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DRAFT

Environmental Assessment

Installation Development Environmental Assessment for Little Rock Air Force Base, Arkansas

February 2023

Contract Number: W912BV-15-D-0041
Task Order: W912BV21F0157

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ENVIRONMENTAL ASSESSMENT

Installation Development Environmental Assessment for Little Rock Air Force Base, Arkansas

Prepared By:

Little Rock Air Force Base

with

Auxilio Management Services

February 2023

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COVER SHEET

Title: Installation Development Environmental Assessment (IDEA) for installation development projects at Little Rock Air Force Base (AFB), Arkansas (AR).

Responsible Agency: Little Rock AFB, 19th Airlift Wing (19 AW) Civil Engineer Environmental Element

Designation: Draft

Point of Contact: Dana Hardage, Little Rock AFB

Abstract: Little Rock AFB prepared this IDEA to assess the potential environmental consequences associated with implementing 12 installation development projects at Little Rock AFB. The projects include a range of activities including demolition of aging facilities, new facility construction, facility upgrades, facility repair and renovation, community living upgrades, infrastructure improvement, recreational upgrades, and strategic sustainability performance projects and associated infrastructure. The projects are proposed to be completed or implemented in the next five years (fiscal year [FY] 23 to FY 27).

The purpose of the Proposed Action is to provide infrastructure and functionality improvements necessary to support the missions of the 19 AW and Little Rock AFB tenants. The Proposed Action is needed to address deficiencies of function and capability in the facilities and infrastructure at Little Rock AFB that result from obsolescence, deterioration, and evolving mission needs.

Little Rock AFB prepared this IDEA in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321 et seq.), the White House Council on Environmental Quality Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] 1500–1508, as amended), and the United States Air Force (USAF) Environmental Impact Analysis Process (EIAP) (32 CFR Part 989).

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EXECUTIVE SUMMARY

Little Rock Air Force Base (AFB), located in Pulaski County, approximately 15 miles north of the City of Little Rock in central Arkansas, proposes to implement installation development projects. The projects include a range of activities including demolition of aging facilities, new facility construction, facility upgrades, facility repair and renovation, community living/education upgrades, infrastructure improvement, recreational upgrades, and associated infrastructure.

The purpose of the Proposed Action is to provide infrastructure and functionality improvements necessary to support the missions of the 19 AW and Little Rock AFB tenants. The Proposed Action is needed to address deficiencies of function and capability in the facilities and infrastructure at Little Rock AFB that result from obsolescence, deterioration, and evolving mission needs.

Little Rock AFB prepared this IDEA in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321 et seq.), the White House Council on Environmental Quality Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] 1500–1508, as amended), and the United States Air Force (USAF) Environmental Impact Analysis Process (32 CFR Part 989).

The Environmental Assessment (EA) provides sufficient evidence and analysis for determining whether an action would cause significant environmental impacts requiring an Environmental Impact Statement (EIS) or the agency can issue a Finding of No Significant Impact (FONSI) (40 CFR 1508.1.l). A FONSI is a decision document that briefly presents the reasons why an action would not have a significant effect on the human or natural environment (40 CFR 1508.1.m). As required by NEPA and the implementing regulations from the Council on Environmental Quality (CEQ) and USAF, the alternative of taking no action is evaluated, providing a baseline for comparison of potential impacts from the action alternatives. If the selected alternative would include construction activities within a wetland or a floodplain, a Finding of No Practical Alternative (FONPA) would be prepared in conjunction with the FONSI.

Table ES-1 summarizes the anticipated environmental impacts associated with implementation of the Proposed Action. Based on the information and analysis presented in this EA, Little Rock AFB has determined that there would be no significant environmental impacts associated with implementing the installation development activities at Little Rock AFB. Therefore, this EA concludes that a FONSI/FONPA is appropriate, and that an EIS is not required.

Table ES-1. Summary of Environmental Effects of the Alternatives

Resource Area	Proposed Action	No Action Alternative
Air Quality and Climate Change (Greenhouse Gas Emissions)	Less than significant impact	Less than significant impact
Cultural Resources	No impacts are anticipated	No impacts are anticipated
Biological and Natural Resources	Less than significant impact	Less than significant impact
Water Resources	Less than significant impact	Less than significant impact
Floodplains, Wetlands, and Coastal Zone Management	Less than significant impact	Less than significant impact
Geology and Soils	Less than significant impact	Less than significant impact
Noise and Vibration/Acoustic Environment	Less than significant impact	Less than significant impact
Land Use and Aesthetics	Less than significant impact	Less than significant impact, Negative
Infrastructure and Utilities	Less than significant impact	Less than significant impact
Solid and Hazardous Materials/Waste	Less than significant impact	Less than significant impact
Transportation and Parking	Less than significant impact	Less than significant impact
Safety and Occupational Health	Less than significant impact	Less than significant impact
Socioeconomics	Less than significant impact, Beneficial	Less than significant impact
Community Services	Less than significant impact	Less than significant impact
Environmental Justice	No disproportionate impact	No disproportionate impact

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INSTALLATION DEVELOPMENT ENVIRONMENTAL ASSESSMENT
LITTLE ROCK AIR FORCE BASE, ARKANSAS

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LIST OF ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
19 AW	19th Airlift Wing
ACAM	Air Conformity Applicability Model
ACC	Air Combat Command
ACM	Asbestos Containing Material
ADA	Americans with Disabilities Act
ADEQ	Arkansas Department of Environmental Quality
AETC	Air Education and Training Command
AFB	Air Force Base
AFCEC	Air Force Civil Engineer Center
AFFF	Aqueous Film Forming Foam
AFI	Air Force Instruction
AFM	Air Force Manual
AFOSH	Air Force Occupational Safety and Health
AHPP	Arkansas Historic Preservation Program
AMC	Air Mobility Command
ANHC	Arkansas Natural Heritage Commission
AOA	Air Operations Area
AOI	Area of Interest
APE	Area of Potential Effect
AQCR	Air Quality Control Regulation
AR	Arkansas
AST	Aboveground Storage Tank
AT/FP	Antiterrorism / Force Protection
BMP	Best Management Practice
BW	Bombardment Wing
C&D	Construction and Demolition
CAA	Clean Air Act
CDC	Child Development Center
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH_4	Methane
CID	Criminal Investigations Department
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CRM	Cultural Resources Manager
CTS	Combat Training Squadron
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DAFI	Department of Air Force Instructions
DAFMAN	Department of the Air Force Manual
DERP	Defense Environmental Restoration Program
DoD	Department of Defense

EA	Environmental Assessment
EIAP	Environmental Impact Assessment Process
EIS	Environmental Impact Statement
EO	Executive Order
EPCRA	Environmental Planning and Community Right-to-Know Act
ESA	Endangered Species Act
FONPA	Finding of No Practical Alternative
FONSI	Finding of No Significant Impact
FRP	Facility Response Plan
FY	Fiscal Year
GHG	Greenhouse Gas
HAZMART	Hazardous Materials Pharmacy
HFC	Hydrofluorocarbon
HVAC	Heating, Ventilation, and Air Conditioning
ICBM	Intercontinental Ballistic Missile
ICP	Installation Contingency Plan
ICRMP	Installation Cultural Resources Management Plan
IDEA	Installation Development Environmental Assessment
IDP	Installation Development Plan
INRMP	Installation Natural Resources Management Plan
IPaC	Information for Planning and Consultation
IPM	Integrated Pest Management
IRP	Installation Restoration Program
ISWMP	Installation Solid Waste Management Plan
JRTC	Joint Readiness Training Center
JWWU	Jacksonville Wastewater Utility
LBP	Lead-Based Paint
LF	Linear Feet
LID	Low-Impact Development
LQG	Large Quantity Generator
LUC	Land Use Control
MAC	Military Airlift Wing
MBTA	Migratory Bird Treaty Act
MILCON	Military Construction
MSW	Municipal Solid Waste
N_2O	Dinitrogen Oxide
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_2	Nitrogen Dioxide
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	Ozone

O&M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
Pb	Lead
PCB	Polychlorinated Biphenyl
PFAS	Per- and Polyfluoroalkyl Substances
PFC	Perfluorocarbon
PL	Public Law
$PM_{2.5}$	Particulate Matter < 2.5-micron diameter
PM_{10}	Particulate Matter < 10-micron diameter
PMO	Project Maintenance Office
PSD	Potential of Significant Deterioration
psi	pounds per square inch
QD	Quantity-Distance
RADD	Remedial Action Decision Document
RCRA	Resource Conservation and Recovery Act
RMZ	Riparian Management Zone
ROAA	Record of Air Analysis
ROCA	Record of Conformity Analysis
ROI	Region of Interest
SAC	Strategic Air Command
SARA	Superfund Amendments and Reauthorization Act
sf	square foot
SF_6	Sulfur Hexafluoride
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SMW	Strategic Missile Wing
SO_2	Sulfur Dioxide
SOP	Standard Operating Practice
SPCC	Spill Prevention, Control, and Countermeasures
SRW	Strategic Reconnaissance Wing
STAA	Short-Term Activity Authorization
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
TAC	Tactical Airlift Command
TAW	Tactical Airlift Wing
TCP	Traditional Cultural Property
TMP	Transportation Management Plan
TSCA	Toxic Substances Control Act
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USCB	United States Census Bureau
USEPA	Unites States Environmental Protection Agency
UFC	Unified Facilities Criteria
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compound

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CHAPTER 1
PURPOSE OF AND NEED FOR ACTION

1.1 INTRODUCTION

Little Rock Air Force Base (AFB), located in Pulaski County, approximately 15 miles north of the City of Little Rock in central Arkansas (see Figure 1-1), proposes to implement installation development projects. The projects include a range of activities including demolition of aging facilities, new facility construction, facility upgrades, facility repair and renovation, community living/education upgrades, infrastructure improvement, recreational upgrades, and associated infrastructure.

This section provides a description of the Proposed Action, a statement of the purpose and need for the Proposed Action, and an overview of the scope of the environmental analysis, regulatory framework, public involvement activities, and other analyses relevant to the action.

Little Rock AFB opened in 1955 and covers 6,128 acres near the eastern edge of the Ouachita Mountains. Improved areas (airfield, buildings, paved surfaces, housing, etc.) cover approximately 35 percent of the base, and unimproved areas (forests, shrubland, and wetlands) cover approximately 65 percent of the base. The immediate vicinity of Little Rock AFB is largely rural and dominated by agricultural, forests, and low-density residential areas. Since 2008, the 19 Airlift Wing (19 AW) has been the host unit at Little Rock AFB and is responsible for providing worldwide deployable C-130 aircraft, aircrews, support personnel, and equipment for Air Mobility Command and Air Expeditionary Force taskings (Little Rock AFB 2019a).

Little Rock AFB prepared this Installation Development Environmental Assessment (IDEA) in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321 et seq.), the White House Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] 1500–1508, as amended), and the United States Air Force (USAF) Environmental Impact Analysis Process (EIAP) (32 CFR Part 989), to evaluate the potential environmental impacts associated with implementation of the Proposed Action.

Little Rock AFB aims to use this assessment to streamline NEPA compliance and facilitate the installation development process by evaluating the potential impacts of implementing installation development projects in one integrated document.

The Environmental Assessment (EA) provides sufficient evidence and analysis for determining whether an action would cause significant environmental impacts. If significant impacts are identified, an Environmental Impact Statement (EIS) would then be required. If no significant impacts are identified, then the agency may issue a Finding of No Significant Impact (FONSI) (40 CFR 1508.9). A FONSI is a decision document that briefly presents the reasons why an action would not have a significant effect on the human environment (40 CFR 1508.13). As required by NEPA and the implementing regulations from CEQ and USAF, the alternative of taking no action is evaluated, providing a baseline for comparison of potential impacts from the action alternatives. If the selected alternative would include construction activities within a wetland or a floodplain, a Finding of No Practical Alternative (FONPA) would be prepared in conjunction with the FONSI.

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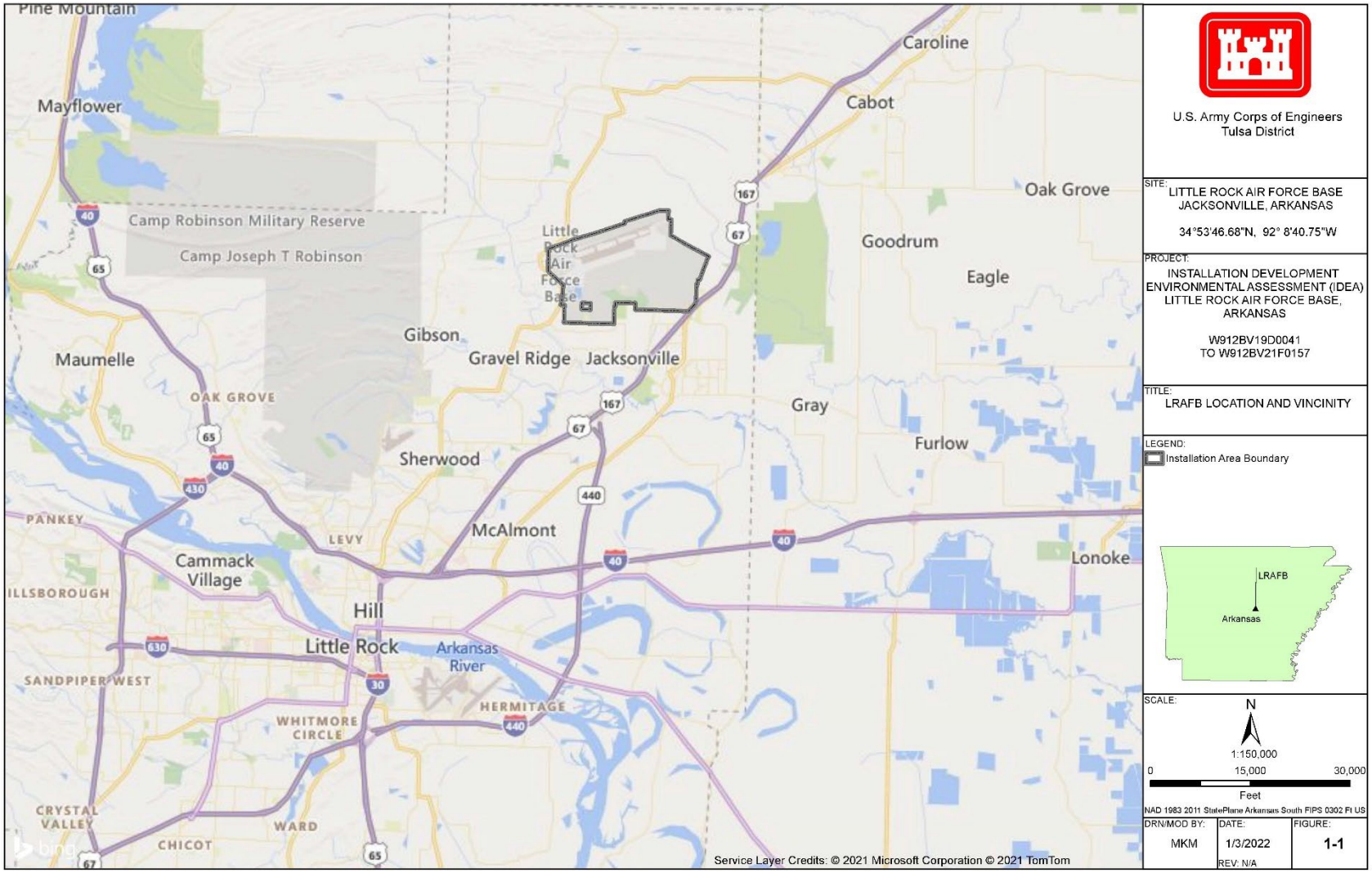

Figure 1-1. Little Rock AFB Location

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1.2 PURPOSE OF INSTALLATION DEVELOPMENT

The **purpose** of the Proposed Action is to provide infrastructure and functionality improvements necessary to support the missions of the 19 AW and Little Rock AFB tenants.

