat would be short term and negligible. No mitigation would be required to move forward with the proposed action while the tricolored bat remains proposed for listing. However, if the tricolored bat listing status changes before the proposed action is initiated, the Army would reevaluate the proposed action.

3.9.3.3 No Action Alternative

The no action alternative would result in no impact to biological resources beyond baseline conditions. Demolition activities would not occur and the deterioration of B1307, B1313, B1331, and B1336 would continue. The temporary risk during demolition for impacts to bats, mice or other common wildlife would not occur, and there would be no potential for impacts to listed species.

3.10 CULTURAL RESOURCES

3.10.1 Definition of the Resource

The term "cultural resources" is an umbrella term that applies to any prehistoric or historic district, site, building, structure, or object considered important to a culture or community for scientific, traditional, religious, or other purposes. These resources are protected and identified under several federal laws and EOs including the *Archaeological and Historic Preservation Act of 1974* (54 USC § 312501–312508 et seq.), the *American Indian Religious Freedom Act of 1978* (42 USC § 1996), the *Archaeological Resources Protection Act of 1979*, as amended (16 USC §§ 470aa–470mm), the *Native American Graves Protection and Repatriation Act of 1990* (25 USC §§ 3001–3013), and the NHPA. The NHPA requires federal agencies to consider effects of federal undertakings on historic properties prior to deciding or taking an action and integrate historic preservation values into their decision-making process. Federal agencies fulfill this requirement by completing the NHPA Section 106 consultation process, as set forth in 36 CFR Part 800. NHPA Section 106 also requires agencies to consult with federally recognized American Indian Tribes that attach religious and cultural significance to a historic property that may be affected by an undertaking. NHPA Section 106 requires all federal agencies to take into account the effect a proposed action may have on historic properties and afford the consulting parties a reasonable opportunity to comment (36 CFR § 800.1(a)).

Cultural resources include the following subcategories:

- Archaeological (i.e., prehistoric or historic sites where human activity has left physical evidence of that activity, including Traditional Cultural Properties (TCPs), which are resources of traditional, religious, or cultural significance to American Indian Tribes); and
- Historic (i.e., buildings, structures, groups of structures, objects, or landscapes, and TCPs).

A historic property is defined as any prehistoric or historic site, building, structure, district, or object that is eligible for or included in the NRHP. To be eligible for the NRHP, properties generally must be 50 years old and have national, state, or local significance in American history, architecture, archaeology, engineering, or culture. They must possess sufficient integrity of location, design, setting, materials, workmanship, feeling, and association to convey their historic significance and meet at least one of four criteria for evaluation of significance:

1. Associated with events that have made a significant contribution to the broad patterns of our history (Criterion A);
2. Associated with the lives of persons significant in our past (Criterion B);
3. Embody distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction (Criterion C); and/or
4. Have yielded or be likely to yield information important in prehistory or history (Criterion D).

For cultural resources analyses, the ROI is defined by the Area of Potential Effect (APE). The APE is defined as the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist" (36 CFR § 800.16(d)) and thereby diminish their historic integrity. The APE was defined in the 14 June 2024 public notice and concurred upon by the SHPO via letter dated 8 July 2024 (**Appendix C**). The direct APE comprises two noncontiguous areas totaling 1.1 acres. The first area covers approximately 0.59 acre around B1307 and B1336. The second area is approximately 0.51 acre and contains B1313 and B1331 (**Figure 3-6**). The indirect APE encompasses the 76.09 acres comprising the NPHD to address the visual impact of removing the BOQs on that district. The undertaking would not be anticipated to have an impact on audible or atmospheric conditions beyond current conditions.

3.10.2 Existing Conditions

The Fort Sill *Integrated Cultural Resources Management Plan* provides direction for the protection and management of cultural resources on Fort Sill in compliance with the NHPA and other legal requirements (Fort Sill, 2013). Relevant known cultural resources are discussed below.

3.10.2.1 Architectural Properties

The APE includes 23 architectural resources that are contributing elements to the NRHP-eligible NPHD (see **Figure 3-6**). The direct APE includes two former BOQs (B1307 and B1313) and two detached garages (B1336 and B1331). The detached garages are located outside of the boundaries of the NPHD and are not eligible for the NRHP. The indirect APE includes the remaining 21 architectural properties determined contributing elements to the NPHD. The NPHD is eligible for listing in the NRHP under Criterion A for its association with the early 20th century designation of Fort Sill as a field artillery post. The applicable area of significance is military. The NPHD also has architectural significance under Criterion C for its noteworthy collection of Colonial Revival style housing and Prairie School and Mission style administrative buildings.

Table 3-5 identifies the 23 architectural properties within the APE.

3.10.2.2 Archaeological Properties

The entire APE was surveyed in 2014, and no archaeological sites were identified within the direct APE (R. Christopher Goodwin & Associates, Inc., 2014).

3.10.3 Environmental Consequences

3.10.3.1 Evaluation Criteria

Adverse impacts on cultural resources would occur if the proposed action

- physically alters, damages, or destroys all or part of a resource;
- alters characteristics of the surrounding environment that contribute to the resource's significance;
- introduces visual or audible elements that are out of character with the property or alter its setting;
- neglects the resource to the extent that it deteriorates or is destroyed; or
- results in the sale, transfer, or lease of the property out of agency ownership (or control) without adequate enforceable restrictions or conditions to ensure preservation of the property's historic significance.