Installation development at Little Rock AFB is done in accordance with the Air Force Comprehensive Planning Program established in AFI 32-1015, *Integrated Installation Planning*. Installation Planning establishes a systematic framework for informing decision making on the physical development of USAF installations and their environment. The objective of installation planning is to synthesize data and information to enable effective development decision-making affecting installations and the surrounding community.

1.3 NEED FOR INSTALLATION DEVELOPMENT

The Proposed Action is **needed** to address deficiencies of function and capability in the facilities and infrastructure at Little Rock AFB that result from obsolescence, deterioration, and evolving mission needs. These deficiencies are remedied through an ongoing process of construction of new facilities and infrastructure, renovation of existing facilities, and demolition of redundant or obsolete facilities.

The provision and maintenance of up-to-date, adequately sized, and safe infrastructure is required to allow the 19 AW and tenant units to successfully complete their missions. Left unchecked, these deficiencies would degrade the ability of the installation to meet USAF and Department of Defense (DoD) current and future mission requirements.

1.4 PURPOSE OF AND NEED FOR INDIVIDUAL PROJECTS

The proposed projects include installation development projects contained in the Little Rock AFB Installation Development Plan, Base Comprehensive Asset Management Plan, and other development and resource management plans. This IDEA uses the fenceline-to-fenceline approach, capturing and addressing the identified projects within the installation boundary that have been proposed.

Each of the proposed projects included in this IDEA has a specific purpose and need. The purpose and need statements for each of the installation development projects are presented in Table 1-1.

Table 1-1. Purpose and Need for Proposed Actions

Map ID	Project Name *and Number*	Purpose	Need
A	Repair Small Arms Range *NKAK171023*	Provide a modern and dependable small arms range.	Personnel must achieve small arms qualifications as part of mission readiness. The range currently lacks proper drainage creating issues with pooling water. Improvements are also needed to control range access. The current earthen floor presents a ricochet hazard.

Map ID	Project Name *and Number*	Purpose	Need
B	Construct New Vehicle Maintenance Facility *NKAK133001*	Maintain vehicles in an efficient, safe, and properly configured setting.	Ensure a higher percentage of vehicle fleet kept in operation to support achievement of mission requirements. The existing facilities do not have adequate space to maneuver many of the vehicles. In addition, access controls for certain areas are needed to ensure PPE compliance.
C1, C2	Construct New Child Development Center *NKAK233000*	Provide personnel with a safe, affordable, and convenient location for child enrichment.	Maintain personnel morale and quality of life, which supports retention and readiness. Site conditions allow water intrusion into the current building at floor level during heavy rain, which can result in high moisture levels.
D	Construct New Combat Training Squadron Facility *NKAK183001*	Provide modern facilities commensurate with current mission requirements.	Support mission readiness through achievement of training objectives. Facility needs to be located outside of the clear zone but with immediate access to the flightline to ensure readiness response.
E	Construct Addition to Aerial Delivery Facility *NKAK113004*	Provide enclosed and sufficient space for rigging.	Support mission readiness through provision of rigging services. Due to the limited space, some pallets are packed and rigged in other maintenance hangars, when available, on makeshift platforms. An air-conditioned workspace is needed to better support the 19 AW mission by eliminating lost time due to hot weather.
F	Construct Munitions Maintenance Shop NKAK071014	Provide safe facility for munitions maintenance.	Avoid conflicts with incompatible land use. Building 1714 has deteriorated to an unusable condition.
G	Improve Wilson Lake Spillway *NKAK101023*	Comply with applicable dam safety and security requirements.	Minimize potential flooding risk to people and property. The reclassification of Wilson Lake to a high hazard dam requires the size of a spillway/outlet structure be increased to convey the Spillway Design Flood.
H	Demolish Building 670 and Tower NKAK101076	Remove unnecessary facilities and infrastructure.	Maximize maintenance budget and usable installation space to support mission. A large portion of Building 670 is uninhabitable due to environmental issues.
I	Construct Sidewalks NKAK1210652	Provide safe and contiguous pedestrian pathways.	Facilitate the safe, efficient, and regulatory-compliant movement of pedestrians.

Map ID	Project Name *and Number*	Purpose	Need
J1, J2	Construct Sidewalk Along Vandenburg Boulevard NKAK1210653	Provide safe pedestrian pathways to off-base destinations.	Encourage off-base mobility to nearby commercial businesses.

1.5 COORDINATION AND CONSULTATIONS

1.5.1 Interagency and Intergovernmental Coordination and Consultations

In accordance with the Intergovernmental Cooperation Act of 1968 (42 U.S.C. 4231(a)) and Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, federal, state, and local agencies with jurisdiction that could be affected by the alternative actions will be notified and consulted during the development of this EA. Through the scoping process, Little Rock AFB provides opportunities for the public to participate in the NEPA process to promote open communication and improve their decision-making process. All persons and organizations identified as having potential interest in the Proposed Action are encouraged to participate in the scoping process.

In accordance with Section 106 of the National Historic Preservation Act (NHPA) and implementing regulations (36 CFR §800), and Section 7 of the Endangered Species Act (ESA) and implementing regulations (including the Migratory Bird Treaty Act [MBTA]), findings of effect and request for concurrence will be included in consultation coordination to the Arkansas State Historic Preservation Office (SHPO) and the U.S. Fish and Wildlife Service (USFWS), respectively.

Comments and concerns submitted in these processes are subsequently incorporated into the analysis of potential environmental impacts conducted as part of the EA. Section 5 of the EA contains the list of agencies consulted during this analysis; copies of correspondence are included in Appendix A.

USAF, as the responsible agency, is accountable for implementing the scoping and consultation processes. Through this process, USAF notified relevant federal, state, and local agencies about the Proposed Action and alternatives. This coordination process provided USAF the opportunity to cooperate with and consider state and local views in implementing the Proposed Action or alternatives. There are no cooperating agencies involved in the preparation of this EA.

19 AW mailed scoping notification letters to identified stakeholders in June 2022. Appendix A provides representative copies of the letters and a list of all agencies, persons, and organizations identified as having a potential interest in the Proposed Action. As presented in Appendix A, 19 AW has received responses to scoping notification letters. 19 AW has addressed and incorporated stakeholder input where applicable in this EA.

1.5.2 Government to Government Consultations

In accordance with DoD Instruction 4710.02, *Interactions with Federally-Recognized Tribes*, Air Force Instruction 90-2002, and *Air Force Interaction with Federally-Recognized Tribes*, federally-recognized tribes that are historically affiliated with the Little Rock AFB geographic region will be invited to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the tribes.

The tribal consultation process is distinct from NEPA consultation or the interagency coordination process, and it requires separate notification to all relevant tribes. The timelines for tribal consultation are also distinct from those of other consultations. The Little Rock AFB point-of- contact for Native American tribes is the Installation Commander. Section 5 of the EA contains the list of tribes consulted during this analysis; copies of correspondence are included in Appendix A.

1.6 PUBLIC AND AGENCY REVIEWS

NEPA, 40 CFR §1500-1508, and 32 CFR §989 require public and agency review of the EA before approval of a FONSI and implementation of a Proposed Action. Consistent with USAF EIAP (32 CFR Part 989), the public involvement process for this EA will consist of an early public notice announcing the project and upcoming availability of a Draft EA, publication of a Notice of Availability of the Draft EA, and a public comment period on the Draft EA. Public comments will be taken into consideration during preparation of the Final EA and FONSI/FONPA.

Because an alternative would include construction activities within a wetland or a floodplain, a FONPA must be considered, and early public notice of the project must be announced. The early public notice for this EA was published in the Arkansas Democrat-Gazette on July 10-11, 2022, and in the Arkansas Leader on July 6, 2022. 19 AW did not receive any public comments in response to the early public notice.

The USAF's NEPA guidance states that the EA process must include at least a 30-day public comment period on the Draft EA, which starts with the publication of a Notice of Availability (NOA). The NOA will be published in the Arkansas Democrat-Gazette and the Arkansas Leader. A copy of the Draft EA will be made available at the Esther Dewitt Nixon Library. An electronic version of the Draft EA will also be made available on the Little Rock AFB website.

CHAPTER 2
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The details of the Proposed Action and Alternatives form the basis for the analyses presented in Section 3 of potential environmental effects of the alternatives identified in Table 1-1. This EA considers each project independently and evaluates the collective/aggregated impacts of implementing all the projects. This section also includes a discussion of considerations used to identify reasonable alternatives and discusses the No Action Alternative as required by 32 CFR §989.

2.1 INSTALLATION DEVELOPMENT PLANNING AND ALTERNATIVES

The scope and proposed location of each project, and where applicable, the alternative locations, have undergone extensive review by 19 AW Civil Engineer Squadron personnel and supporting installation and USAF staff specialists. Installation planning at Little Rock AFB uses form-based planning. Form-based planning at the planning district level offers greater flexibility in responding to changing planning requirements and future development. Form-based planning enhances the future land use plan through the regulation of building types, height, setbacks, circulation patterns, and landscaping, regardless of land use. It also allows for the consideration of mixed or alternative land uses if required by the planning situation (Little Rock AFB 2016).

USAF guidance and the visioning process resulted in the establishment of planning districts on Little Rock AFB with development capacity and permitted functions allowed within each district. The Little Rock AFB Planning Districts, along with the permitted uses and preliminary form-based planning standards, provide the foundation for future development at Little Rock AFB and allow installation leadership to consider and compare potential sites that best meet the vision, planning goals, and objectives.

Installation development projects must be developed in a manner that:

1. Meets applicable DoD installation master planning criteria, consistent with Unified Facilities Criteria (UFC) 2-100-01, *Installation Master Planning*; AFI 32-7062, *Comprehensive Planning;* and Air Force Policy Directive 32-10, *Installations and Facilities*;
2. Meets all applicable DoD, federal, state, and local laws, and regulations, such as but not limited to the ESA, NHPA, Clean Water Act (CWA), Clean Air Act (CAA), Resource Conservation and Recovery Act (RCRA), and MBTA. More detailed information regarding resource-specific laws and regulations is provided in the specific resource sections located in Chapter 3;
3. Aligns with the 2021 Air Force Installation and Mission Support Center Strategic Plan (USAF 2021);
4. Provides reliable utilities and an efficient transportation system to support Little Rock AFB and meets current USAF requirements for functional space, consistent with Air Force Manual 32-1084 *Standard Facility Requirements* (15 January 2020);
5. Meets applicable DoD antiterrorism/force protection (AT/FP) criteria, consistent with UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings,* and the Air Force Installation Force Protection Guide;
6. Reduces the consumption of fuel, energy, water, and other resources; maximizes the use of existing facilities; and reduces the footprint of unnecessary or redundant facilities and infrastructure; and

7. Supports and enhances the morale and welfare of personnel assigned to the installation, their families, and civilian staff, consistent with DoD Instruction 1015.10, *Military Morale, Welfare, and Recreation Programs* (6 July 2009).

2.2 ALTERNATIVE SELECTION STANDARDS

The scope and location of each Proposed Action and, where applicable, their alternatives, have undergone extensive review by 19 AW Civil Engineer Squadron personnel and cross-functional wing staff, as well as supporting installation and USAF staff specialists.

Potential alternatives to the Proposed Action were each evaluated based on three universal selection standards, which were applied to all alternatives. Also, each project description, beginning in Section 2.3, provides detail regarding how these universal selection standards apply to specific project requirements.

Standard 1: *Planning Constraints* – Planning constraints are manufactured or natural elements that can create significant limitations to the operation or construction of buildings, roadways, utility systems, airfields, training ranges, and other facilities. These constraints, when considered collectively with the installation's capacity opportunities, inform the identification of potential areas for development, as well as those areas that can be redeveloped to support growth. This standard addresses compatibility with installation operational aspects, natural and built resources, and land use compatibility, and largely dictate the location/placement of a proposed facility.

- *Operational* – Operational constraints are generally related to flying and maintaining aircraft; storing fuel, munitions, and other potentially hazardous cargo; or fulfilling similar operational requirements that can limit future development activity. Operational constraints include, but are not limited to, airfield clearance and safety zones, noise contours, explosive safety quantity distance zones, and anti-terrorism/force protection.
- *Natural/Cultural* – Natural and cultural resource constraints are considered during all planning processes because natural and cultural resources provide positive aesthetic, social, cultural, and recreational attributes that substantially contribute to the overall quality of life on base. Little Rock AFB has existing onsite stream mitigation sites associated with USACE Section 404 permits that are to be preserved in perpetuity that pose constraints.
- *Built Planning Constraints* – Existing development may limit current and future missions. Built constraints are related to the condition, functionality, or effectiveness of infrastructure systems, facilities, and other manufactured improvements. The continuance of the installation mission and potential future development of Little Rock AFB is largely dependent upon the efficiency and capability of the existing installation infrastructure, including the airfield and supporting utilities. Little Rock AFB contains no built constraints; however, Building 258 has been identified as eligible for listing in the National Register of Historic Places (NRHP) (Little Rock AFB 2021a).

Standard 2: *Installation Capacity Opportunities* – This refers to the capabilities of the installation's existing facilities/infrastructure to meet existing and future mission needs. This standard largely drives the scope of the facility/infrastructure development and/or improvement. This standard requires that proposed facility/infrastructure development and improvements support current and future mission operations, built infrastructure and quality of life.

Standard 3: *Sustainability Development Indicators* – The USAF defines sustainability as the capacity to continue its mission without compromise and the ability to operate into the future without decline. Sustainable planning seeks to create an installation that prevents and minimizes pollution and waste before

they occur; supports development that mimics natural energy, water, and material cycles; and creates a safe, healthy environment for community members. Sustainable planning decisions can minimize the negative impacts of the USAF's mission and operations on the environment, while still satisfying mission requirements. This standard also generally drives the scope of the facility/infrastructure development and/or improvement and supports sustainability of the installation through consideration of energy, water, wastewater, air quality, facilities space optimization, encroachment, airfields, natural/cultural resources.

2.3 PROPOSED ACTION AND ALTERNATIVES

For each project, the proposed action, reasonable alternatives, and a No Action Alternative of not undertaking the project was considered. Although the NEPA and CEQ regulations mandate the consideration of reasonable alternatives to proposed actions, some projects, may not have any reasonable alternatives besides the No Action Alternative, because for example, it may not be reasonable to construct the project at any other location on the installation.

For example, the USAF would not evaluate alternatives to construct a community use function such as a bowling alley in an industrial area of the installation. If a fire station, for example, requires reconstruction, the USAF would not evaluate alternatives to construct the fire station at another location because of the functional use relationship between the fire station and the airfield and because associated infrastructure (hydrants, etc.) supporting that facility has been developed over time and is currently in place.

The NEPA process is intended to support flexible, informed decision-making; the analysis provided by the EA and feedback from the public and other agencies will inform decisions made about whether, when and how to execute the proposed actions. The No Action Alternative will substantively analyze the consequences of not undertaking the Proposed Action, not simply conclude no impact, and will serve to establish a comparative baseline for analysis.

Where applicable, alternatives were developed relative to the three universal selection standards. Alternatives that did not meet one or more of the standards were considered unreasonable and are not retained for consideration in the EA; therefore, only the preferred alternatives are carried forward for further analysis.

The scope, location, and objectives of the proposed projects are described below. Where applicable, as described above, this section also presents reasonable and practicable alternatives to each proposed project. If there are no reasonable alternatives, an explanation is provided.