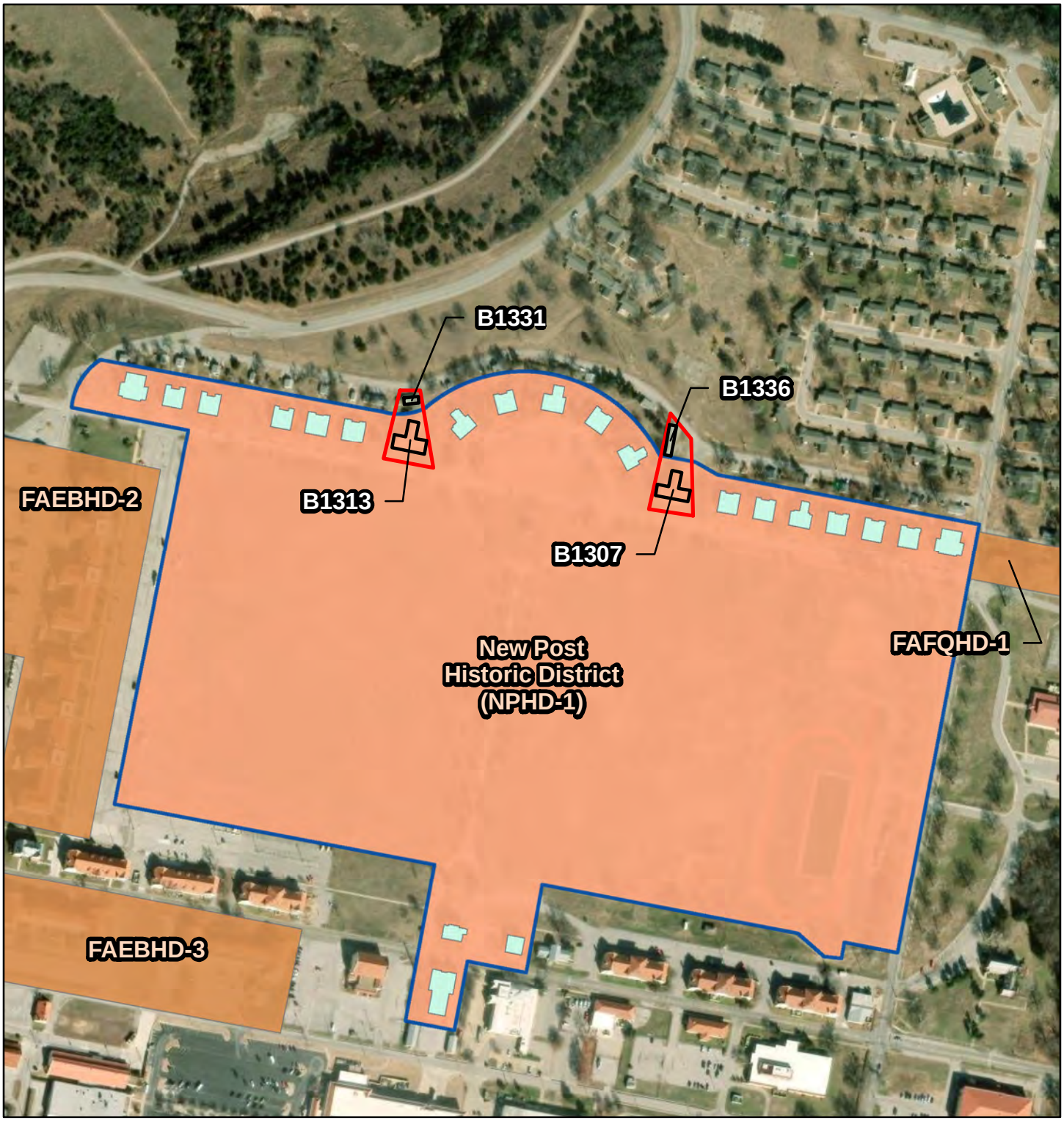


FIGURE 3-6
Cultural Resources

Building Proposed for Demolition
Direct APE
Indirect APE
Contributing Structures to the New Post Historic District
Historic District
New Post Historic District

N

0 250 500 Feet

Imagery: ESRI, 2021
Coordinate System: NAD 1983 UTM Zone 14N

FAEBHD = Field Artillery Enlisted Barracks Historic District; FAFQHD = Field Artillery Family Quarters Historic District

Table 3-5
Architectural Properties within the APE

Facility Number	Site Name/Description	NRHP Status	APE
1300	Family Housing-LTC/MAJ	Contributing Element of an NRE District (NPHD-1)	Indirect
1301	Family Housing-LTC/MAJ	Contributing Element of an NRE District (NPHD-1)	Indirect
1302	Family Housing-LTC/MAJ	Contributing Element of an NRE District (NPHD-1)	Indirect
1303	Family Housing-LTC/MAJ	Contributing Element of an NRE District (NPHD-1)	Indirect
1304	Family Housing-COL	Contributing Element of an NRE District (NPHD-1)	Indirect
1305	Family Housing-LTC/MAJ	Contributing Element of an NRE District (NPHD-1)	Indirect
1306	Family Housing-LTC/MAJ	Contributing Element of an NRE District (NPHD-1)	Indirect (adjacent)
1307	UOQ MILITARY	Contributing Element of an NRE District (NPHD-1)	Direct
1308	Family Housing-COL	Contributing Element of an NRE District (NPHD-1)	Indirect (adjacent)
1309	Family Housing-LTC/MAJ	Contributing Element of an NRE District (NPHD-1)	Indirect
1310	General Officers Quarters	National Register Listed – Individual; Contributing Element of an NRE District (NPHD-1)	Indirect
1311	Family Housing-LTC/MAJ	Contributing Element of an NRE District (NPHD-1)	Indirect
1312	Family Housing-COL	Contributing Element of an NRE District (NPHD-1)	Indirect (adjacent)
1313	Dressler Hall (UOQ MILITARY)	Contributing Element of an NRE District (NPHD-1)	Direct
1314	Family Housing-LTC/MAJ	Contributing Element of an NRE District (NPHD-1)	Indirect (adjacent)
1315	Family Housing-LTC/MAJ	Contributing Element of an NRE District (NPHD-1)	Indirect
1316	Family Housing-LTC/MAJ	Contributing Element of an NRE District (NPHD-1)	Indirect
1318	Family Housing-LTC/MAJ	Contributing Element of an NRE District (NPHD-1)	Indirect
1319	Family Housing-LTC/MAJ	Contributing Element of an NRE District (NPHD-1)	Indirect
1320	Family Housing-LTC/MAJ	Contributing Element of an NRE District (NPHD-1)	Indirect
1611	BDE HQ BLDG	Contributing Element of an NRE District (NPHD-1)	Indirect
1612	Historic Dispensary	Contributing Element of an NRE District (NPHD-1)	Indirect
1649	Bryan Hall (Police MP/Station)	Contributing Element of an NRE District (NPHD-1)	Indirect

APE = Area of Potential Effect; NPHD = New Post Historic District; NRE = NRHP eligible; NRHP = National Register of Historic Places

3.10.3.2 Proposed Action

Architectural Properties

Building and historic district background information is included in **Appendix A** of this EA. B1307 and B1313 are contributing resources to the NPHD and are not considered individually eligible for listing in the NRHP (Savage, 2008). A recently conducted structural assessment is included as **Appendix B** of this EA. However, these buildings meet the criteria for demolition under the *Memorandum for Adverse Effect and Termination of Consultation Under the National Historic Preservation Act* because they are vacant, and maintaining the buildings is not financially or otherwise feasible (Army, 2020). The proposed action would result in an adverse effect to B1307 and B1313 and to the overall NPHD as contributing elements.

The SHPO and ACHP were informed of Fort Sill's intent to use the NEPA process for NHPA Section 106 purposes on 21 August 2023. On 14 June 2024, Fort Sill initiated consultation with the SHPO, OAS, and Tribes and indicated its determination of an adverse effect to the NPHD. The SHPO concurred with this determination via letter dated 8 July 2024. Fort Sill is developing a MOA with the SHPO to document the resolution of adverse effects through avoidance, minimization, and mitigation as determined by Fort Sill and SHPO.

3.10.3.3 No Action Alternative

The no action alternative would also result in an *adverse effect* to historic architectural resources. Neglect that causes deterioration of a historic property is an adverse effect. The no action alternative was included in SHPO consultation, and the resolution of the adverse effect of demolition by neglect is part of the MOA. B1307, B1313, B1336, and B1331 would continue to decline, increasing the issues associated with vacant, deteriorated buildings.

3.11 INFRASTRUCTURE (UTILITIES, TRAFFIC, AND TRANSPORTATION)

3.11.1 Definition of the Resources

The ROI for infrastructure is the utility systems and infrastructure, and the transportation systems and infrastructure that serve Fort Sill.

Utilities consist of the systems and structures that enable a population in a specified area to function. Utilities are wholly man-made, with a high correlation between the type and extent of infrastructure and the degree to which an area is characterized as developed. Utilities components include potable water supply, solid waste management, sanitary sewer, wastewater, and stormwater systems, and energy sources and usage. The availability of utilities and its capacity to support more users, including future development of an area, are generally regarded as essential to continued economic growth. Utility systems must be designed, built, and operated in accordance with applicable federal, state, and local laws and regulations. AR 420-1 *Army Facilities Management*, Part Five, "Utilities and Energy Management," guides utilities and energy management and compliance to other applicable regulations with environmentally related components, such as waste management. AR 200-1 outlines the Army's policy on environmental management, encompassing responsibilities to comply with existing laws and to guide management of hazardous materials management, solid waste disposal, water resource management, and other environmental assets.

Transportation is defined as the system of roadways, highways, and transit services that provide ingress/egress from or to a particular location, as well as access to regional goods and services. Transportation infrastructure must be designed, built, and operated in accordance with applicable federal, state, and local laws and regulations. AR 420-1 implements applicable laws by providing policies and procedures for on-post transportation infrastructure, including paved roads, airfields, and other surfaced areas; railroads; and bridges.

3.11.2 Existing Conditions

3.11.2.1 Potable Water

Fort Sill purchases potable water for domestic and other uses from the City of Lawton. The water system at Fort Sill is owned and operated by American Water Enterprises, which operates two pump stations to obtain water from the city's transmission mains that pass through the Installation. The two pump stations have a maximum combined flow rate of 11.5 million gallons per day (mgd), and Fort Sill's water demand is generally less than 2 mgd. Water treatment facilities are operated by the City of Lawton in Medicine Park, Oklahoma, and water is primarily sourced from Lake Lawtonka and Lake Ellsworth, both of which are owned by the City of Lawton and Waurika Lake, which is a federal reservoir (AEC, 2013).