Figure 2-1 depicts the potential locations of all proposed projects, and when applicable, an alternative location. Each individual project would use staging areas, as necessary. Staging areas would be located in flat, previously disturbed areas and returned to their pre-use condition following use. None of the proposed projects would individually or cumulatively result in a change in mission, activities, or personnel levels at Little Rock AFB. Table 2-1 summarizes the proposed projects.

Table 2-1. Summary of Proposed Little Rock AFB Installation Development Projects

Project ID(s).	Project Name	Project Type	Project Description
A	Repair Small Arms Range	Renovation	Upgrade the existing small arms range consisting of the ready area, the bullet trap, and firing lanes.
B	Construct New Vehicle Maintenance Facility	Construction and Demolition	Construct a new 34,207 square foot (sf) combined vehicle maintenance facility and demolish four buildings.
C1, C2	Construct New Child Development Center	Construction and Demolition	Construct a new 54,082 sf Child Development Center and supporting infrastructure at one of two potential locations and demolish the existing Child Development Center.
D	Construct New Combat Training Squadron Facility	Construction and Demolition	Construct a new two story 28,847 sf Combat Training Squadron facility and supporting infrastructure and demolish the existing facility.
E	Construct Addition to Aerial Delivery Facility	Construction and Renovation	Construct an approximately 7,825 sf addition, upgrade existing building elements, and enclose adjacent area.
F	Construct New Munitions Maintenance Shop	Construction and Demolition	Construct a 1,500 sf addition and demolish the existing facility
G	Improve Wilson Lake Spillway	Construction	Clear vegetation and install water management infrastructure and pedestrian walkway at Wilson Lake dam.
H	Demolish Building 670 and Tower	Demolition	Demolish Building 670 and adjacent tower and parking lot.
I	Construct Sidewalks	Construction	Construct approximately 2,225 linear feet of 4-foot-wide pedestrian sidewalks in various locations.
J1, J2	Construct Sidewalk Along Vandenburg Boulevard	Construction	Construct an approximately 4-foot-wide sidewalk offset from the northern or southern side of Vandenberg Boulevard from the gate to the end of government property.

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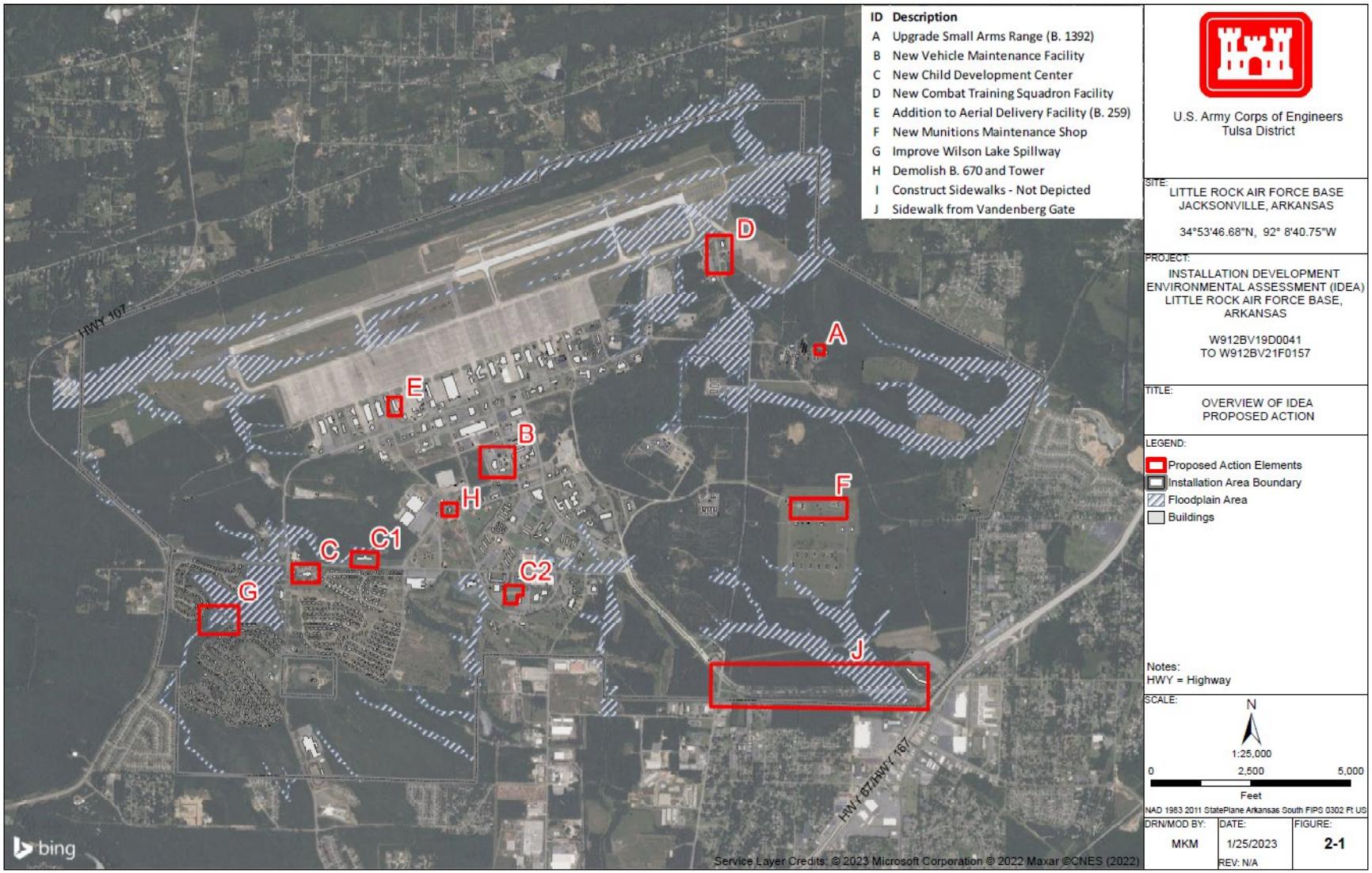

Figure 2-1. Proposed Project Locations

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2.3.1 Project A: Repair Small Arms Range

The Proposed Action for this project is upgrade the existing small arms range consisting of the ready area (Building 1393), the bullet trap (Building 1392), and the firing lanes in between (Figure 2-2).

2.3.1.1 Selection Standard Applicability

- The project must meet operational and built planning constraints (Standard 1).

2.3.1.2 Alternatives Considered but Eliminated from Further Consideration

The 19 AW considered constructing a new small arms range. Developing a small arms range near certain land use areas (including residential and office areas) could present hazards during training and operations; firing ranges must be located away from other occupied structures, roads, trails, and munitions storage areas. Other potential sites would have operational and built constraints because there is no available land suitable for development into a small arms range with compatible adjacent land use. No additional sites were identified that would pass Standard 1. Therefore, this alternative was eliminated from further consideration. Only the preferred alternative was considered a reasonable alternative and is carried forward for further analysis.

2.3.1.3 Alternatives Considered for this Proposed Action

Alternative A1 (Preferred Alternative). Implementation of the preferred alternative would upgrade the existing small arms range. Proposed upgrades would consist of removing the existing containment walls and installing fencing in its place to improve natural ventilation and control range access. Additional lighting with dimming capacity would be added to cover the 7-meter line, 15-meter line, and the 25-meter line. To better manage stormwater runoff, this project would also add a concrete surface to the range and a roof.

2.3.2 Project B: Construct New Vehicle Maintenance Facility

The Proposed Action for this project is construct a new combined vehicle management facility (Figure 2-3).

2.3.2.1 Selection Standard Applicability

- The project must meet built planning constraints and installation capacity opportunities (Standards 1 and 2).

2.3.2.2 Alternatives Considered but Eliminated from Further Consideration

The 19 AW considered renovating four of the existing vehicle maintenance facility buildings (Buildings 459, 550, 553, and 554) to remedy some code compliance issues. However, doing so would not eliminate the excess space and operations dysfunction caused from having separate buildings partially occupied by personnel who continue to encounter challenges as they endeavor to coordinate work tasks. Inadequate facility configurations would continue to limit the capabilities of vehicle maintenance operations due to the permanent constraints of the building and doors size because of the fixed footprint of the existing buildings. Doing so would conflict with Standard 1. Therefore, this alternative was eliminated from further consideration. Only the preferred alternative was considered a reasonable alternative and is carried forward for further analysis.

2.3.2.3 Alternatives Considered for this Proposed Action

Alternative B1 (Preferred Alternative). The USAF would construct a new 34,207 square foot (sf) combined vehicle maintenance facility in the same location of the existing facility and demolish Buildings 549, 550, 553, and 554 (totaling 40,046 sf). The new facility would combine General Purpose, Maintenance Analysis, Vehicle Operations, and Fleet Management sections and support up to 255 general purpose and 99 special purpose vehicles. The new layout would provide an efficient transportation and maintenance flow. At least one of the existing facilities would remain operational until construction of the new facility is complete, at which time the remaining existing facility(ies) would be demolished.

2.3.3 Project C: Construct New Child Development Center

The Proposed Action for this project is construct a child development center (CDC) and demolish the existing CDC (Building 1990) (Figure 2-4).

2.3.3.1 Selection Standard Applicability

- The project must meet applicable DoD installation master planning criteria and all applicable environmental regulations (Standard 1).
- The project must meet installation capacity opportunities to improve quality of life (Standard 2).
- The new center must support/enhance the morale and welfare of personnel assigned to the installation and their families (Standard 3).

2.3.3.2 Alternatives Considered but Eliminated from Further Consideration

The 19 AW considered renovating the existing CDC and constructing a new interior, new roof, new heating, ventilation, and air conditioning (HVAC), new electrical, new fire suppression, new furnishings, new playground equipment, and performing exterior building repairs. The cost associated with these repairs would be more expensive than a new building. The 19 AW also considered other potential locations on the installation, but other than the alternative location described below, no potential CDC locations would meet Standards 1, 2, or 3. Therefore, these alternatives were eliminated from further consideration. Only the preferred alternative and action alternative were considered a reasonable alternative and were carried forward for further analysis.

2.3.3.3 Alternatives Considered for this Proposed Action

Alternative C1 (Action Alternative). The USAF would construct a new 54,082 sf CDC using economical design and construction methods in accordance with Little Rock AFB installation facility standards. The CDC would be located near the existing CDC on Arnold Drive, on a parcel that until approximately three years ago hosted an elementary school. The site is currently a flat previously disturbed area with utility connections and maintained (mowed) low vegetative cover.

The CDC would include a pick-up/drop-off area, reception area, lobby area, multipurpose rooms, administrative space, access road, parking, outdoor fenced playground areas, restrooms, storage rooms, kitchen and equipment, security system, utilities, landscaping, stormwater management, and all other associated support elements necessary to provide a complete and useful facility. Once the new CDC is constructed, the USAF would demolish the existing CDC (Building 1990) and supporting facilities, which total approximately 24,670 square feet. Once demolished, the area would be restored to preconstruction conditions.

Alternative C2 (Preferred Alternative). Under this alternative, the USAF would construct a new CDC as described for the preferred alternative, but at a different location. The alternative location is adjacent to the

bowling alley on Cannon Cutoff in an open area that was previously developed. Once the new CDC is constructed, the USAF would also demolish the existing CDC and supporting facilities, returning the site to preconstruction conditions.

2.3.4 Project D: Construct New Combat Training Squadron Facility

The Proposed Action for this project is construct a new combat training squadron (CTS) facility and demolish the existing CTS (Building 160) (Figure 2-5).

2.3.4.1 Selection Standard Applicability

- The project must meet applicable planning constraints and installation capacity opportunities (Standards 1 and 2).

2.3.4.2 Alternatives Considered but Eliminated from Further Consideration

The 34 CTS considered renovating the existing CTS; however, the necessary repairs would be so extensive to meet current mission and code requirements to not be cost-effective. The 34 CTS also considered other locations; however, the CTS by nature of its quick-response flight mission must have flightline access and be in a secure area. Therefore, these alternatives were eliminated from further consideration. Only the preferred alternative was considered a reasonable alternative and was carried forward for further analysis.

2.3.4.3 Alternatives Considered for this Proposed Action

Alternative D1 (Preferred Alternative). The USAF would construct a new 28,847 sf CTS near the existing CTS (Building 160, which is 23,190 sf) outside of the flightline clear zone. The two-story building would include a parking lot, site work, and all necessary supporting features to meet the requirements of the 34 CTS. Once the new CTS is operable, the USAF would demolish the existing Building 160, returning the site to preconstruction conditions.

2.3.5 Project E: Construct Addition to Aerial Delivery Facility

The Proposed Action for this project is to construct an addition to the western side of Building 259 (Figure 2-6).

2.3.5.1 Selection Standard Applicability

- The project must meet applicable planning constraints and installation capacity opportunities (Standards 1 and 2).
- The project must also facilitate space optimization (Standard 3).

2.3.5.2 Alternatives Considered but Eliminated from Further Consideration

Building 259 provides a convenient location for parachute rigging services adjacent to flight operations. Adding to the existing building would enhance the efficiency of rigging operations that are co-located with flight operations. As such, it does not make sense to build a new facility elsewhere when an addition to an existing building would suffice and serve parachute rigging services most effectively (Standard 2). The USAF did evaluate adding the addition to the other sides of Building 259; however, each of the three remaining sides have been developed to provide flight operational support services. Therefore, these

alternatives were eliminated from further consideration. Only the preferred alternative was considered a reasonable alternative and was carried forward for further analysis.

2.3.5.3 Alternatives Considered for this Proposed Action

Alternative E1 (Preferred Alternative). The USAF would make an approximately 7,825 sf addition to the west side of Building 259, which is 3,026 SF. The addition would consist of a concrete foundation with steel frame construction. Five existing overhead roll-up doors in Building 259 would also be replaced and a new pallet conveyor system would be installed. Furthermore, an existing area currently used for parachute packing would be enclosed.

2.3.6 Project F: Construct New Munitions Maintenance Shop

The Proposed Action for this project is construct a new addition to munitions maintenance shop and demolish Building 1714 (Figure 2-7).

2.3.6.1 Selection Standard Applicability

- The project must meet applicable planning constraints and installation capacity opportunities (Standards 1 and 2).

2.3.6.2 Alternatives Considered but Eliminated from Further Consideration

The USAF considered demolishing Building 1714 and replacing it with construction of a new facility. However, there is no need for two facilities (new construction and existing Building 1710). A small addition to Building 1710 would suffice, and therefore this alternative was eliminated from further consideration.

2.3.6.3 Alternatives Considered for this Proposed Action

Alternative F1 (Preferred Alternative). The USAF would construct a 1,500 sf addition to the east side of Building 1710 that would serve as a bay. Following construction, Building 1714 (3,026 sf) would be demolished, and the site would be returned to preconstruction conditions.

2.3.7 Project G: Improve Wilson Lake Spillway

The Proposed Action for this project is improve the existing Wilson Lake spillway (Figure 2-8a and 2-8b).

2.3.7.1 Selection Standard Applicability

- The improvements must meet natural resource and built planning constraints (Standard 1).
- The improvements must support the morale and welfare of personnel, their families, and civilian staff (Standard 3).

2.3.7.2 Alternatives Considered but Eliminated from Further Consideration

Because this project is needed to bring Wilson Lake into compliance with existing regulations and standards, there are no locational alternatives. The USAF did consider substantially lowering or draining Wilson Lake; however, Wilson Lake is a high-value recreation amenity to installation personnel, and it provides stormwater management functionality. Furthermore, lowering the water levels would not address vegetation-related concerns on the spillway. Therefore, these alternatives were eliminated from further consideration. Only the preferred alternative was considered a reasonable alternative and was carried forward for further analysis.