3.11.2.2 Sanitary Sewer/Wastewater Systems

Fort Sill's wastewater system is owned and operated by American Water Enterprises. Fort Sill's sanitary sewer waste is treated at the wastewater treatment facility, which uses primary, secondary, and tertiary treatment systems to process the waste. The treatment facility has a designed capacity of 4.3 mgd but currently treats approximately 1.5–2.2 mgd. Effluent from the treatment facility is discharged to East Cache Creek on the Installation under its NPDES permit, and approximately 1,000–1,500 tons of sludge from the treatment facility is land-applied to crop fields on Fort Sill. Treated sewage water is also now being reused on Fort Sill at the polo field, post cemetery, and some facility chillers (Army, 2020).

3.11.2.3 Solid Waste

The Dodge Hill Landfill encompasses approximately 316 acres and is located along Dodge Hill Road. The facility is used for the permanent disposal of non-hazardous waste, asbestos, construction debris, and organic waste from various locations at the Installation. The landfill accepts approximately 75 tons of waste per day (EAS, 2021).

The landfill is divided into three main areas for disposal: municipal waste; construction and demolition debris; and the west composting, treatment lagoons (now closed), and maintenance building.

3.11.2.4 Stormwater

Fort Sill maintains a variety of permits for stormwater discharge to remain in compliance with federal and state environmental rules and regulations (see **Section 3.8.2**). Stormwater runoff on the Installation is collected via stormwater collection infrastructure composed of piping, ditches, storm drains, and retention systems. Under the EISA, development or redevelopment projects that have a footprint larger than or equal to 5,000 ft^2 (0.1 acre) are required to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrologic conditions of the property with regard to temperature, rate, volume, and duration of flow. Projects meeting this minimum area threshold implement low-impact development features, or features that work with nature to manage stormwater as close to the source as possible, to meet EISA requirements (Fort Sill, 2021a).

3.11.2.5 Energy Sources

Fort Sill is served by electric, gas, and communications utilities. Primary electric power is sourced from American Electric Power via a 50-megawatt, 69,000-volt substation and a newer 80-megavolt-ampere substation. The electrical infrastructure system on the Installation is owned by the government (AEC, 2013).

Fort Sill has a privatized natural gas system that is owned and operated by Oklahoma Natural Gas. Fort Sill uses approximately 600,000 to 700,000 dekatherms of natural gas per year depending on the weather. The Installation has a contract with CenterPoint Energy to transport 10,800 dekatherms per day if required (AEC, 2013).

3.11.2.6 Traffic and Transportation

Interstate 44 (which combined with US Highways 281 and 277) crosses the eastern side of Fort Sill's cantonment area, providing a route south to Texas and a route north to Oklahoma City. State Highway 115 also crosses Fort Sill, just north of Cache, Oklahoma. The Installation itself has approximately 130 miles of paved roads, 50 miles of gravel roads, and 300 miles of dirt range roads (Army, 2020).

A public transportation shuttle service is available on Fort Sill. The Lawton Area Transit System operates an on-call Fort Sill shuttle service that operates on the same schedule as its regular fixed-route transit system (Lawton Area Transit System, 2024).

3.11.3 Environmental Consequences

3.11.3.1 Evaluation Criteria

Impacts to infrastructure and utilities would be considered significant if the proposed action caused an impairment of utilities service to the Installation and local communities, homes, or businesses. Impacts to traffic and transportation would be considered significant if the proposed action

- causes a reduction by more than two levels of service at roads and intersections within the ROI,
- substantially degrades traffic flow during peak hours, or
- substantially exceeds road capacity and design.

3.11.3.2 Proposed Action

Potable Water
The BOQs and adjacent garages have been vacant and without productive use for more than a decade. There are no water lines to the garages, and the water has been shut off to the BOQs; therefore, there would be no impacts to potable water systems on Fort Sill. Demolition of these buildings likely would include the removal of unused infrastructure components that connect these structures to potable water systems, thus eliminating potential issues associated with the deterioration of these components as well as the need for preventative maintenance and upkeep. Therefore, the demolition of these structures under the proposed action would be anticipated to result in direct, long-term, minor, beneficial impacts to potable water infrastructure on Fort Sill.

Sanitary Sewer/Wastewater Systems
The garages are not connected to the sanitary sewer. The BOQs have been vacant and without productive use for more than a decade and have not regularly been placing demand on sanitary sewer or wastewater systems; therefore, there would be no impacts to sanitary sewer/wastewater systems on Fort Sill. However, demolition of these buildings would include the removal of unused infrastructure components that connect these structures to sanitary sewer/wastewater systems, thus eliminating potential issues associated with deterioration of these components as well as the need for preventative maintenance and upkeep. Therefore, the demolition of these structures under the proposed action would be anticipated to result in direct, long-term, minor, beneficial impacts to sanitary sewer/wastewater infrastructure on Fort Sill.

Solid Waste
Demolition waste would be disposed of within the construction and demolition portion of the Fort Sill landfill facility. The proposed action would temporarily increase the volume of solid waste entering the landfill; however, the facility has the capacity to handle the waste generated from the proposed action and continue to service Fort Sill into the future. Waste materials from tree removal would be transported to the compost area. There would be no impacts to solid waste from the proposed action.

Stormwater
The proposed action would result in long-term, minor, beneficial impacts to stormwater infrastructure by eliminating impervious surface area to allow for additional water infiltration into the soil. The proposed action would provide the opportunity for the Installation to implement additional green infrastructure and low-impact development features.

Energy Sources
Under the proposed action, demolition of the BOQs and adjacent garages would have long-term, minor, beneficial impacts on infrastructure and utilities at Fort Sill by eliminating any potential demand that would be placed on energy infrastructure or other utilities infrastructure from continued operation of these vacant and unused structures.

Traffic and Transportation
The demolition activities included under the proposed action would temporarily require additional construction vehicles to transport equipment and remove construction waste. Demolition activities would also have the potential to result in a temporary increase in non-construction vehicles carrying construction personnel to and from the demolition site. These additional vehicles would have the potential to slow down the flow of traffic at entry points to Fort Sill and on nearby roadways leading to the Installation. As the proposed action would involve the demolition of only four buildings, a temporary, minor increase in vehicles driving to and from the proposed project area would be anticipated to result in short-term, negligible, adverse impacts to traffic and transportation in the vicinity of the proposed action area.

3.11.3.3 No Action Alternative

The no action alternative would result in minor, adverse impacts to infrastructure and utilities resources. B1307, B1313, B1331, and B1336 would continue to deteriorate. Action would not be taken to remove unused infrastructure components that connect these structures to utility systems and eliminate potential issues associated with deterioration of these components as well as the need for preventative maintenance

and upkeep, which could cause further impacts in the future. There would be no impacts to traffic surrounding the project area beyond baseline conditions.

3.12 HAZARDOUS AND TOXIC MATERIALS AND WASTE

3.12.1 Definition of the Resource

Hazardous materials (HAZMAT) refer largely to products that are still intended for and have yet to be used for their original purpose. This includes things like degreaser, paint thinner, adhesives, acids, and antifreeze. The handling of HAZMAT is regulated by the Occupational Safety and Health Administration (OSHA) and the US Department of Transportation. HAZMAT is not subject to *Resource Conservation and Recovery Act* (42 USC § 6901 et seq.) (RCRA) until it is discarded and becomes a waste.

Hazardous waste refers to any waste that meets USEPA's definition of solid waste (40 CFR § 261.20) and can be classified as either a listed or a characteristic hazardous waste. Listed hazardous waste refers to types of waste that USEPA has previously identified and lists as hazardous; examples include spent solvents and acetone. Characteristic hazardous waste refers to waste that displays the hazardous characteristics of being ignitable, corrosive, reactive, and/or toxic.

RCRA establishes the mandatory procedures and requirements for federal facilities that use, accumulate, transport, treat, store, or dispose of HAZMAT and hazardous wastes. Under RCRA, the USEPA can grant authority to the state to establish and enforce its own hazardous waste management program, provided the state's requirements are no less stringent than the USEPA's (USEPA, 2022). ODEQ implements the RCRA program.