2.3.7.3 Alternatives Considered for this Proposed Action

Alternative G1 (Preferred Alternative). The USAF would remove encroaching vegetation (namely Bradford pear trees on the dam face), replace the existing controlled discharge with a 10' by 5' concrete box culvert, construct a trapezoidal labyrinth weir, and install an 80 linear feet (LF) pedestrian bridge to connect the existing walkway over the weir. Improvements to the existing walkway and dam toe drain would also occur. The USAF would temporarily lower the lake level during construction to allow for sufficient access to perform the spillway improvements.

2.3.8 Project H: Demolish Building 670 and Tower

The Proposed Action for this project is demolish Building 670 and the associated tower (Figure 2-9).

2.3.8.1 Selection Standard Applicability

- The demolition must meet installation capacity requirements to support current and future mission requirements (Standard 2)
- The demolition must reduce the footprint of unnecessary or redundant facilities or infrastructure (Standard 3).

2.3.8.2 Alternatives Considered but Eliminated from Further Consideration

Because this project aims to demolish mostly unused infrastructure, there are no locational alternatives. The USAF has not identified any long-term potential users for the existing building, and the tower is no longer used. Furthermore, existing building mold issues preclude the use of the building without substantial cost-prohibitive renovation. Therefore, there are no reasonable alternatives. Only the preferred alternative was considered a reasonable alternative and was carried forward for further analysis.

2.3.8.3 Alternatives Considered for this Proposed Action

Alternative H1 (Preferred Alternative). The USAF would demolish all of Building 670 (7,266 sf) and the adjacent tower and parking lot. The resulting surface would be graded to match the surrounding level and seeded with approved vegetation, which would then be maintained (mowed). A small number of personnel currently utilizing Building 670 would be relocated to office space in Building 1255.

2.3.9 Project I: Construct Sidewalks

The Proposed Action for this project is construct sidewalks in various locations on Little Rock AFB.

2.3.9.1 Selection Standard Applicability

- The construction must meet installation capacity opportunities to improve quality of life (Standard 2).
- The construction must enhance the welfare of personnel (Standard 3).

2.3.9.2 Alternatives Considered but Eliminated from Further Consideration

Because this project aims to construct sidewalks in areas with gaps in sidewalk or lacking Americans with Disability Act (ADA) compliance, there are no locational alternatives. Therefore, there are no reasonable alternatives. Only the preferred alternative was considered a reasonable alternative and was carried forward for further analysis.

2.3.9.3 Alternatives Considered for this Proposed Action

Alternative I1 (Preferred Alternative). The USAF would construct approximately 2,225 LF of 4-foot-wide pedestrian sidewalks in various locations on Little Rock AFB. The sidewalk would meet ADA requirements, which would include handicap ramps, crosswalk striping, and other attributes as required. Some locations would overlap the floodplain and would require drainage and small bridges to span swales.

2.3.10 Project J: Construct Dedicated Sidewalk from Vandenberg Gate

The Proposed Action for this project is construct a sidewalk from the Vandenberg Gate to the City of Jacksonville (Figure 2-10).

2.3.10.1 Selection Standard Applicability

- The construction must meet installation capacity opportunities to improve quality of life (Standard 2).
- The construction must enhance the welfare of personnel (Standard 3).

2.3.10.2 Alternatives Considered but Eliminated from Further Consideration

This project aims to construct a sidewalk along the existing Vandenberg Boulevard to provide safe pedestrian access to off-installation areas, there are no locational alternatives to consider other than the preferred alternative and action alternative described below. Therefore, only the preferred alternative (Alternative J1) and action alternative (Alternative J2) were considered a reasonable alternative and were carried forward for further analysis.

2.3.10.3 Alternatives Considered for this Proposed Action

Preferred Alternative J1 (South Action Alternative). The USAF would construct an approximately 4-foot-wide sidewalk offset from the southern side of Vandenberg Boulevard from the gate to the end of government property. The sidewalk would provide a linkage to a City of Jacksonville sidewalk that would then provide continuous safe access to retail shops in the area. Some locations of the sidewalk would overlap the floodplain and wetland areas and would require drainage and small bridges to span swales.

Alternative J2 (North Action Alternative). This alternative would construct a sidewalk on the north side of Vandenberg Boulevard and have the same destination and characteristics as described for the preferred alternative. The sidewalk would terminate at the Education Center. This alternative would also overlap the floodplain and wetland areas but is at a higher elevation and would require less fill material.

2.4 Resource Areas Eliminated From Detailed Analysis

Resource areas that are not impacted (40 CFR 1501.7(3)) or that have been covered by prior environmental review (40 CFR 1506.3) have not been carried forward for further environmental review.

The determination of environmental resource areas to be analyzed versus those not carried forward for detailed analysis is part of the EA scoping process. CEQ and USAF regulations (40 CFR §1501.7(a)(3) and 32 CFR 989.18) encourage project proponents to identify and eliminate resource areas from detailed study that are not important or have no potential to be impacted through implementation of their respective Proposed Action.

The following environmental resource areas were found to have no applicability to the Proposed Action or the No Action Alternative, because there would be no potential for direct, indirect, or cumulative impacts. Therefore, these environmental resource areas are not carried forward for detailed analysis in this EA.

Airspace – None of the proposed projects identified in Table 1-1 would involve changes to, or use of, airspace. Therefore, the airspace resource area is not carried forward for detailed analysis in this EA.

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Figure 2-2. Project A –Small Arms Range Location