The *Solid Waste Disposal Act*, as amended by RCRA, which was further amended by the *Hazardous and Solid Waste Amendments of 1984* (Public Law 98-616), defines hazardous wastes as any solid, liquid, contained gaseous, or semi-solid waste, or any combination of wastes, that pose a substantial present or potential hazard to human health or the environment. In general, both HAZMAT and hazardous wastes include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, might present substantial danger to public health and welfare or the environment when released or otherwise improperly managed.

The *Comprehensive Environmental Response, Compensation, and Liability Act* (42 USC § 9601 et seq.), as amended by the *Superfund Amendments and Reauthorization Act* (Public Law 99-499) and the *Toxic Substances Control Act* (TSCA) (15 USC § 2601 et seq., as implemented by 40 CFR Part 761), provides the Federal Government broad authority to regulate hazardous substances, to respond to releases of hazardous substance, and to develop long-term solutions for the nation's most serious hazardous waste problems.

The TSCA addresses the production, importation, use, and disposal of specific chemicals, including polychlorinated biphenyl (PCBs), ACMs, and LBP. Asbestos is also considered a hazardous air pollutant and, as such, is regulated under the CAA National Emission Standards for Hazardous Air Pollutants. A proposed activity may affect and be affected by the presence of these substances or controls over them. Information on special hazards describing their locations, quantities, and condition assists in determining the significance of such activity.

OSHA is responsible for the enforcement and implementation of federal laws and regulations pertaining to worker health and safety under 29 CFR Part 1910. OSHA also includes the regulation of HAZMAT in the workplace and ensures appropriate training in their handling. AR 200-1 addresses HAZMAT, hazardous wastes, toxic substances, and contaminated areas. More specific rules and regulations applicable at this Installation are laid out in the Fort Sill *Hazardous Material/Hazardous Waste Management Plan* (HMWMP) and *Hazardous Waste Reduction Plan* (HWRP) (Fort Sill 2021b, 2021c).

The ROI for HAZMAT and toxic materials and waste is the footprint of B1307, B1313, B1331, and B1336.

3.12.2 Existing Conditions

3.12.2.1 Hazardous Materials and Wastes

Fort Sill Environmental Quality Division manages hazardous and toxic substances in accordance with the Installation's HMWMP (Fort Sill, 2021b). Disposal procedures are identified in the HWRP (Fort Sill, 2021c, 2020b). The HMWMP discusses procedures for ACM, LBPs, and PCB management. ACMs were commonly used during construction or renovation on buildings before being banned in 1989. Buildings constructed prior to 1989 are likely to contain asbestos in building materials. Disruption of these materials may cause asbestos to become airborne, producing a risk of inhalation. Similarly, LBP was commonly used on residential structures before it was banned in 1978. Within the ROI, B1307, B1313, B1331, and B1336 were constructed in 1934, 1915, 1933, and 1935, respectively. ACM has been identified in B1307 and B1313; ACM was added during historical facility upgrades and improvements.

Examples of waste that could be present within the ROI that may be, but are not always, considered hazardous waste include used oil, battery acid, paint thinners, pesticides, and various types of paint containing lead or chromium which are likely to be found in buildings constructed prior to 1978 such as the buildings associated with the proposed action.

3.12.2.2 Fuel Storage

Fuel is stored in tanks at 10 locations throughout Fort Sill. Additionally, two bulk truck fuel loading systems are utilized to facilitate distribution of fuels. There are no fuel storage tanks located within the ROI. The closest fuel storage tank (JP8, F-24) is located approximately 0.46 mile from the ROI; therefore, fuel storage would not be impacted and is not discussed further in this EA.

3.12.2.3 Installation Restoration Program and Other Potentially Contaminated Sites

There are no Installation Restoration Program sites directly associated with the buildings in the ROI.

3.12.2.4 Pesticides

The application of pesticides at Fort Sill would have the potential to include herbicides, fungicides, insecticides, and rodenticides. Pesticides on the Installation are managed through the Fort Sill Pest Management Branch (Directorate of Public Works) and subcontractors as necessary. The Fort Sill Pest Management Branch works to ensure that pest control minimizes impacts to the natural environment, in-water species, and other species that may be vulnerable to pesticides (Fort Sill, 2023).

Pesticide application is performed by certified pest management applicators to manage invasive weeds and invasive species within the Installation. Chemical control for pest management is only used when non-chemical techniques are inadequate or impractical (Fort Sill, 2023).

In 2024, a chlordane assessment was conducted to evaluate potential concentrations in soil in the ROI, as this chemical was historically applied to building foundations as a form of pesticide. Chlordane was commonly used as a pesticide in the US from 1948 to 1988. As of 1988, and within the US, all approved uses of chlordane were discontinued. Chlordane poses a health hazard because of its neurological effects and high acute toxicity (USEPA, 2024d).

During the 2024 chlordane assessment, 30 soil samples were collected within approximately 2 ft or less from around the perimeter of the buildings in the ROI. The soil samples were then submitted for analysis of chlordane by analytical methods. Detailed descriptions of the soil sampling effort are presented in the Chlordane Risk Assessment included as **Appendix F**.

Results of the 2024 chlordane assessment concluded that chlordane was not detected in any sample collected around the perimeter of B1307. Chlordane was detected in six of the samples taken around B1336, six of the samples taken around B1313, and six of the samples taken around B1331.

None of the samples in which chlordane was detected had concentrations that exceeded the USEPA RSL for residential soil. Two samples resulted in chlordane concentrations that exceeded the soil screening levels. However, no chlordane concentration levels exceeded the calculated site-specific soil screening

levels. The 2024 chlordane assessment concluded that unacceptable potential health risks were not identified at B1307, B1313, B1336, or B1331.

3.12.3 Environmental Consequences

3.12.3.1 Evaluation Criteria

Impacts from HAZMAT or hazardous wastes would be significant if the proposed action

- generates, uses, or stores hazardous materials or hazardous wastes in violation of federal or state regulations; or
- exposes construction workers to increased health risks from working in existing contamination without proper training and equipment.

3.12.3.2 Proposed Action

Hazardous Materials and Wastes
Under the proposed action, a limited use of certain HAZMAT would be required during demolition. Such HAZMAT might include paints, solvents, and pesticides. ACM has been identified in B1307 and B1313. Additionally, due to the age of the facilities, it is highly likely that LBPs and/or PCBs would be encountered during the demolition process. Additionally, hydraulic fluids and petroleum products, such as diesel and gasoline, would be anticipated to be used in demolition equipment and vehicles. Therefore, the proposed action would have the potential for the accidental discharge or spill of HAZMAT that could contaminate the environment or result in exposure of persons to such contaminants.

If encountered, HAZMAT generated from demolition activities would be handled, stored, and disposed of in accordance with federal, state, and local laws and regulations. All applicable permits for the handling and disposal of HAZMAT would be obtained prior to starting demolition activities. Demolition work under the proposed action would be subject to the procedural requirements of the Fort Sill HMWMP, HWRP, and other applicable management plans to prevent and minimize risks associated with contaminant release or transport in the environment. During demolition, if HAZMAT is discovered, work in that location would stop until the potential contamination had been properly evaluated and addressed.

With adherence to management plans and regulations, short-term, minor, adverse impacts to hazardous materials and wastes would be anticipated to occur under the proposed action.

Pesticides
Chlordane, which was a pesticide that was historically used in the foundations of buildings and used within the ROI, was discontinued in 1988. A 2024 assessment determined that unacceptable potential health risks were not identified at B1307, B1313, B1336, or B1331 (refer to **Appendix F**).

Use of pesticides, herbicides, fungicides, insecticides, and rodenticides during demolition activities would be conducted on an as-needed basis consistent with federal, state, and local regulations and would be managed in accordance with the Fort Sill *Integrated Pest Management Plan*. Therefore, any impacts from pesticide application would be short term and negligible.

3.12.3.3 No Action Alternative

The no action alternative would result in minor impacts to HAZMAT and toxic materials and waste. B1307, B1313, B1331, and B1336 would not be demolished. B1307 and B1313 would continue to contain ACM and the vacant status of the buildings would increase the potential for deterioration of these buildings and exposure of their hazardous materials.

3.13 SOCIOECONOMICS

3.13.1 Definition of the Resource

Socioeconomics is the relationship between economics and social elements, such as population levels and economic activity. Several factors can be used as indicators of economic conditions for a geographic area, such as demographics, median household income, unemployment rates, percentage of dependents living

below the poverty level, employment, and housing data. Employment data identify gross numbers of employees, employment by industry or trade, and unemployment trends. Data on industrial, commercial, and other sectors of the economy provide baseline information about the economic health of a region. Socioeconomic data are typically presented at the county, state, and national levels to characterize baseline socioeconomic conditions in the context of regional, state, and national trends.

Federal agencies are directed by EOs to address disproportionate and adverse health and safety risks to children. EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, states that each federal agency "(a) shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and (b) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks."

The *McKinney-Vento Homeless Assistance Act of 1987* (42 USC § 11411) is the primary piece of federal legislation related to the education of children and youth experiencing homelessness (National Center for Homeless Education, 2025). Title V, "Federal Surplus Property for Use to Assist the Homeless" of the Act enables states, local governments, and nonprofit organizations to use unutilized, underutilized, excess, or surplus federal properties to assist persons experiencing homelessness (US Department of Housing and Urban Development [HUD], 2025). Title V compliance is required when a federal agency wishes to dispose of property for use to assist the homeless. HUD determines the suitability of a property, with the results published weekly on its website.

For the purposes of this analysis, "populations of concern," are defined as youth populations (children under the age of 18 years). The socioeconomics ROI includes Fort Sill and adjacent US Census tracts (CTs) (**Figure 3-7**).

3.13.2 Existing Conditions

3.13.2.1 Population

Table 3-6 summarizes population estimates for the ROI for 2012 and 2022 and total population growth percentages. CT 24.04 was subdivided after 2012; therefore, the United States Census Bureau (USCB) does not provide a 2022 population estimate for this tract. Instead, the 2022 population estimate was calculated using the combined populations of the new tracts created by the subdivision (CTs 24.05 and 24.06). This value was used to calculate the total population growth for CT 24.04.

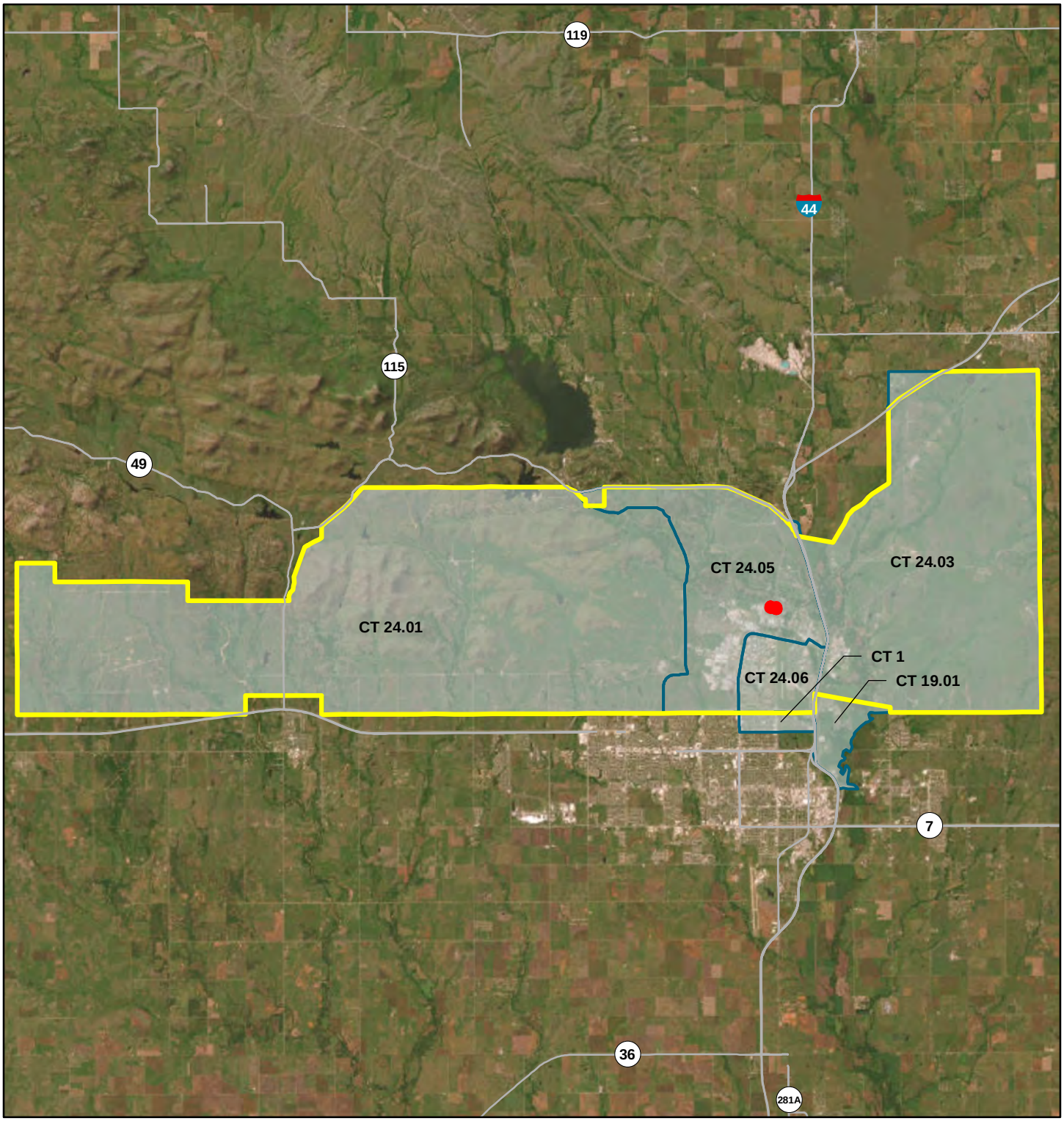


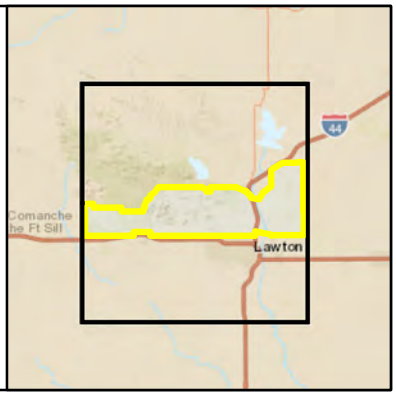
FIGURE 3-7
Census Tracts

Fort Sill
Census Tract
Proposed Action Boundary

N

0 2.5 5 Miles

Imagery: ESRI, 2021.
Coordinate System: NAD 83 UTM Zone 14N



CT = Census Tract

Table 3-6
Population Estimates and Growth Near Fort Sill

Geographic Area	2012	2022	Total Growth (percent)[b]
United States	309,138,711	331,097,593	7.1
Oklahoma	3,749,005	3,970,497	5.91
Comanche County	123,101	121,777	(1.08)
CT 1	4,305	3,306	(23.21)
CT 19.01	2,036	1,643	(19.30)
CT 24.01	377	91	(75.86)
CT 24.03	5,177	2,022	(60.94)
CT 24.04[a]	5,403	9,423	74.40

Source: USCB 2012, 2022a
a 2022 values were calculated using the combined 2022 populations of CTs 24.05 and 24.06 as a comparison to the 2012 population of CT 24.04.
b Parenthesis indicates negative growth.
CT = US Census tract

Most of the geographic areas included in this analysis experienced overall population decreases over the 10-year period 2012–2022. CTs 24.01 and 24.03, and former CT 24.04 (now CTs 24.05 and 24.06) encompass the entirety of Fort Sill; former CT 24.04 contains the majority of Fort Sill's housing areas and was the only CT to experience an increase in population.

3.13.2.2 Employment

Table 3-7 presents the average annual unemployment rates and total jobs in 2022 for the US, Oklahoma, and Comanche County. According to the Bureau of Economic Analysis (BEA) and Bureau of Labor Statistics (BLS), the industry employing the highest percentage of people in all three geographic areas was Government and Government Enterprises.