Figure 2-3. Project B – Construct New Vehicle Maintenance Facility Location

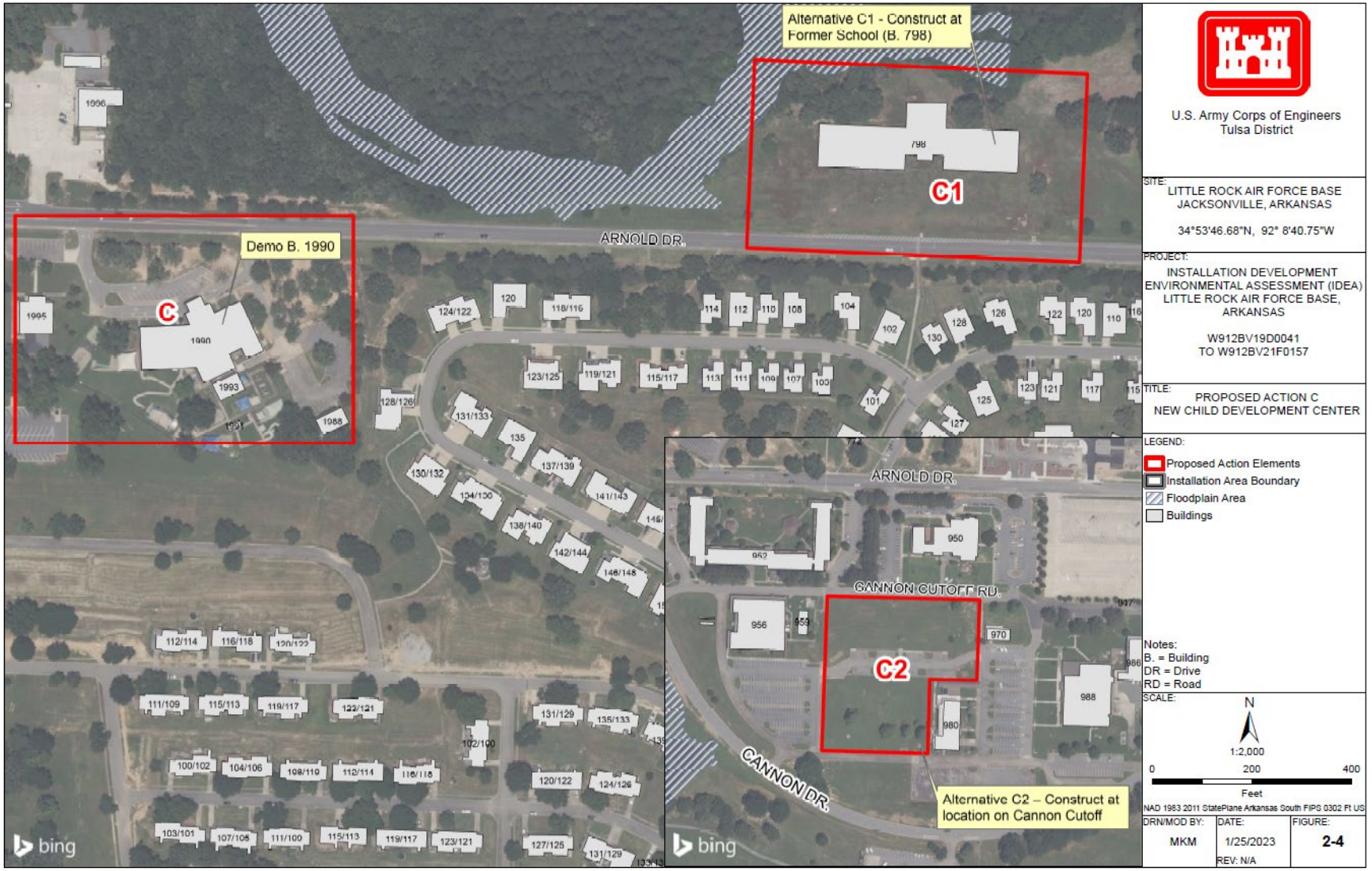

Figure 2-4. Project C – Construct New Child Development Center Location

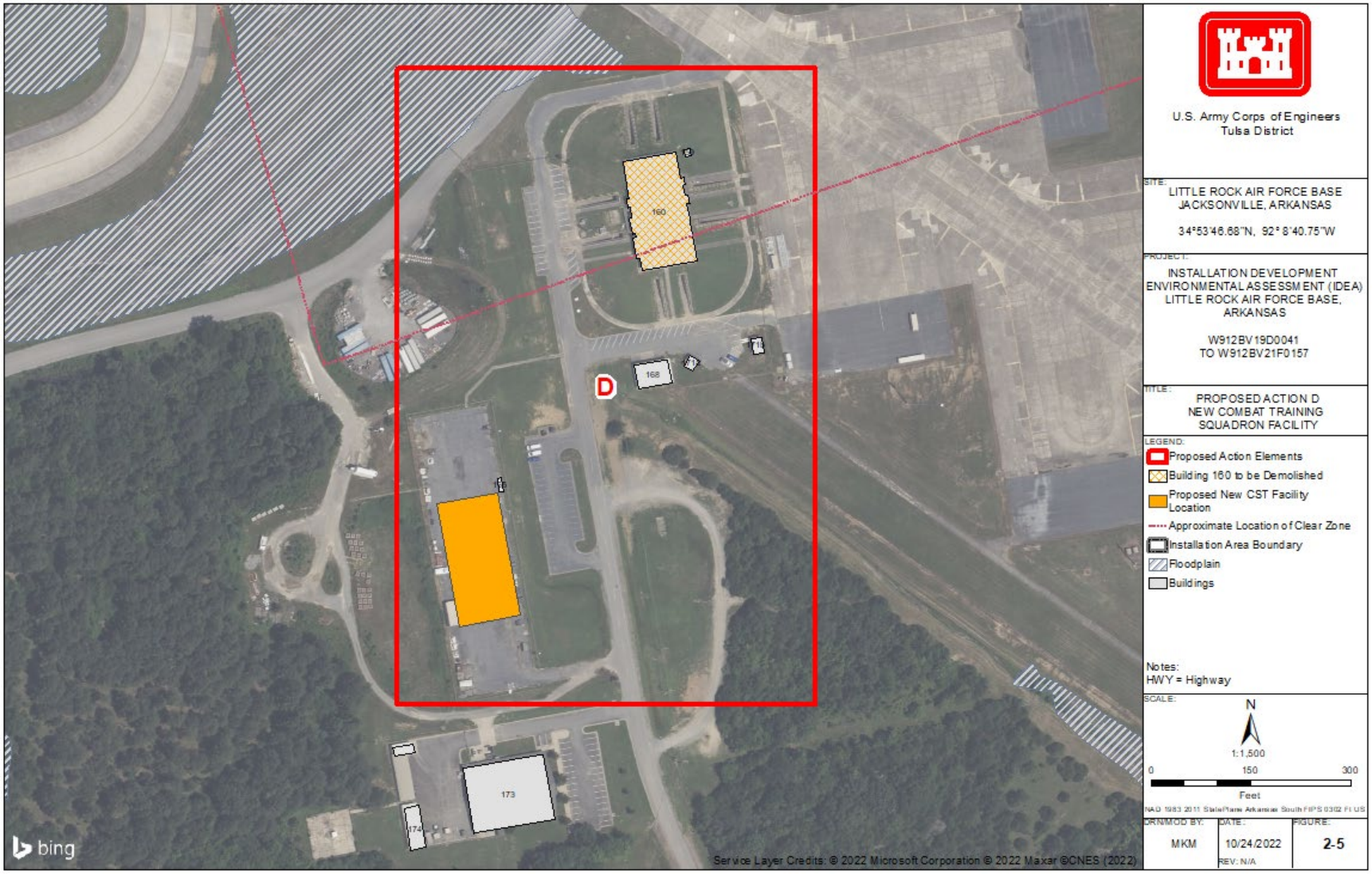

Figure 2-5. Project D – Construct New Combat Training Squadron Location

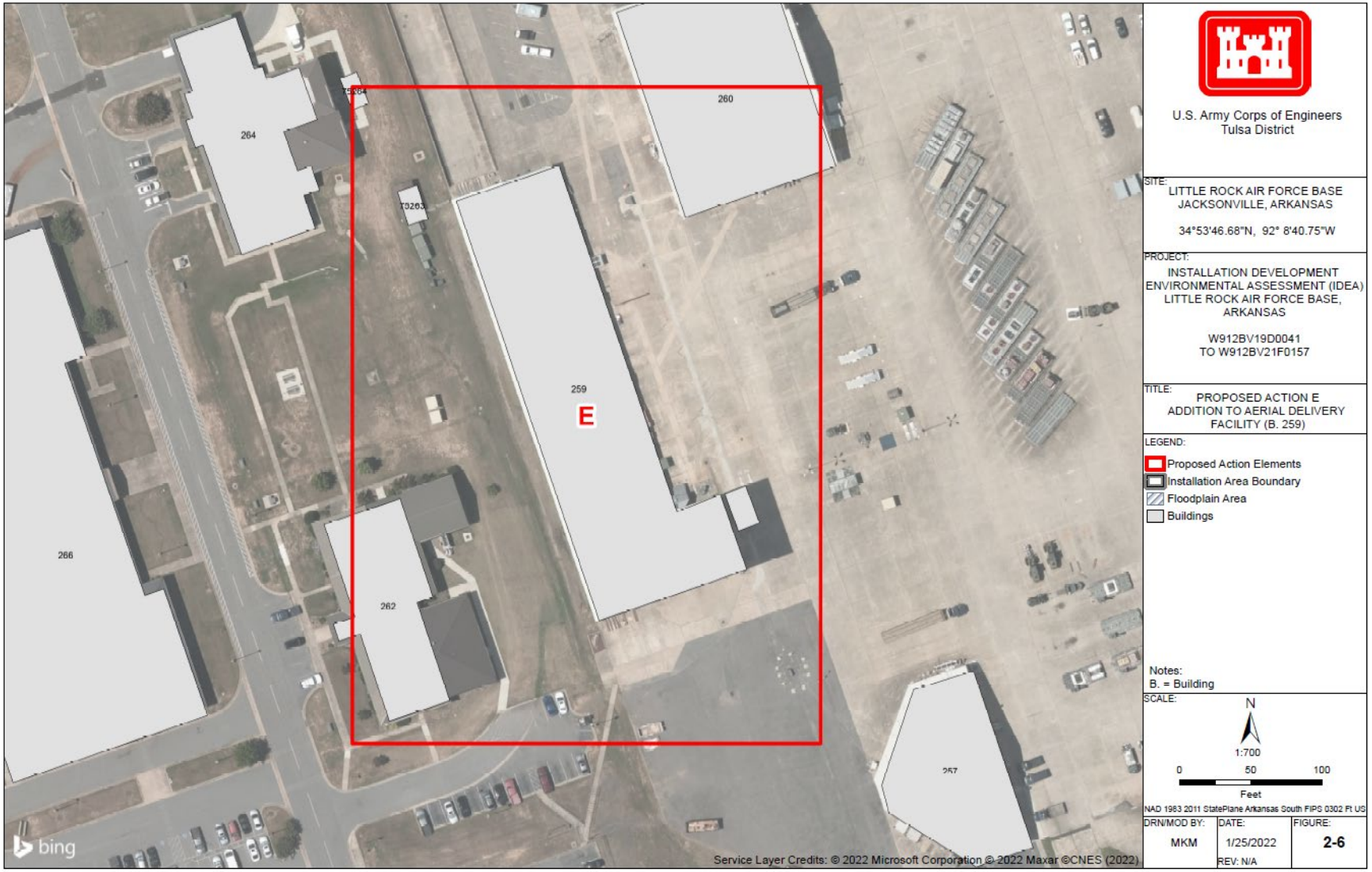

Figure 2-6. Project E – Construct Addition to Aerial Delivery Facility Location

Figure 2-7. Project F – Construct New Munitions Maintenance Shop Location

Figure 2-8a. Project G – Improve Wilson Lake Spillway Location

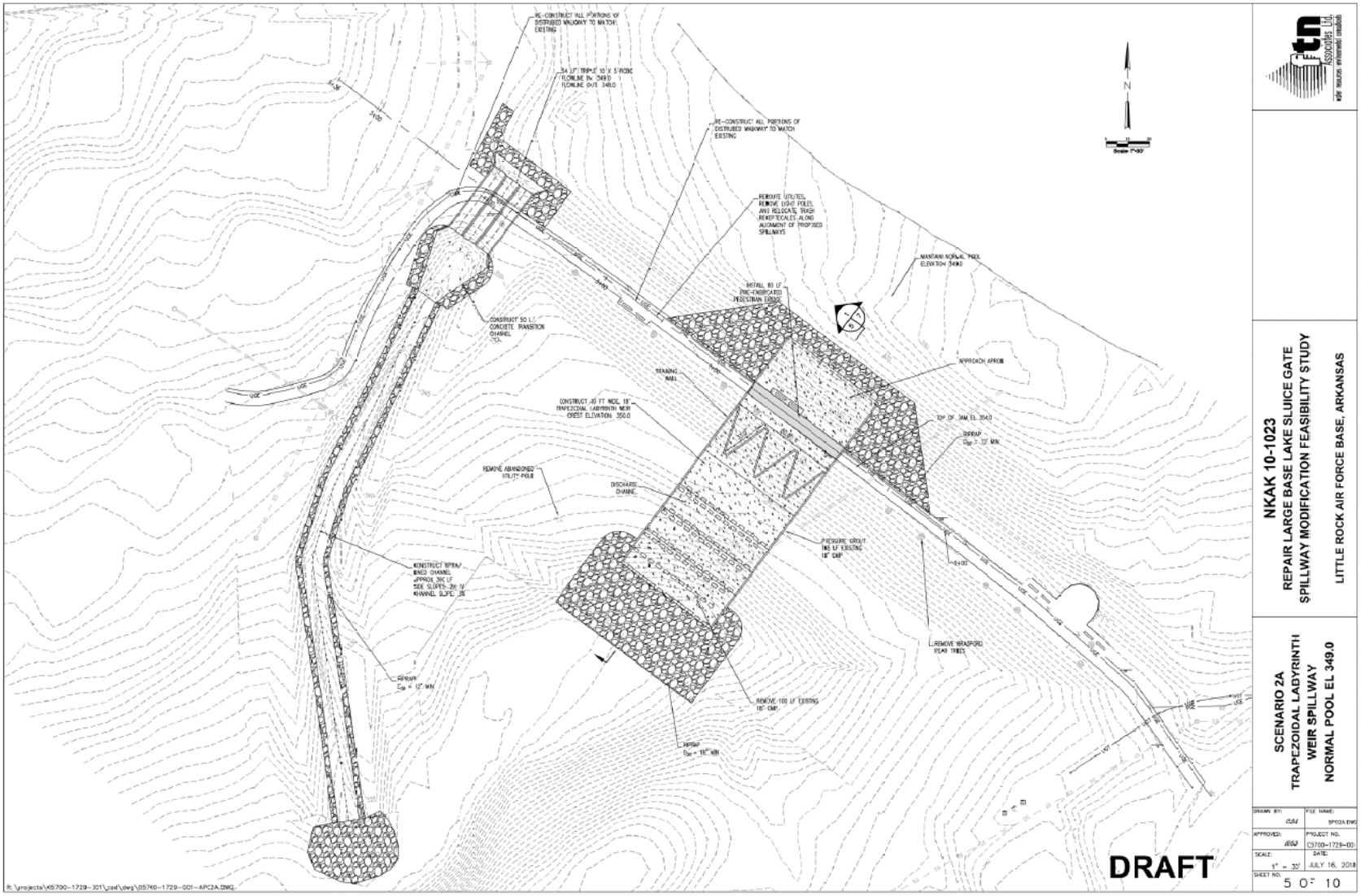

Figure 2-8b. Project G – Draft Wilson Lake Spillway Plans

Figure 2-9. Project H – Demolish Building 670 and Tower Location

Figure 2-10. Project J – Construct Dedicated Sidewalk from Vandenburg Gate Location

CHAPTER 3
AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES

3.1 INTRODUCTION

The following sections of this chapter describe the current conditions of the environmental resources, either man-made or natural, that would be affected by implementing the Proposed Action or the No Action Alternative. The existing conditions for relevant resources are defined to provide a meaningful baseline from which to compare potential future effects. Additionally, the potential environmental consequences that are likely to occur as a result of implementation of alternatives that are being considered and analyzed are described.

Section 5.3 presents the environmental permits that may be required prior to implementing the Proposed Action.

3.2 AIR QUALITY AND CLIMATE CHANGE (GREENHOUSE GAS EMISSIONS)

Air quality is degree to which the atmosphere is free of one or more contaminants (e.g., dust, fumes, gas, mist, odor, smoke, and vapor, also known as air pollutants) such as to be injurious to human, plant, or animal life. Air quality as a resource incorporates several components that describe the levels of overall air pollution within a region, sources of air emissions, and regulations covering air emissions.

Under the authority of the CAA and subsequent regulations, the United States Environmental Protection Agency (USEPA) has divided the country into geographical regions known as Air Quality Control Regions (AQCR) to evaluate compliance with the National Ambient Air Quality Standards (NAAQS). The region of influence for the Proposed Action is Pulaski County within the Central Arkansas Intrastate AQCR (AQCR 138) (40 CFR 81.138). There are no Prevention of Significant Deterioration (PSD) sites located in the region near Little Rock AFB (40 CFR 81.404).

The CAA of 1970, 42 USC Section 7401 et seq. amended in 1977 and 1990, is the primary federal statute governing air pollution. The CAA establishes NAAQS for criteria pollutants and classifies areas as to their attainment status relative to NAAQS. The six criteria pollutants with promulgated federal NAAQS are: particulate matter (PM_{10} and $PM_{2.5}$), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), lead (Pb), and ozone (O_3). The State of Arkansas has accepted the federal standards.

Federal regulations designate air quality control regions in violation of the NAAQS as nonattainment areas (NAA) and areas that meet the NAAQS as attainment areas. An area's attainment status is determined for each NAAQS and provides information to evaluate the level of air quality impairment. An area previously designated nonattainment and subsequently re-designated to attainment is termed a maintenance area. A maintenance area has a maintenance plan or revision to the applicable State Implementation Plan (SIP), to ensure sustainment of the air quality standards. The General Conformity Rule (40 CFR Part 93, Subpart B) requires any federal agency responsible for an action in a nonattainment area or maintenance area to determine that action conforms to the appropriate SIP or that the action is exempt from the General Conformity Rule requirements.

Greenhouse gases (GHGs) are generated by both naturally occurring and man-made activities such as normal atmospheric activity, vehicle use, building heating and cooling, electricity generation, and other sources of combustion. Naturally occurring GHGs include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Man-made gases in addition to CO_2, CH_4, and N_2O include hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Each GHG has an estimated global warming potential value that equates the specific GHG to the global warming potential of CO_2, known as CO_2-equivalents (CO_2e). The CO_2e can be summed to review the cumulative GHG emissions.

3.2.1 Affected Environment

3.2.1.1 Regional Climate

The climate at Little Rock AFB is hot during the summer when temperatures trend towards the 80's and mild during the winter with temperatures in the 40's. The average high temperature is 93 degrees Fahrenheit (°F) in the hottest month of August, and an average low temperature of 32 °F in the coldest month of January. The average annual precipitation is 49.6 inches per year. The wettest month of the year is November with an average rainfall of 5.28 inches (U.S. Climate Data 2022).

3.2.1.2 Baseline Air Emissions

Little Rock AFB is currently designated as an attainment area for all CO, Pb, NO_2, O_3, PM_{10}, $PM_{2.5}$, and SO_2 NAAQSs (USEPA 2022a). The General Conformity Rule (40 CFR Part 93) does not apply because all areas associated with the Proposed Action Alternatives are in attainment.

Little Rock AFB is a permitted minor source of air pollution from stationary sources. The Arkansas Department of Environmental Quality (ADEQ) issued Permit No. 0865-AR-10 to Little Rock AFB on May 3, 2022. The permit sets forth authority to construct, operate, and maintain the equipment included in the application from Little Rock AFB received on December 19, 2021. The permit includes stationary sources such as boilers, emergency generators, engine test cells, storage tanks and fuel dispensing, solvent degreasing, a smart ash portable incinerator, and surface coating (ADEQ 2022). Other sources of emissions at Little Rock AFB include mobile emissions from motor vehicles, airplanes, and maintenance activities.

3.2.2 Environmental Consequences

3.2.2.1 Proposed Action

Evaluation Criteria

Estimated criteria pollutant emissions from the Proposed Action were calculated using the U.S. Air Force's Air Conformity Applicability Model (ACAM) Version 5.017b. ACAM outputs represent maximum emissions without the implementation of any mitigation measures that might reduce emissions. Appendix B presents the ACAM assumptions, full analysis results, and Record of Conformity Analysis (ROCA).

At this time, climate change presents a global problem caused by increasing global atmospheric concentrations of GHG emissions and the current status of the science surrounding it does not support determining the global significance of local or regional emissions of GHGs from a particular action. Nonetheless, GHGs were quantified for the Proposed Action for purposes of disclosing the local net effects (increase or decrease) and for their potential usefulness in making a reasoned choice among alternatives.

Little Rock AFB would be required to evaluate new stationary sources (i.e., emergency generators) for inclusion in Little Rock AFB's Minor Source Air Permit. PSD permits for individual sources are not expected because no PSD sites are located in the region near Little Rock AFB (40 CFR 81.404).

The potential emissions associated with each project were first evaluated and estimated separately. The estimated potential emissions from all projects were then considered together as if each project would occur simultaneously. The total emissions were then compared to the General Conformity *de minimis* thresholds. The General Conformity *de minimis* threshold values are used as a conservative indicator if a project's emissions within an attainment area would exceed the NAAQS.

Air Quality Analysis

Demolition and Construction

The Proposed Action primarily involves the demolition of old facilities, construction of new facilities or construction of additional infrastructure. Personnel levels would not substantially increase as a result of the implementation of the Proposed Action. Operation of building heating systems and emergency generators would be included in the implementation of the Proposed Action.

The Proposed Action would produce emissions from mobile sources during demolition and construction activities and from new stationary sources during operations. Table 3-1 presents the estimated emissions associated with the most intense year of emissions associated with each project and with all projects if they occurred within the same year. It is unlikely construction on the projects would actually occur simultaneously. Appendix B provides detailed information on the construction and demolition elements and quantities associated with each project.

As shown in Table 3-1, the estimated emissions would be below indicators of significance designated as per the Air Force Air Quality EIAP Guide series (i.e., *de minimis* levels) (USAF 2020).

Operations

Although some projects involve replacing existing facilities with new larger facilities, the functionality of each operation would remain basically the same. Therefore, operational emissions would remain similar to baseline emissions for each project. The Proposed Action would not increase staffing levels that would lead to an increase in mobile source emissions. Implementation of Project H would increase emissions from mowing operations by a negligible amount. The repair and construction of sidewalks may encourage more pedestrian activity, which may result in a slight reduction in vehicle emissions, resulting in a positive impact to air quality.

Climate Change Considerations

To serve as a reference point, the estimated GHG emissions were compared against the proposed NEPA GHG threshold indicator for quantitative analysis of 25,000 metric tons of CO_2e per year (refer to Table 3-1). Based on the relative magnitude of estimated GHG emissions, a general inference can be drawn regarding whether the Proposed Action would in any way be meaningful with respect to the discussion regarding climate change. As shown, emissions of GHG would be negligible when compared to the proposed NEPA GHG threshold indicator. This demonstrates that in isolation, additional GHG emissions expected as a result of the implementation of the Proposed Action would have a negligible effect on climate change.

Table 3-1. Estimated Emissions (Maximum Emissions Year by Project)

Project	Emissions in Maximum Emission Year (tons/year)[1]							CO_2e (Metric tons/year)[2]
	CO	Pb	VOC	NO_x	SO_x	PM_{10}	$PM_{2.5}$	
Project A Project A: Repair Small Arms Range	0.4	0.0	0.1	0.3	<0.1	<0.1	<0.1	93
Project B: Construct New Vehicle Maintenance Facility	2.7	0.0	0.7	1.8	<0.1	0.4	0.1	577
Project C1[3]: Construct New Child Development Center	2.8	0.0	1.0	1.9	<0.1	0.4	0.1	582
Project D: Construct New Combat Training Squadron Facility	3.2	0.0	0.8	3.0	<0.1	0.5	0.1	884
Project E: Construct Addition to Aerial Delivery Facility	0.3	0.0	<0.1	0.2	<0.1	<0.1	<0.1	66
Project F: Construct New Munitions Maintenance Shop	0.4	0.0	0.1	0.2	<0.1	<0.1	<0.1	76
Project G: Improve Wilson Lake Spillway	0.3	0.0	0.1	0.3	<0.1	<0.1	<0.1	84
Project H: Demolish Building 670 and Tower	0.3	0.0	<0.1	0.2	<0.1	0.2	<0.1	64
Project I: Construct Sidewalks	0.7	0.0	0.1	0.5	<0.1	0.4	<0.1	184
Project J[3]: Construct Dedicated Sidewalk from Vandenberg Gate	0.7	0.0	0.1	0.5	<0.1	1.0	<0.1	188
de minimis Indicator of Significance (per year)	100	25	100	100	100	100	100	--
Does any Project exceed *de minimis* indicator	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**--**
Cumulative Emissions[4] if all project maximums occurred in same year	12.8	0.0	3.0	8.9	0.0	2.9	0.3	2,798
Do Cumulative Emissions exceed *de minimis*?		**No**	**No**	**No**	**No**	**No**	**No**	**--**

Notes: [1] Rounded to the nearest tenth.
[2] Rounded to the nearest whole number.
[3] For projects with alternatives, the alternative that would generate the greatest emissions is presented; thus, the other alternative would result in less emissions.
[4] Construction emissions reflect the AF completing all construction in each project within one year. However, it is highly likely that some construction may take multiple years and not all projects would take place in the same year. All emissions are unmitigated, (i.e., no dust control, low volatile organic compound paint, or construction equipment idle controls, etc.).

Summary of Project Emissions and Impact

As demonstrated via Table 3-1 and supported by the detailed calculations in Appendix B, implementation of the proposed construction, repair, and demolition activities would generate emissions less than *de minimis* levels. Operational emissions would stay the same or slightly decrease. Estimated GHG emissions would be well below recognized thresholds. Appendix B provides the Record of Air Analysis (ROAA), demonstrating that no further general conformity review is required. Therefore, implementation of the Proposed Action would result in a less than significant impact to air quality and climate change.

3.2.2.2 No Action Alternative

Under the No Action Alternative, no change to the existing conditions would occur, and air emissions would continue at or near their current levels. Therefore, implementation of the No Action Alternative would result in less than significant impacts to air quality and climate change.

3.3 CULTURAL RESOURCES

3.3.1 Affected Environment

The affected environment (or Area of Potential Effect [APE]) for cultural resources includes buildings and other facilities (e.g., apron) that are potentially significant (i.e., listed or officially eligible for the NRHP) and would be altered or demolished by the Proposed Action. It also includes areas outside of the built-up environment that may contain archaeological remains that are potentially significant that would be subject to surface and/or subsurface ground disturbance by the Proposed Action. The NRHP-eligibility of cultural resources is evaluated in consultation with the Arkansas SHPO in the context of regional prehistory and history, including the history of Little Rock AFB.

3.3.1.1 Cultural Resources at Little Rock AFB

Native American sacred sites and traditional properties are identified and evaluated by eight tribes that have a potential historic affiliation with the lands operated by Little Rock AFB, which include the following: Caddo Nation, Cherokee Nation, Choctaw Nation, Jena Band of Choctaw Indians, Muscogee (Creek) Nation, Osage Nation, Quapaw Nation, and Shawnee Tribe (Little Rock AFB 2021a).

Little Rock AFB has been subject to a comprehensive inventory and evaluation of archaeological sites and historic buildings associated with the Cold War. One historic building (Bldg. 258) is officially determined eligible, and one archaeological site (3PU422) is recommended as eligible for the NRHP.

Archaeological Sites. An intensive archaeological survey performed in 1995 covered 5,723 acres on the base (89% of the total acreage of Little Rock AFB) and included subsurface testing in areas with increased potential for yielding remains (Geo-Marine 1997; Little Rock AFB 2021a). Smaller surveys (with subsurface testing) were conducted in 2007 and 2019, including surveys of a cell tower site (<1 acre), training facility (18 acres), and runway replacement (474 acres). In 2020 and 2021, three areas on Little Rock AFB not fully surveyed during 1995 (2,228 acres in total) were subject to a new pedestrian survey with subsurface testing; no additional sites were discovered (EGC/AGEISS 2022). In the fall of 2022, another pedestrian survey of 1,091 acres was conducted.

A total of 43 sites and 18 isolated finds (one of which had been reported in 1984) were recorded during these surveys. Four of the sites/isolated finds are Native American, and the remaining sites are Euro-American (including surface features related to the Arkansas Ordnance Plant). Three sites (3PU422, 3PU444, and 3PU450) were identified as potentially eligible for the NRHP and tested in 1997, but only one Native American/prehistoric site (3PU422) is recommended as eligible. The site is located along an unnamed creek in the southeast area of Little Rock AFB (Geo-Marine 1997: 44–46; Little Rock AFB 2021a: 83–84; EGC/AGEISS 2022: 16–17, Table 1). None of the known archaeological sites are within or adjacent to the proposed project locations associated with the Proposed Action.

Native American Sacred Sites and Traditional Properties. At the present time, no Native American sacred sites or traditional cultural properties (TCPs) have been identified on Little Rock AFB (Little Rock AFB 2021: 90).

Historic Buildings. A total of 794 buildings and other facilities are listed in the real property inventory of Little Rock AFB. Only four facilities and some railroad trackage dating to World War II remain and all of them have been determined not eligible for the NRHP. All other facilities date to the Cold War (1946–1989) or the post-Cold War period (Little Rock AFB 2021a: Table A-2).

In 1997, Building 160 (bomber alert facility), although less than 50 years old at the time, was recommended as eligible to the NRHP under Criterion G ("exceptional importance") in 36 CFR 60.4 for its association with SAC bomber alert operations of the early Cold War. However, a 2001 inventory of 33 Cold War structures determined that Building 160 was not eligible due to loss of "integrity" (Little Rock AFB 2021a: 84–86). Two other structures evaluated in 2001, Building 250 (maintenance hangar) and Building 258 (B-58 aircraft shelter) were recommended as eligible for the NRHP (Geo-Marine 2002). Although Building 250 has lost integrity and no longer is considered eligible, Building 258 retains its eligible status under Criterion A for its association with SAC bomber alert operations of the early Cold War and Criterion C as a rare example of aircraft shelters built during the early 1960s (Little Rock AFB 2021a: 85–87).

In accordance with Section 110 of the NHPA, Little Rock AFB has continued to inventory and evaluate buildings and other facilities on the base in consultation with the Arkansas SHPO as they reach 45 years in age (i.e., approach the 50-years-old threshold for significance evaluation). At present, the Arkansas SHPO has concurred that no buildings constructed prior to 1962 are eligible for the NRHP (Little Rock AFB 2021a: 87).

Buildings and facilities that would be affected by the Proposed Action are listed in Table 3-2. The eligibility status of each building or facility is based on the current ICRMP (Little Rock AFB 2021a: Table A-2). One of the affected buildings (Building 160) was formerly recommended as eligible for the NRHP but has been determined not eligible due to loss of integrity. Three other buildings are less than 50 years old and do not require evaluation at this time, although Building 259 will turn 50 years old during the period of this EA.

Table 3-2. Facilities at Little Rock AFB That Would Be Affected by the Proposed Action

Building No.	Building Name	Year Built	NRHP Eligibility
Bldg. 160	Headquarters Group	1960	not eligible
Bldg. 259	Aerial Delivery Facility	1975	<50 years old
Bldg. 550	Vehicle Maintenance Shop (also Bldg. 459, 553, 554)	1956	not eligible
Bldg. 670	Disaster Prep (and associated tower)	1956	not eligible
Bldg. 1392 / 1393	Range, Small Arms System	1962	not eligible
Bldg. 1710 / 1714	Munitions Maintenance and Inspection	1956	not eligible
Bldg. 1990	Child Development Center	1991	<50 years old
(multiple facility nos.)	Apron & Taxiway	1955–1960	not eligible

3.3.2 Environmental Consequences

3.3.2.1 Proposed Action

The Proposed Action would have no effect on historic properties (i.e., sites or structures either listed on or officially determined eligible for inclusion in the NRHP). None of the buildings or other facilities that would be altered or demolished by projects undertaken as part of the Proposed Action are officially eligible for the NRHP (see Table 3-3). Indirect impacts on cultural resources from visual intrusions would be extremely unlikely. None of the Proposed Actions would result in a population increase. New construction would occur in the context of an active USAF base, where changes in the infrastructure are common.

None of the areas that would be subject to surface and subsurface ground disturbance demolished by projects undertaken as part of the Proposed Action contain archaeological sites that are officially eligible for the NRHP.

To ensure that the Proposed Action does not affect historic properties, Little Rock AFB will follow Standard Operating Procedures (SOP) for project review and unexpected discoveries.

Project Review by CRM. All projects within the scope of the Proposed Action are potentially subject to review by the Arkansas SHPO under Section 106 of the NHPA (Little Rock AFB 2021a: 34–37). The SOP for all such projects entails review by the installation Cultural Resources Manager (CRM). Although based on information available for this Draft EA, no historic properties would be affected by the Proposed Action, two projects have the potential for an effect to a historic property. Project E (addition to aerial delivery facility) would require construction work in the vicinity of Building 258, which is eligible for the NRHP. Project J (sidewalk from Vandenberg Gate to City of Jacksonville) would cause ground disturbance in an area that has been subject to limited archaeology survey.

Table 3-3. Impacts to Historic Properties at Little Rock AFB

Project	Description	Effect to Historic Properties
Project A	Upgrade existing small arms range (Bldg. 1392 / 1393)	No historic properties affected
Project B	Construct new combined vehicle management facility (34,207 sq ft); demolish existing facilities (Bldgs. 459, 550, 553, 554)	No historic properties affected
Project C	Construct new child development center; demolish existing CDC (Bldg. 1990)	No historic properties affected
Project D	Construct new combat training squadron facility; demolish existing CTS (Bldg. 160)	No historic properties affected
Project E	Construct addition to aerial delivery facility (west side of Bldg. 259)	No historic properties affected
Project F	Construct addition to munitions maintenance shop (Bldg. 1710); demolish Bldg. 1714	No historic properties affected
Project G	Improve Wilson Lake spillway (box culvert, weir, pedestrian bridge)	No historic properties affected
Project H	Demolish Bldg. 670 and adjacent tower and parking lot	No historic properties affected
Project I	Construct approx. 2,225 LF of 4-foot-wide sidewalk in various locations on base	No historic properties affected
Project J	Construct dedicated sidewalk from Vandenberg Gate to City of Jacksonville	Northern Alternative area surveyed in 2020 – no discoveries. Southern Alternative has not yet been surveyed.

In a letter dated July 28, 2022, the Arkansas Historic Preservation Program (AHPP) documented they had reviewed the proposed undertaking (the Proposed Action) and that based on the information provided, the AHPP concurred with the 19 AW's finding of no historic properties affected by the proposed undertaking (Appendix A).

Unexpected Discoveries. Although Little Rock AFB has been surveyed for archaeological sites and projects are reviewed prior to execution, there is always the potential for unknown and unanticipated sites to be discovered during any project involving excavation. In the event of an unanticipated archaeological

discovery during construction activities related to the Proposed Action, Little Rock AFB will implement the following SOP: (1) ground disturbing activity in the area of discovery will immediately cease; the Project Manager shall notify the CRM and Security Forces; (2) the CRM will evaluate the finding and, if necessary, enlist the services of a qualified professional archaeologist in order to determine if the archaeological resources are potentially eligible for listing in the NRHP; and (3) if resources are potentially eligible, the CRM will provide notification per the requirements of ARPA and initiate Section 106 consultation as required. After any required archaeological investigations/consultations have been completed, the CRM will notify appropriate departments as to how and when they may resume activity in the area.

Native American Sacred Sites and Traditional Cultural Properties. No Native American sacred sites or traditional properties have been identified within Little Rock AFB. However, consultation with the eight tribes affiliated with the lands operated by Little Rock AFB is underway. Appendix A contains copies of all tribal correspondence.

In the event of an unanticipated discovery of Native American remains or objects of potential concern to the tribes during construction activities related to the Proposed Action, Little Rock AFB will implement the following SOP: (1) construction activities in the area of discovery shall cease (work may continue in other areas). If the discovery appears to contain human remains, NAGPRA stipulates an automatic 30-day work stoppage in the area of discovery; (2) the Project Manager shall notify the CRM; (3) the CRM will arrange to visit the site within 24 hours of the discovery and enlist the aid of a coroner or physical or forensic anthropologist or other qualified professional, to determine if the remains are associated with a recent crime scene, an archaeological site with human remains (non-Native American), or if the remains are of Native American descent, notice will be made by phone, email, and writing to the concerned tribes; (4) if the remains are human the CRM will defer to Security Forces notification procedures for local law enforcement and the coroner/medical examiner.. If the CRM receives notification of an inadvertent discovery of Native American human remains and/or cultural objects, immediate telephone notification will be provided to the Little Rock AFB Commander, SHPO, and the concerned tribes. (Little Rock AFB 2021a: 38–44).

Therefore, implementation of the Proposed Action would result in no adverse effect to cultural resources.

3.3.2.2 No Action Alternative

Under the No Action Alternative, no direct physical or visual impacts to the APE would occur. Existing resources at Little Rock AFB would continue to be managed in accordance with the ICRMP. Therefore, implementation of the No Action Alternative would result in no adverse effect to cultural resources.

3.4 BIOLOGICAL AND NATURAL RESOURCES

3.4.1 Affected Environment

Vegetation. Little Rock AFB is in the Arkansas Valley Section of the Southeastern Mixed Forest Province (AFCEC 2018). These regions are characterized by a mix of deciduous and evergreen forests. The Little Rock Air Force Base Integrated Natural Resources Management Plan (INRMP) (Little Rock AFB 2019a) has mapped the vegetation communities and forest stands across the base and details the general habitat characteristics of each as well as the specific species occurring within the communities. Several vegetation communities occur within the Alternative A1 (Proposed Action) project sites. These communities include deciduous forest, evergreen forest, urban land, open field/grassland, and impoundment (that might support wetlands). These communities are described below.

Deciduous forest. This vegetation community is dominated by deciduous trees, including bottomland hardwoods and oak woods, and/or dense shrubby growth with an open tree canopy. Post oak (*Quercus stellata*) and blackjack oak (*Quercus marilandica*) comprise the dominant plant community in the undeveloped areas across the facility. Associated species include cedar elm (*Ulmus crassifolia*), red oak (*Quercus falcata*), yaupon (*Ilex comitoria*), and deciduous holly (*Ilex decidua*). Eastern red cedar (*Juniperus virginiana*) is the most common invader into this vegetation community. This community occurs within or adjacent to Projects A and G. Deciduous forest occurring on bottomlands and in riparian areas, and the second most common deciduous vegetation community within the base, support hardwood trees including sweet gum (*Liquidambar styraciflua*) and willow oak (*Quercus phellos*). This complex community occurs adjacent to Project C1.

Evergreen forest. This vegetation community is dominated by evergreen trees. The two dominant evergreens within this community include loblolly pine (*Pinus taeda*) and shortleaf pine (*Pinus echinata*). Other associated species within this community include post oak, blackjack oak, white oak (*Quercus alba*), and water oak (*Quercus nigra*). Common understory species include flowering dogwood (*Cornus florida*), yaupon, and American beautyberry (*Callicarpa americana*). This community occurs within or adjacent to Project J.

Urban land. This vegetation community occurs at areas within the base that are largely covered by pavement. If vegetation occurs, it usually is composed of turf and lawn grasses that are frequently mowed. These areas support selective landscaped species of shrubs and trees placed for beautification purposes. Areas that support this vegetation community include the main cantonment area, administrative facility, housing communities, industrial areas, recreational fields, and the golf course. This community type occurs in the high and medium intensity development area along with the developed open space areas. This community occurs within or adjacent to Projects B, C, D, E, F, H, I, and J.

Open field/grassland. This vegetation community occurs in less frequently mowed areas or deforested areas that have been left most unmaintained. This community is dominated by grasses and/or herbaceous plants and may contain open shrubby growth in pockets. Project D occurs in this community.

Impoundments. This community occurs at open water bodies such as lakes and ponds across the base. The Wilson Lake area is an open water reservoir with a spillway. The 2014 Periodic Inspection Report No. 2 (USACE 2014) of the Wilson Lake Dam (Project G) described the dam as an earthen embankment approximately 35-feet high and approximately 400-feet long with a crown width of 24-feet. This impoundment has a maximum pool volume of 623 acre-feet at the top of the dam. The USFWS's Wetland Inventory Mapper shows Wilson Lake classified as a limnetic lacustrine system with an unconsolidated bottom that is permanently flooded at a diked/impounded area (L1UBHh) (USFWS 2022a).

Table 3-4 summarizes the vegetation community and wildlife habitat type at each project area site. Some project areas have several vegetation communities/wildlife habitat types within or adjacent to them.