Table 3-7
Employment Characteristics

Geographic Area	Total Employment (# of Jobs)	Unemployment Rate
United States	212,442,000	3.6
Oklahoma	2,412,886	3.2
Comanche County	66,349	3.9

Source: BEA, 2022a, 2022b, 2022c; BLS, 2023a, 2023b

3.13.2.3 Housing

B1307 and B1313 were identified to be unsuitable properties with respect to Title V of the *McKinney-Vento Homeless Assistance Act*. Reasons for unsuitability include documented deficiencies, contamination, and being oversized to be considered for removal. The proposed action would not remove an unutilized property suitable for reuse under Title V.

The proposed action would not involve an increase in military personnel or their dependents at Fort Sill or in the surrounding area, or present changes to housing availability in the ROI. Therefore, housing resources are not discussed further in this EA.

3.13.2.4 Schools

The proposed action would not involve an increase in military personnel or their dependents at Fort Sill or in the surrounding area; therefore, schools are not discussed further in this EA.

3.13.2.5 Protection of Children from Environmental Health and Safety Risks

Table 3-8 summarizes the percentages of the population living below the poverty level and the percentage of children (i.e., the population under the age of 18) living in the ROI. The CTs with the highest percentage of children were CTs 24.05 and 24.06, which contain all of Fort Sill's family housing areas.

Table 3-8
Percent Youth and Poverty Rates

Geographic Area	Total Population	Living Below Poverty Level (%)	Children (%)[a]
United States	331,097,593	12.5	22.1
Oklahoma	3,970,497	15.2	23.9
Comanche County	121,777	16.6	23.7
CT 1	3,306	23.6	21.4
CT 19.01	1,643	21.8	17.0
CT 24.01	91	0.0	6.6
CT 24.03	2,022	0.0	6.6
CT 24.05	2,961	16.1	23.5
CT 24.06	6,462	6.9	40.9

Source: USCB, 2022a, 2022b, 2022c
a The USCB categorizes all people under the age of 18 as "youth"; this EA uses "children" for the same group.
CT = US Census tract

3.13.3 Environmental Consequences

3.13.3.1 Evaluation Criteria

Consequences to socioeconomic resources are assessed in terms of the potential effects to the local economy from implementation of the proposed action. The level of effects from expenditures associated with the proposed action was assessed in terms of direct effects to the local economy and indirect effects to other socioeconomic resources (e.g., employment). The magnitude of potential effects can vary greatly depending on the location of an action. For example, implementation of an action that creates 10 employment positions might be unnoticed in an urban area but might have significant effects in a rural region. In addition, if potential socioeconomic changes from a proposed action result in substantial shifts in population trends or in adverse effects on regional spending and earning patterns, such changes may be considered adverse.

The protection of children analysis applies to potential disproportionate and adverse effects on youth populations. Protection of children issues could occur if an adverse environmental or socioeconomic consequence to the human population fell disproportionately upon youth populations.

3.13.3.2 Proposed Action

Population
Under the proposed action, no additional military personnel or their dependents would relocate to Fort Sill or the surrounding areas. Demolition activities associated with the proposed action would result in a temporary increase in construction personnel, which would have a negligible effect to the socioeconomic conditions in the ROI. No regional migration would be expected because it would be anticipated that there would be enough existing construction workers in Comanche County to support demolition work. No adverse impacts to the population would be anticipated to occur under the proposed action.

Employment
Local construction personnel would be needed to complete the demolition actions associated with the proposed action, which would create a short-term, minor, beneficial impact on regional employment. The proposed action would not result in an increase in military personnel or their dependents at Fort Sill or in the surrounding area, and there would be no impact on the availability of employment at Fort Sill or in the

region. Therefore, no adverse impacts to employment would be anticipated to occur under the proposed action.

Protection of Children from Environmental Health and Safety Risks

Under the proposed action, the buildings proposed for demolition are in CT 24.05, which is adjacent to CT 24.06. Both tracts contain family housing areas and are the CTs on Fort Sill with the highest percentages of youth populations (**Table 3-8**). The proposed action would be anticipated to have direct, long-term, moderate, beneficial impacts related to protection of children in the ROI by removing the attractive nuisance risk associated with aging, vacant structures located in close proximity to family housing areas where children reside.

3.13.3.3 No Action Alternative

The no action alternative would result in no impacts to socioeconomic conditions beyond baseline conditions.

Demolition activities would not occur and B1307, B1313, B1331, and B1336 would continue to degrade, increasing the attractive nuisance risks associated with vacant, deteriorated buildings. Although the area containing these buildings is restricted, they would continue to pose a potential risk to children living in nearby family housing areas. Therefore, the no action alternative would be anticipated to result in moderate, long-term, adverse impacts related to the protection of children from environmental health and safety risks.

3.14 HUMAN HEALTH AND SAFETY

3.14.1 Definition of the Resource

This section addresses health and safety for activities that have the potential to affect contractors, site workers, members of the public, soldiers, and Fort Sill personnel. Protection of human health and the environment has and continues to be an integral part of the Army's mission at Fort Sill. Activities on Fort Sill comply with all applicable federal and state, DoD-, Army-, and Installation-level occupational health, safety, and environmental requirements to ensure that activities are conducted with no or minimal risk to persons or the environment, both on and off the Installation.

The ROI for safety is Fort Sill.

3.14.2 Existing Conditions

AR 385-10, *Safety Regulation*, establishes risk management as the Army's principal risk reduction methodology and ensures regulatory and statutory compliance. It provides for public safety relative to Army operations and activities. Fort Sill's own health and safety regulations are detailed in Fort Sill Regulation 385-10, *Safety Regulation*, and implement requirements of the *Occupational Safety and Health Act of 1970* (Public Law 91-596) as implemented in EO 12196, *Occupational Safety and Health Programs for Federal Employees,* DoD Instruction 6055 Series, and AR 385-10. Fort Sill also maintains an Installation Design Standard, which recognizes principles of sustainable design focused on safety considerations such as antiterrorism force protection standards. Adherence to these standards is mandatory for all projects constructed on military installations.

Wildland fires are a natural hazard in the Southern Great Plains area, which encompasses Fort Sill, and present a threat to life and property. Fort Sill maintains an *Integrated Wildland Fire Mitigation Plan* to help reduce the potential for wildland fires on the Installation and to outline safe and effective management procedures for wildland fire response (Fort Sill, 2018). Wildland fire safety would not be impacted and is not discussed further in this EA.

The presence of unexploded ordnance presents another hazard at Fort Sill. There are four dudded impact areas on Fort Sill that contain duds or unexploded, but potentially explosive, rounds, which pose a potential threat to safety. These four dudded impact areas are contained within three non-dudded impact areas spread across the Installation. The nearest non-dudded impact area is approximately 2.4 miles west of the

proposed action area, and the nearest dudded impact area is approximately 0.3 miles beyond. The proposed action would not impact these areas and they are not discussed further in this EA.

Based on statistical reviews of aircraft accidents, accident potential zones (APZs) and clear zones are delineated by the DoD in the vicinity of airfield runways to help mitigate potential safety concerns. APZ I, associated with the Prichard Field Helipad on the New Post Parade Ground, is adjacent to B1313 and B1331, and APZ II is approximately 300 feet east of B1307 and approximately 350 feet east of B1336 (**Figure 3-8**). The APZs and clear zones would not be impacted by the proposed action and are not discussed further in this EA.

Pests in abandoned structures can be numerous and can include squirrels, raccoons, bats, mice, rats, snakes, termites, moths, beetles, ants, bees and wasps, pigeons, and other birds (Park, 1993). Rodent, pigeon, and bat droppings can create a serious and sometimes deadly health hazard. Certain diseases can spread from rodents to people through direct or indirect contact with infected rodents. This can be through breathing in contaminated air, touching contaminated materials and then touching eyes, nose, or mouth; being bitten or scratched by an infected rodent, or eating food contaminated by an infected rodent (Centers for Disease Control and Prevention, 2024).

3.14.3 Environmental Consequences

3.14.3.1 Evaluation Criteria

Impacts to safety are evaluated according to the potential to increase or decrease safety risks to personnel, the public, and property. If implementation of the proposed action would result in a major variance from baseline conditions, it would be considered a significant safety impact.

3.14.3.2 Proposed Action

The demolition of the BOQs and associated garages under the proposed action would expose Army and contractor personnel to safety hazards associated with heavy-equipment operation, HAZMAT, falls, construction equipment, and potentially noisy environments. The safety hazards would be typical of industrial construction projects but would be limited to the duration of building demolition and cleanup activities. With implementation of applicable Army Safety Program requirements and adherence to applicable policies and procedures outlined in Fort Sill Regulation 385-10, the demolition activities under the proposed action would be anticipated to result in short-term, minor, adverse impacts to human health and safety.

The proposed action would be anticipated to have long-term, moderate, beneficial impacts to human health and safety by removing the attractive nuisance risk of the vacant structures in close proximity to adjoining family housing areas. Risks to trespassers of the vacant structures include exposure to ACM, LBP, diseases from pests and rodents, and other hazards.

3.14.3.3 No Action Alternative

The no action alternative would result in moderate, adverse impacts to health and human safety. B1307, B1313, B1331, and B1336 would continue to decline, increasing the issues associated with vacant, deteriorated buildings. The buildings would continue to pose a risk to Army personnel and their dependents who may reside in nearby family housing areas. The area is restricted, but could result in long-term, moderate, adverse impacts to safety at Fort Sill.

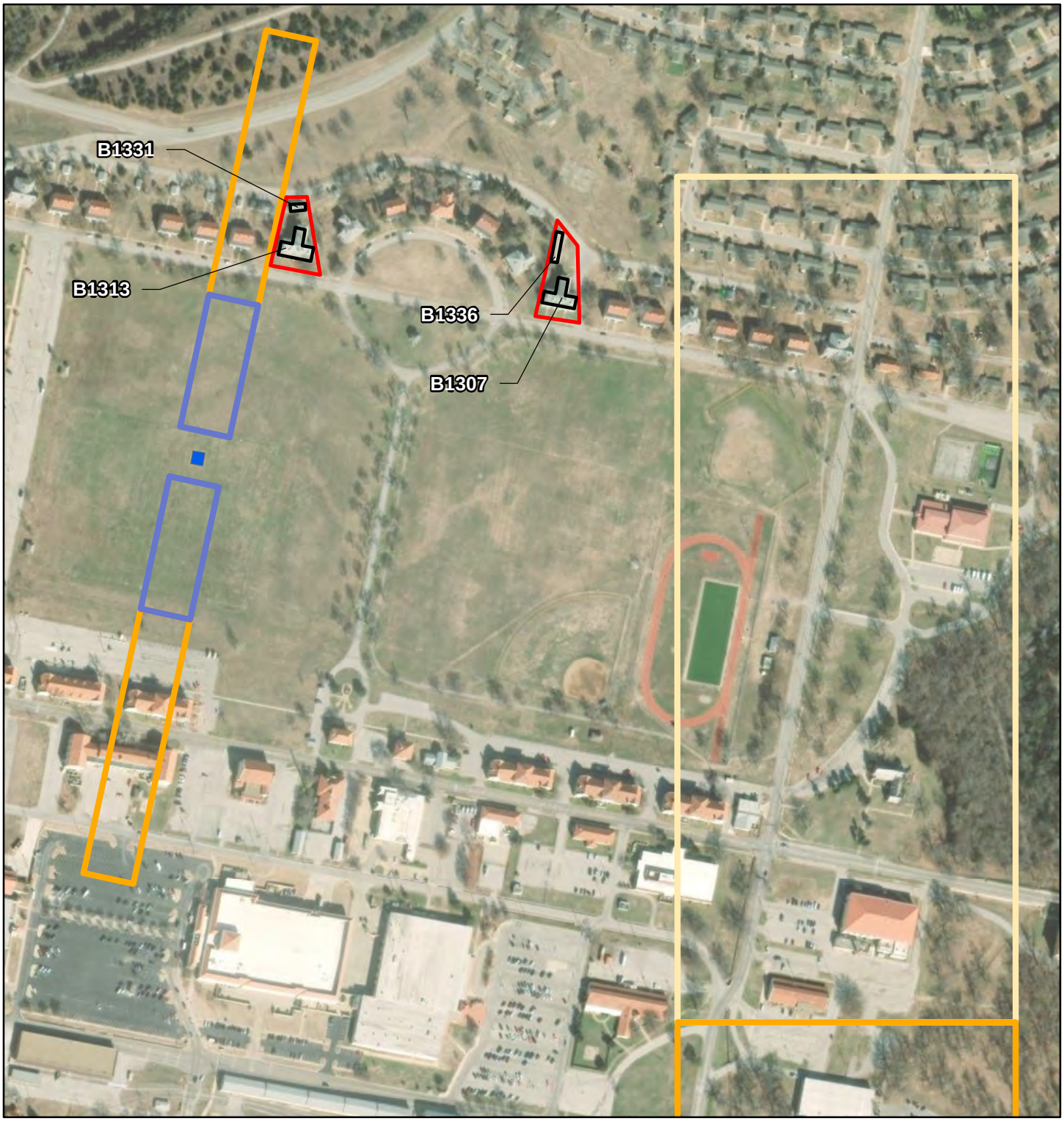


FIGURE 3-8
APZs and CZs

Proposed Action Boundary
Building Proposed for Demolition
APZ I
APZ II
CZ
Prichard Field Helipad

N

0 250 500 Feet

Imagery: ESRI, 2021
Coordinate System: NAD 1983 UTM Zone 14N

APZ = Accident Potential Zone; CZ = Clear Zone.

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CHAPTER 4 REASONABLY FORESEEABLE ACTIONS AND CUMULATIVE IMPACTS

4.1 PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

An effort was made to identify past, present, and reasonably foreseeable actions that would affect lands included in the proposed action alternatives as well as in the region. A cumulative effects analysis has been conducted for each resource section. This analysis considers the effects on the environment that result from the incremental effects of the proposed action when added to the effects of other past, present, and reasonably foreseeable actions at Fort Sill. The past, present, and reasonably foreseeable future major projects anticipated to occur on or near Fort Sill are listed in **Table 4-1**.which briefly describes the proposed or planned projects identified for consideration of potential cumulative impacts when combined with the effects of the proposed action at Fort Sill and on a regional scale.

Table 4-1
Past, Present, and Reasonably Foreseeable Environmental Trends and Planned Actions

Name	Description	Timeframe	Approximate Distance from Proposed Action
Wichita House	This project involves transfer of a National Historic Landmark District property.	2025	1.2 miles
2024 Force Structure for Future Warfighting Operations	This action involves the Army's changes to its force structure to modernize and continue to transform the service to better face future threats. Under this plan, the Army would reorganize over the next decade to ensure it can deliver trained, cohesive, and lethal forces to meet future challenges in increasingly complex operational environments.	2024–2030	Not applicable
Fort Sill Maneuver-Short Range Air Defense (SGT STOUT) Battalion Stationing	This action includes four primary elements: (1) the stationing of approximately 550 soldiers and associated dependents to Fort Sill, (2) the stationing of SGT STOUT vehicles, equipment, and support infrastructure on Fort Sill, (3) the utilization of buildings and facilities on Fort Sill, and (4) SGT STOUT maneuver and training requirements for Fort Sill.	2024	0–20 miles
Fielding of the Armored Multi-Purpose Vehicle (AMPV) Fielding and Stationing	The AMPV training plan would be implemented at several Army Garrisons including Fort Sill. The purpose of this action is to field the AMPV to replace five mission roles currently provided by the M113, to include associated operational activities, soldier training, and AMPV maintenance activities.	2022	2–20 miles

AMPV = armored multi-purpose vehicle; SGT STOUT = Maneuver-Short Range Air Defense

4.2 CUMULATIVE EFFECTS ANALYSIS

The following analysis considers how projects identified in **Table 4-1** could cumulatively result in potential environmental consequences when considered with the proposed action.