Table 3-4. Vegetation Communities and Wildlife Habitats

Project Area Site	Vegetation Community/Wildlife Habitat Type
A - Small arms range	Developed open space, deciduous forest (Post oak/blackjack oak)
B - New Vehicle Maintenance Facility	High Intensity Developed, mid-intensity developed, and developed open space
C - New child development center	High Intensity Developed, grassland
D - New Combat Training Squadron Facility	High Intensity Developed, grassland
E - Addition to Aerial Delivery Facility	High Intensity Developed and mid-intensity developed
F - New Munitions Maintenance Shop	Developed open space
G - Improve Wilson Lake Spillway	Open water, deciduous forest (Post oak/blackjack oak), open space
H - Demolish Building 670 and Tower	High Intensity Developed
I - Construct sidewalks	High Intensity Developed, mid-intensity developed, and open space
J - Construct dedicated sidewalk from Vandenberg Gate	High Intensity Developed, Developed open space, evergreen forest (loblolly pine, eastern red cedar), deciduous forest (post oak/blackjack oak), and riparian (sweet gum/willow oak)

Wildlife. Information on wildlife occurring at the Little Rock AFB is provided in the INRMP (Little Rock AFB 2019a). Arkansas once had an abundant and diverse forest until large-scale timber harvesting in the late 1800s occurred with access from the expanding railway lines across the United States. Lumber companies bought up large land systems, cut the timber, and, in many cases, replanted with monocultural, quick-growing species. In the early 1900s, the federal government claimed over a million acres of forests and wetlands, created national parks, and protected the timber from cutting. Little Rock AFB hosts terrestrial wildlife habitat with limited aquatic resource habitat. Numerous baseline wildlife surveys have been conducted at the base for birds, mammals, reptiles, amphibians, fish, insects, crayfish, and aquatic macroinvertebrates. In general, the species occurring at the base are typical of the terrestrial forest and urban settings found in central Arkansas (Little Rock AFB 2019a).

Birds. Common bird species that occur at Little Rock AFB include pine warbler (*Setophaga pinus*), cardinal (*Cardinalis cardinalis*), Carolina wren (*Thryothorus lucovicianus*), blue jay (*Cyanocitta cristata*), hooded warbler (*Setophaga citrina*), eastern towhee (*Pipilo erythrophthalmus*), and tufted titmouse (*Baeolophys bicolor*). Several waterfowl species use the lakes and open water on the base and include Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), and wood duck (*Aix sponsa*).

Mammals. Large, medium-sized, and small mammals occur at Little Rock AFB. Large mammals observed on the base include white-tailed deer (*Odocoileus virginianus*). Medium-sized mammals occurring on the base include coyote (*Canis latrans*), red fox (*Vulpes vulpes*), and grey fox (*Urocyon cineroargenteus*), striped skunk (*Mephitis mephitis*), and raccoon (*Procyon lotor*). Small mammals occurring on the base include short-tailed shrew (*Blarina carolinensis*), golden mouse (*Ochrotomys nuttalli*), cotton mouse (*Peromyscus gossypimus*), and white-footed mouse (*Peromyscus leucopus*).

Reptiles and Amphibians. The most common reptiles at the base include racer snakes (*Coluber sp.*), rat snakes (*Elaphe sp.*), and king snakes (*Lampropeltis sp.*). Common amphibians that occur at Little Rock AFB include dwarf American toad (*Bufo americanus charlessmithii*), northern spring peeper (*Pseudacris crucifer crucifer*), and bullfrog (*Rana catesbeiana*).

Fish. Fish known to inhabit the waters on the installation include stocked game fish species such as channel catfish (*Ictalurus punctatus*), largemouth bass (*Micropterus salmoides*), black crappie (*Pomoxis nigromaculatus*), rainbow trout (*Oncorhynchus mykiss*), and bluegill (*Lepomis macrochirus*) (AFCEC 2018).

Insects, Crayfish, and Macroinvertebrates. According to the INRMP (Little Rock AFB 2019a), more than 25,000 insect specimens have been collected on the installation during multiple surveys. The specimens represented 213 families of insects in 21 orders. In addition to the insect surveys, a crayfish survey was conducted and seven species in five genera were documented (Little Rock AFB 2019a).

Sensitive Species. Information on federally listed species known to occur or with potential to occur on the Little Rock AFB is provided in the INRMP (Little Rock AFB 2019a). In addition to the INRMP, the USFWS's Information for Planning and Consultation (IPaC) on-line database was accessed to determine if any federally listed species could occur on the base (USFWS 2022b). The official USFWS species list is provided in the Biological Assessment presented in Appendix C. Of the four federally listed species identified as having the potential to occur on the base, only one, the monarch butterfly (*Danaus plexippus)*, has been observed. These species are discussed below.

Eastern black rail (*Laterallus jamaicensis ssp. jamaicensis*). This species is listed as threatened. This species occurs in salt and freshwater marshes and in wet meadows. This species has not been observed at Little Rock AFB and habitat for the species is minimal and aerially limited.

Piping plover (*Charadrius melodus*). This species is listed as threatened. This species occurs on wide, flat, open sandy beaches and lakeshores with very little grass or other vegetation. Nesting territories often include small creeks and wetlands. This species has not been historically observed on the base (AFCEC 2018).

Red knot (*Calidris canutus rufa*). This bird is listed as threatened. This species occupies larger wetlands and shorelines of waterbodies and large rivers. This species has not been observed at Little Rock AFB and habitat for the species is minimal and aerially limited.

Monarch butterfly (*Danaus plexippus*). This species is listed as a candidate for listing. This butterfly occurs in open areas with milkweeds (Asclepias sp.), including roadsides, gardens, grassy fields, and agricultural areas (Glassberg 2002). Multiple acres of pollinator habitat (milkweed and others) have been established on base, and the monarch butterfly has been commonly observed in mesic woodlands, xeric woodlands, mesic prairie, man-made habitat, and the Black Jack Drop Zone (Little Rock AFB 2019a) likely using other flowering plants for nectar. It is uncommon in the wetland areas on the base (Little Rock AFB 2019a).

Although they did not occur on the USFWS official species list for this project, according to the INRMP (Little Rock AFB 2019a), several sensitive species have been observed on the base and conservation measures have been identified in the INRMP for the protection of these species and their habitats. These species include the Rattlesnake-master borer moth (*Papaipema eryngii*) and interior least tern (*Sterna antillarum*).

Interior least tern. This species was previously listed as endangered by the USFWS but has been delisted. The State of Arkansas has designated the tern as a rare to uncommon species. This tern prefers nesting in bare or sparsely vegetated sand, shell, and gravel beaches, sandbars, islands, and salt flats associated with rivers and reservoirs. In the absence of natural nesting sites, terns may also utilize manmade sites. According to the AFCEC Environmental Assessment (2018), this species has been observed intermittently nesting on the gravel rooftops of Buildings 450 and 787 at the base. Projects B, E, and H occur within 0.5 miles of known nesting sites. Because the interior least tern has been delisted, consultation with USFWS is

no longer required. However, Little Rock AFB still implements conservation efforts due to protections under MBTA.

Rattlesnake-master borer moth. This species is no longer listed as a candidate for listing on the Endangered Species List, but Little Rock AFB continues to implement conservation efforts when practicable. According to the Conservation Plan (Little Rock AFB 2018), this moth inhabits mesic prairies and associated wetlands with suitable populations of the host plant, rattlesnake master (*Eryngium yuccafolium*). Specifically, the moth has been observed northwest of the airfield at the base and several populations of the host plant have been identified as various locations on the base. None of the proposed projects within the Preferred Alternative occur within known moth habitat or within the known occupation areas.

There is not currently a state law in Arkansas that mandates the protection of wildlife or plant species beyond those covered in the Endangered Species Act of 1973, as amended. The Arkansas Natural Heritage Commission (ANHC) maintains a list of species which it considered to be endangered or threatened in Arkansas. The ANHC encourages appropriate parties to take these taxa into account in environmental planning.

3.4.2 Environmental Consequences

3.4.2.1 Proposed Action

Vegetation and Wildlife. Implementation of the Proposed Action would result in minor impacts to vegetation communities and wildlife. Vegetation communities impacted by the proposed projects would lose small, aerially limited pockets of vegetation readily available across the base. All proposed projects occur in and around existing infrastructure and high intensity development areas. Project G at the Wilson Lake Dam and Spillway would result in the permanent loss of a larger pocket of deciduous forest from the dam face by replacement with concrete and riprap, but due to the steepness of the spillway, this pocket offers limited use by most wildlife.

Wildlife could be temporarily disturbed and displaced due to the increased noise and human activity associated with the proposed projects. These effects would be short-term and would only affect wildlife in the immediate project areas. Wildlife may be impacted temporarily by an increase in light emittance at Project A, but the area of impact is quite limited and those species disturbed by additional light would learn to avoid these aerially limited areas.

Sensitive Species. Only one of the federally listed species provided by the USFWS, the monarch butterfly, may be affected by the proposed projects. None of the current projects are in the vicinity of areas where milkweed has been planted on base. If these plant populations establish in the future, the areas should be avoided, as monarchs lay their eggs on this host plant. Any undisturbed areas that would be impacted by the proposed projects should be surveyed for milkweed prior to disturbance.

The interior least tern could be affected by Projects B, E, and H that occur within 0.5 miles of known nesting sites identified in the INRMP (Little Rock AFB 2019a). Projects involving demolition or exterior improvements or renovations to buildings, particularly activities on or near a gravel roof, should require a pre-construction survey unless the projects occur from September 1 to April 30. Additionally, a pre-construction survey should be conducted in Project Site G for the tern because the bird has been observed at Wilson Lake.

Most of the proposed projects would occur in previously developed areas and would have no potential to affect the known populations of rattlesnake-master borer moths on the base.

No critical habitat for federally protected species occurs in the Preferred Action Alternative project areas.

Indirect effects to wildlife, sensitive species, and vegetation communities might occur under the preferred alternative projects that include the establishment of undesirable weedy species after surficial soil disturbance. However, the preparation and implementation of a weed abatement plan would control the establishment of weedy species within the proposed project areas. Increased light emittance associated with Project A would likely have no impact on species because they are likely deterred from congregating in the area due to noise emitted from gun fire during current operations. Therefore, implementation of the Proposed Action would result in a less than significant impact to biological resources.

3.4.2.2 No Action Alternative

Under the No Action Alternative, none of the Proposed Action projects would be implemented, and the biological and natural resources setting at Little Rock AFB would not be changed from current conditions. No direct or indirect effects or short- or long-term impacts to vegetation, wildlife, or sensitive species would occur under the No Action Alternative as no impact to the vegetation communities or species within the proposed project areas would occur.

Therefore, implementation of the No Action Alternative would result in a less than significant impact to biological resources.

3.5 WATER RESOURCES

Water resources include groundwater and surface water. Evaluation of water resources examines the quantity and quality of the resource and its demand for various purposes. Groundwater comprises subsurface water resources, which are essential to agricultural and industrial activities. Surface water includes lakes, rivers, and streams, all of which are important for ecological, economical, recreational, and health related reasons.

The CWA of 1972 (Public Law [PL] 95-217), the Safe Drinking Water Act of 1972 (PL 93-523) and Amendments of 1986 (PL 99-339), and the Water Quality Act of 1987 (PL 100-4) are the primary federal laws protecting the nation's waters. In addition, several applicable regulations and permits are in place to protect the quality and quantity of water in the U.S. These include National Pollutant Discharge Elimination System (NPDES) Construction Activity General Permit (40 CFR 122-124); NPDES Industrial Permit and NPDES Municipal Separate Storm Sewer System Permit; USEPA, Subchapter D Water Programs (40 CFR 100-145); and USEPA, Subchapter N Effluent Guidelines and Standards (40 CFR 401-471).

3.5.1 Affected Environment

Groundwater

There are no groundwater production wells on the base, and groundwater information is limited to data from monitoring wells. Generally, the groundwater monitoring wells have low yield. Depth to water table varies with depth to bedrock and season. In some locations, the depth to bedrock is very shallow and a seasonal perched water table occurs near the surface (Little Rock AFB 2019a).

The installation and Pulaski County straddles the Sparta-Memphis and Alluvial aquifers. According to the alluvial aquifer depth to water charts, water table ranges from 0 to 30 feet below the surface (Arkansas Natural Resources Commission 2016). Depth the groundwater table varies across the base with depth to bedrock and season.

Surface Water

Little Rock AFB is part of the Arkansas River Basin and the Bayou Meto watershed and has several, smaller tributaries which eventually empty into the Arkansas River. All streams on Little Rock AFB flow into Bayou Meto, located south of the installation. Bayou Meto flows southeast to the Arkansas River, approximately 100 miles downstream from the installation.

Water drains from the base through four outfalls, mostly through open drainage courses and underground storm drains. The northeastern watersheds drain via several unnamed tributaries to Jack Bayou, and the northwestern watershed drains to Cypress Branch, a tributary to Bayou Meto with its headwaters at Little Rock AFB. The other watersheds drain south via Rocky Branch and other unnamed tributaries to Bayou Meto. There are no perennial streams on the base. Intermittent streams primarily sustain flow from fall through early summer and then form small, shallow pools during the dry periods. These pools tend to stagnate and eventually evaporate.

There are several stationary water bodies on the base, with the largest being Pat Wilson Lake (approximately 37 acres). The lake has a total drainage area of approximately 460 acres, about 15 acres of which are located off base. Additionally, there are three ponds within the former golf course and seven small impoundments on the eastern half of the base ranging from 0.2 to 1.2 acres. The impoundments hold varying amounts of water and support limited wetland vegetation. In addition to the impoundments, there are several small ponds (less than 0.5 acres each) that appear to have been created by excavation for soil borrow.

Wastewater

Domestic and industrial wastewater is discharged to Jacksonville Wastewater (JWWU) Utility's Johnson Regional Treatment Facility in Jacksonville, Arkansas. All collected wastewater is discharged for treatment to the City of Jacksonville under the City Permit (JWWU 2018). Discharge rates are typically 0.6 MGD (average) to 0.8 MGD (peak).

Little Rock AFB uses the base's original wastewater system, which was constructed in 1950. The main and lateral system lines are in poor condition. Stormwater continues to fill pumping stations during large rainfall events, causing an overflow of the system. The overall condition of the wastewater system rates as degraded (Little Rock AFB 2016).

Stormwater System

The Proposed Action would require demolition of facilities, construction of new facilities, and additions to existing facilities. Minor, short-term impacts to the stormwater system could be experienced during the demolition and construction activities associated with the proposed projects. The use of sustainable development techniques and natural retention, infiltration, and absorption features to reduce runoff and delay stormwater discharge is expected to result in minor, long-term, beneficial impacts to the stormwater system. Little Rock AFB has a Stormwater Pollution Prevention Plan (SWPPP), a Stormwater Management Plan (SWMP), and an active approach to stormwater management (Little Rock AFB 2021b and 2019b); all of which describe controls and practices for stormwater management.

Little Rock AFB has permits issued by ADEQ (Permit Nos. ARR000000, ARR040000, and ARR150000) and JWWU (Permit No. 87-08-12) to discharge stormwater runoff at four outfall locations. These outfall locations are monitored on an annual basis.

3.5.2 Environmental Consequences

Potential impacts to water resources were evaluated with respect to the extent, context, and intensity of the impact in relation to relevant regulations, guidelines, and scientific documentation. The criteria for evaluating impacts related to water resources include water availability, water quality, loss of a particular resource and/or its functions, and adherence to applicable regulations. An impact to water resources would be considered significant if the Proposed Action would: (1) reduce water availability to or interfere with the supply of existing users; (2) exceed safe annual yield of water supplies; (3) adversely affect water quality or endanger public health by creating or worsening adverse health hazards; (4) threaten or damage unique hydrologic characteristics; or, (5) violate established water resources laws or regulations.