4.2.1 Land Use

Under the proposed action, changes to existing land use would not occur; however, the proposed action would result in direct, long-term, beneficial impacts to family housing land use by removing the attractive nuisance risk of the vacant structures in close proximity to family housing areas. Projects with the potential to impact land use include the armored multi-purpose vehicle (AMPV) Fielding and the Fort Sill Maneuver-Short Range Air Defense (SGT STOUT) Battalion Stationing. Minor land use impacts would be anticipated

for the AMPV Fielding and the SGT STOUT battalion stationing to accommodate vehicles, personnel, and support infrastructure. It would not be anticipated that these actions would significantly change the existing land use at Fort Sill, which is predominantly dedicated to military training activities. When considered in conjunction with the incremental effects of other past, present, and reasonably foreseeable actions, no significant cumulative effects to land use would be anticipated to occur with implementation of the proposed action.

4.2.2 Air Quality

The proposed action would result in direct, short-term, negligible-to-minor, adverse effects to air quality. Additional projects with the potential to impact air quality include the AMPV Fielding and the Fort Sill SGT STOUT Battalion Stationing. The AMPV Fielding project was anticipated to have similar PM_{10} emissions from field training exercises to baseline conditions; however, it was anticipated to have more fuel-efficient engines than the vehicles it was replacing. The SGT STOUT Battalion Stationing would be anticipated to have minimal increases in criteria pollutants and no significant impacts to air quality. When considered in conjunction with the incremental effects of other past, present, and reasonably foreseeable actions at Fort Sill, no significant cumulative effects to air quality would be anticipated to occur with implementation of the proposed action.

4.2.3 Noise

The proposed action would result in direct, short-term, minor, adverse effects related to noise during the active demolition of the structures. Implementation of the proposed action would be anticipated to have short-term, negligible-to-minor, adverse effects to the noise environment. The AMPV Fielding project was determined not to exhibit sufficient sound levels to create annoyance, harm, or noise pollution to environments, ecosystems, and communities, and was limited to existing fielding sites away from the cantonment area. The SGT STOUT Battalion Stationing would be limited to ranges away from the cantonment area and noise impacts would be temporary and intermittent, resulting in no significant impacts to the noise environment. Noise impacts associated with the proposed action would likewise be short term (i.e., limited to the demolition period) and localized to the individual demolition projects. When considered in conjunction with the incremental effects of other past, present, and reasonably foreseeable actions at Fort Sill, no significant cumulative effects to the noise environment would be anticipated to occur with implementation of the proposed action.

4.2.4 Geological and Soil Resources

The proposed action would result in no impact to geological and soil resources beyond baseline conditions. The AMPV Fielding and SGT STOUT Battalion Stationing soil impacts are confined to training areas that are suitable for cross-country maneuvers. Soil exposures in these training areas can result in soil erosion and gullies. Remedial measures to mitigate erosion by stabilizing the trails or crossings, and controlling soil erosion are ongoing. When considered in conjunction with the incremental effects of other past, present, and reasonably foreseeable actions at Fort Sill, no significant cumulative effects to geology, topography, or soil resources would be anticipated to occur with implementation of the proposed action.

4.2.5 Water Resources

The proposed action would result in direct, short-term, negligible, adverse impacts to water resources during demolition and grading activities. Temporary, minor impacts to water resources are anticipated from the AMPV Fielding and SGT STOUT projects during construction. These projects implement best management practices to reduce sedimentation and impacts to surface waters. When considered in conjunction with the incremental effects of other past, present, and reasonably foreseeable actions at Fort Sill, no significant cumulative effects to water resources would be anticipated to occur with implementation of the proposed action.

4.2.6 Biological Resources

The proposed action would result in short-term, negligible, adverse impacts to biological resources by impacting the habitat of the tricolored bat, which is proposed for listing as endangered under the ESA. The

AMPV Fielding and the Fort Sill SGT STOUT Battalion Stationing impacts to biological resources would be limited, resulting in a minimal increase in training operations within the ranges on Fort Sill. This increase in training operations may occur on ranges that provide habitat for the tricolored bat. These projects would not be anticipated to result in direct impacts to roosting habitats of the tricolored bats or other sensitive species or environments. When considered in conjunction with the incremental effects of other past, present, and reasonably foreseeable actions at Fort Sill, no significant cumulative effects to biological resources would be anticipated to occur with implementation of the proposed action.

4.2.7 Cultural Resources

The proposed action would result in direct, long-term, adverse effects to historic resources. The proposed action would result in an adverse effect to the NPHD through the removal of contributing elements B1307 and B1313. This adverse effect would be resolved with a MOA prior to commencement of demolition. The Wichita House project would involve the transfer of a National Historic Landmark District property. The Wichita House project was determined not to have any adverse effect on the National Historic Landmark status of Wichita House as a result of the Residential Communities Initiative Programmatic Agreement, which provided legally enforceable conditions to ensure long-term preservation of the property's historic significance. As there were no adverse effects from the Wichita House project, there would be no cumulative effect from the combination of these two projects. When considered in conjunction with the incremental effects of other past, present, and reasonably foreseeable actions at Fort Sill, no significant cumulative effects to cultural resources would be anticipated to occur with implementation of the proposed action.

4.2.8 Infrastructure

The proposed action would result in direct, short-term, negligible-to-minor, adverse effects to traffic circulation, and direct, long-term, minor, beneficial effects to infrastructure and utilities. The AMPV Fielding and SGT STOUT programs are using existing buildings and are not be anticipated to have any significant impact on infrastructure. When considered in conjunction with the incremental effects of other past, present, and reasonably foreseeable actions at Fort Sill, no significant cumulative effects to infrastructure and utilities would be anticipated to occur with implementation of the proposed action.

4.2.9 Hazardous and Toxic Materials and Waste

The proposed action would result in direct, short-term, minor, adverse impacts to HAZMAT and hazardous wastes and their management at Fort Sill. The *Environmental Assessment for the Fort Sill Maneuver-Short Range Air Defense Battalion Stationing* (USACE, 2023) evaluated the increase of mission operations and personnel at Fort Sill. Increase in mission operations and personnel would have the potential to increase the need for and use of HAZMAT and may increase the generation of hazardous wastes. These increases could occur temporarily during construction or maintenance activities, and/or over the long-term due to continued operation and upkeep requirements. The Wichita House project would have no impact to HAZMAT and/or hazardous waste management or use within Fort Sill. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at Fort Sill, no significant cumulative effects to hazardous and toxic materials and waste would be anticipated to occur with implementation of the proposed action.

4.2.10 Socioeconomics

The proposed action would result in direct, long-term, moderate, beneficial impacts related to protection of children on Fort Sill by removing the attractive nuisance risk associated with aging, vacant structures located in close proximity to family housing areas where children reside. The SGT STOUT Battalion Stationing would result in minimal economic benefits from a nominal increase in spending associated with the minor increase in personnel. The AMPV Fielding project would not result in any disproportionately high or adverse human health or risks to children. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at Fort Sill, no significant cumulative effects to socioeconomics would be anticipated to occur with implementation of the proposed action.

4.2.11 Human Health and Safety

The proposed action would result in direct, short-term, minor, adverse effects to human health by exposing demolition workers to potential risks of asbestos, lead, and other demolition risks; but would have long-term beneficial effects by eliminating the attractive nuisance hazards associated with aging, vacant structures being in close proximity to adjoining family housing areas. No safety impacts would be anticipated for the AMPV Fielding and the SGT STOUT. When considered in conjunction with the effects of other past, present, and reasonably foreseeable actions at Fort Sill, no significant cumulative effects to health and human safety would be anticipated to occur with implementation of the proposed action.

4.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the uses of these resources have on future generations. Irreversible effects result primarily from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action. The proposed action would not substantially increase the irreversible or irretrievable commitment of resources.

4.4 RELATIONSHIPS BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

DoD NEPA Implementing Procedures (*Part 1.2(b)(2)(i)*) specify that the analysis must consider the “degree of the effects of the action” including “both short- and long-term effects.” This section evaluates the short-term benefits of the proposed action compared to the long-term productivity derived from not pursuing the proposed action alternatives.

Short-term effects to the environment are generally defined as a direct consequence of a project in its immediate vicinity. The proposed action provides for clearance of hazards to health and safety. The proposed action would result in beneficial impacts to both short-term land usage and long-term productivity of Fort Sill.

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NEPA = National Environmental Policy Act; USACE = US Army Corps of Engineers

CHAPTER 6 REFERENCES

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