Any material which enters waterways and groundwater affects the quality of the waters on and leaving Little Rock AFB. Materials carried in stormwater runoff from developed areas could include fuel, oil, grease, coolant, and metals which accumulate on pavement from vehicles and aircraft; deicing chemicals applied to roadways, runways, and aircraft; and fertilizers and pesticides applied to yards and other treated surfaces.

All necessary permits, including ADEQ Stormwater Construction General Permit (ARR150000) for stormwater discharges under the existing Little Rock AFB SWPPP, would be obtained prior to construction activities associated with the proposed projects. The USAF would specify compliance with the stormwater discharge permit in all contractor construction requirements. Such requirements may include the following:

- Utilize best management practices (BMP) to design and implement temporary control measures which reduce total suspended solids by 80% during an annual storm event (two year recurrence).
- Route stormwater runoff from impervious surfaces to stormwater retention and drainage areas and/or implement low-impact development (LID) features.
- Implement spill and leak prevention and response procedures, including maintaining a complete spill kit at the project area, to reduce the impacts of incidental releases of vehicle fluids.
- Upon completion of construction/demolition activities, contractors will be required to establish 100% groundcover with 80% density.

3.5.2.1 Proposed Action

Groundwater

No significant impacts to groundwater resources are anticipated to result from implementation of the proposed projects. Construction activities would not require significant amounts of groundwater as most of the water would be used from the base's potable lines. No existing wells would be removed and no additional wells would be installed. Potential impacts to groundwater during construction include contamination from minor spills or leaks associated with construction vehicles and machinery. Adherence to the measures described in the spill prevention plans would minimize the potential for spills and guide the quick clean-up of any spills that could occur.

Surface Water

Potential indirect impacts from proposed construction activities could result in additional sediment loads being transported to surface waters near the proposed project areas. Implementation of the proposed projects would result in additional impervious surfaces, which could cause a minor increase sheet flow and stormwater runoff. The increased runoff can be managed by appropriately designed conveyance structures in accordance with site-specific engineering standards. Implementing features that manage surface water

runoff into the design would also help avoid or minimize conflicts with city, county, state, or federal regulations and could help prevent adverse impacts to adjacent properties and/or the project area itself.

Projects I and J include the construction of sidewalks. Sidewalks would meet ADA requirements and possible drainage installations. Some locations would overlap the floodplain and would require drainage and small bridges to span swales. Existing drains would be crossed, but not rerouted.

Improvements to the Wilson Lake Spillway as part of Project G may result in a beneficial impact to surface water quality. A more regulated and consistent flow downstream of the dam would have a beneficial impact on water quality downstream.

The Proposed Action would have short- and long-term less than significant adverse effects on water resources, and no indirect effects would occur. Adherence to Little Rock AFB's SWPPP (Little Rock AFB 2021b) and Little Rock AFB's Hazardous Waste Management Plan (Little Rock AFB 2021c) would further minimize the potential for impacts to water resources. Any potential impacts to surface or ground water would be prevented or minimized by implementing permit-related erosion best management practices (BMP). Therefore, implementation of the Proposed Action would result in less than significant impact to water resources.

3.5.2.2 No Action Alternative

Under the No Action Alternative, no effect to water resources would be expected. New facilities and infrastructure would not be constructed, and Little Rock AFB would not be altered from its current state. Any soil erosion that currently occurs on the base due to stormwater runoff would continue at the same rate and would be maintained in accordance with the procedures outlines in the existing Little Rock AFB SWPPP. Potential impacts resulting from taking no action to improve the Wilson Lake Spillway may result in increased degradation to water quality downstream and could present a potential safety issue if a potential dam failure could ensue. No additional activities would be performed that would impact water resources.

Therefore, implementation of the No Action Alternative would result in a less than significant impact to water resources.

3.6 FLOODPLAINS, WETLANDS, AND COASTAL ZONE MANAGEMENT

Floodplains

Floodplains are defined by the U.S. Geological Survey (USGS) as, "the flat or nearly flat land along a river or stream or in a tidal area that is covered by water during a flood." These areas must be reserved to discharge the 100-year flood without cumulatively increasing the water surface elevation more than a designated height. When a floodplain is established, no additional obstruction (e.g., a building) should be placed in the floodplain that will increase the 100-year floodwater surface elevation. EO 11988 requires all Federal agencies to provide leadership and take action to reduce the risk of flood loss; to minimize the impacts of floods on human safety, health, and welfare; and to restore and preserve the natural and beneficial values served by floodplains, specifically the 100-year floodplain, in managing Federal lands and conducting Federal activities and programs affecting land use. Air Force installations have the responsibility to determine if proposed actions will occur in a floodplain, evaluate and document the potential effects, and consider alternatives to avoid these effects and incompatible development in the floodplain.

Wetlands

The U.S. 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. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 CFR 328). Wetlands are an important natural system because of the diverse biological and hydrologic functions they perform. These functions include water quality improvement, groundwater recharge, pollution treatment, nutrient cycling, provision of wildlife habitat and niches for unique flora and fauna, storm water storage, and erosion protection. As a result, wetlands are protected as a subset of the "waters of the United States" under Section 404 of the CWA. The term "waters of the United States" has broad meaning under the CWA and incorporates deep water aquatic habitats and special aquatic habitats (including wetlands). "Jurisdictional" waters of the United States are areas regulated under the CWA and also include coastal and inland waters, lakes, rivers, ponds, streams, intermittent streams, vernal pools, and "other" waters that if degraded or destroyed could affect interstate commerce.

Section 404 of the CWA authorizes the Secretary of the Army, acting through the USACE, to issue permits for the discharge of dredged or fill materials into the waters of the United States, including wetlands. Therefore, even an inadvertent encroachment into wetlands or other waters of the United States resulting in displacement or movement of soil or fill materials has the potential to be viewed as a violation of the CWA if an appropriate permit has not been issued by the USACE. In addition, wetlands are protected under EO 11990 (43 Federal Register 6030) the purpose of which is to reduce adverse impacts associated with the destruction or modification of wetlands. Woolpert (1993) conducted an inventory of the wetlands at Little Rock AFB. The wetlands survey was updated in 1997 by FTN Associates, and in 2004 by the USACE, and reevaluated in 2007 by USACE. There are 76 individual wetland areas on base with a combined total of 70.4 wetland acres (Map C-7; USACE 2007). Details on the wetlands at Little Rock AFB can be found in the Wetlands Reevaluation Survey (USACE 2007; Section 15).

The State of Arkansas Department of Energy and Environment – Environmental Quality is responsible for administering Section 401 of the CWA. Section 401 of the CWA. Anyone planning to conduct any activity in waters of the State, which might cause a violation of the Arkansas Water Quality Standards, must obtain authorization from DEQ prior to entering waters of the State. CWA Section 401 requires state water quality certifications prior to the issuance of federal permits and licenses to ensure that proposed projects will not violate state water quality standards. Applicants must apply for and receive a CWA Section 401 Water Quality Certification and Short-Term Activity Authorization prior to construction (ADEQ 2022).

Coastal Zone Management

The Coastal Zone Management Act (CZMA) was promulgated to control nonpoint pollution sources that affect coastal water quality. The CZMA of 1990, as amended (16 USC 1451 *et seq.*) encourages States to preserve, protect, develop, and, where possible, restore or enhance valuable natural coastal resources such as wetlands, floodplains, estuaries, beaches, dunes, barrier islands, and coral reefs, as well as fish and wildlife using those habitats. According to the National Oceanic and Atmospheric Administration (NOAA) Coastal Flood Exposure Mapper Website, no coastal flood exposure zones occur in Arkansas (NOAA 2022).

3.6.1 Affected Environment

Floodplains

A 100-year floodplain survey using one-foot contours was completed for Little Rock AFB in 2012 according to the INRMP (Little Rock AFB 2019a). Floodplains on the base encompass 865 acres and are limited to areas directly surrounding streams and lakes. The northern areas of Little Rock AFB, which contain the flightline, are flatter and lower than the rest of the base and, therefore, are susceptible to flooding. Due to area geographic relief, the 500-year floodplain in the project areas closely resembles the 100-year floodplain. Projects G, I, and J may occur within or adjacent to the mapped 100-year floodplains on the base.

Wetlands

Several wetland inventories of the Little Rock AFB have been conducted since 1993. According to the INRMP (Little Rock AFB 2019a), in 2007, USACE listed 76 wetland sites which range in size from 0.1 to 11.6 acres, totaling 70.4 acres. These sites are forested, forested (recently timbered), emergent, and shrub-scrub. Most of the wetlands are less than one acre in size, and they rarely contain a diverse aquatic regime or plant diversity. Project G at Wilson Lake Spillway and Project J at a swale near the southeastern edge of the base occur within or adjacent to mapped wetland sites at Little Rock AFB.

Coastal Zones

The Proposed Action would have no impacts on coastal zones as Arkansas is not within the coastal zone management area.

3.6.2 Environmental Consequences

EO 11988 requires the USAF to avoid, to the extent practicable, any possible long- and short-term, adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development when there is a practicable alternative.

3.6.2.1 Proposed Action

Floodplains. During the base planning, floodplains were identified and avoided where possible. However, due to the extent of floodplains on Little Rock AFB, some floodplain impacts were unavoidable. Projects G, I, and J occur within or adjacent to the mapped 100-year and 500-year floodplains on the base. Project G involves the improvement of the Wilson Lake Spillway needed to bring Wilson Lake into compliance with existing regulations and standards to minimize the risk of flooding due to recent residential construction downstream, and the floodplain cannot be avoided during improvements associated with the project because Wilson Lake and the spillway are located in the floodplain. Project G would have a net zero impact to the floodplain because the proposed maintenance and operations activities identified for this project would occur within the existing footprint. Under Project I, improvements to the sidewalks must occur in some locations within the floodplain to ensure compliance with the Americans with Disability Act (ADA), and due to the existing layout of the roadway system on base, there are no locational alternatives. Project I would have a minimal impact to the floodplain from the construction of impervious sidewalks, but the impact would be limited. Similarly, under Project J, sections of both the north side and south side of Vandenberg Boulevard along the proposed paths of J1 and J2 occur within the floodplain but impacts from the construction of an impervious sidewalk would be minimal. There are no locational alternatives to achieve the desired objective. Small bridges would be constructed in order to avoid the existing

swales/drainages. None of the other proposed projects are in the 100-year floodplain and no other impacts to floodplains are anticipated to result from the implementation of the proposed projects.

Wetlands. Two proposed projects occur within portions of the installation known to contain wetlands. All other projects occur in developed portions of the installation with no potential for wetland impacts. Project G involves the improvement of the Wilson Lake Spillway, and given the nature of this project, wetlands cannot be avoided as they are already created. Project G would occur mostly within the Post oak/blackjack oak deciduous forest habitat type. The area of the spillway has not been mapped as a wetland community, but a small pocket below the spillway within Wilson Creek has been mapped as a wetland (Little Rock AFB 2019a). Depending on the limits to the work at the bottom of the spillway, wetlands may be temporarily impacted or permanently lost. Likewise, with Project J, wetlands have been mapped along a swale or drainage near the Vandenberg Gate (Little Rock AFB 2019a). There are no locational alternatives to achieve the desired objective. Small bridges would be constructed in order to avoid the existing swales/drainage. A Wetland Delineation should be conducted at each location prior to the proposed work to determine the extent of impacts to Waters of the United States, including wetlands. Impacts to wetlands should be avoided, if possible, minimized if avoidance is not possible, and mitigated if impacts meet the threshold for compensation. If impacts to Waters and/or wetlands are realized as part of the proposed projects, a CWA Section 404 Permit may be required and would be obtained from the USACE prior to construction, along with a CWA Section 401 Water Quality Certification and Short Term Activity Authorization from the State of Arkansas. Maintenance and operations may be permitted under a Nationwide #3 permit.

According to the INRMP, water resources would be managed through conservation and impact avoidance. The following guidelines would be implemented to ensure compliance and to protect and enhance water resources at Little Rock AFB.

- Consult with the USACE prior to initiating projects with the potential to disturb water resources.
- Apply for an appropriate permit when regulated waters, including wetlands and associated buffers, will be impacted.
- Do not allow vehicles within known wetland areas.
- Restrict vehicles from within 30 feet of water resources except where established crossings and roads exist.
- Maintain riparian management zone (RMZs) around water resources, including at least 100-foot vegetated buffer along streams where practicable.
- Implement management controls to limit unavoidable erosion with the RMZs.
- Avoid disturbance of wetlands and aquatic habitats where practicable.
- Manage invasive species to promote desirable native species.
- Plan development to avoid wetland and floodplain impacts to the maximum extent possible and mitigate unavoidable impacts on wetland and floodplain functions.
- Review operations and maintenance programs that potentially affect water resources and develop procedures and guidelines to avoid the loss of function.
- Do not enhance wetlands or other water resources in the Air Operations Areas (AOA) and ensure any mitigation occurs outside the AOA.

Therefore, implementation of the Proposed Action would result in a less than significant impact to floodplains, wetlands, or coastal zones.

3.6.2.2 No Action Alternative

Under the No Action Alternative, no effect to floodplains, wetlands, or coastal zones are expected. New facilities and infrastructure would not be constructed, and Little Rock AFB would not be altered from its current state. Therefore, implementation of the No Action Alternative would result in a less than significant impact to floodplains, wetlands, or coastal zones.

3.7 GEOLOGY AND SOILS

3.7.1 Affected Environment

The prevalent bedrock in the vicinity of Little Rock AFB is generally level-bedded sandstones, and shales of the early Paleozoic era. The series of steep sided ridges that occur north of the base are indicative of localized faulting and folding which tilted the bedrock. Variable erosion of the interbedded layers of bedrock formed the narrow ridges. The Soil Survey of Pulaski County, Arkansas (Haley et. al., 1975) generally describes the soils of the base and much of the northern third of Pulaski County as soils formed in material weathered from predominantly acid sandstone and shale, and in valley fill washed mainly from local highlands. Two soil associations are identified on the base. The northern half of the base is the Leadvale-Guthrie-Linker association. These soils range from poorly drained to well drained, level to gently sloping, deep and moderately deep, loamy soils in valleys and on tops of low mountains. The Linker-Mountainburg association occupies the southern half of the base. It is described as typically well-drained, gently sloping to steep, moderately deep and shallow, loamy, and stony soils on hills, mountains, and ridges. Soils throughout the base are low in organic matter and medium to very strongly acidic, owing to the sandstone and shale parent material from which most of them were derived (Haley et al. 1975; Map C-6). A description of soils within the project areas is provided in Table 3-5.

Table 3-5. Soils within Project Areas

Project	Map Unit Name and Texture	Acres in total AOI	Percent of Total AOI	Slope (Percent)	Hydric	Drainage
J	Amy silt loam, (Am)	37.6	11.70%	0-1	Yes	Poorly drained
J	Amy complex (ApB)	18	5.60%	Undulating	Yes	Poorly drained
J	Amy-Urban land complex (Au)	1.7	0.50%	0-1	Yes	Poorly drained
A	Guthrie-Leadvale complex (GeB)	1.3	0.40%	0-3	Yes	Poorly drained
J	Leadvale-Urban land complex (LdC)	11.6	3.60%	3-8	No	Moderately well drained
J	Leadvale silt loam (LeB)	9	2.80%	1-3	No	Moderately well drained
J	Leadvale silt loam (LeC)	26.8	8.30%	3-8	No	Moderately well drained
C, C1, J	Linker gravelly fine sandy loam (LkC)	11.9	3.70%	3-8	No	Well drained
C, C1, G	Linker-Urban land complex (LnC)	11.3	3.50%	3-8	No	Well drained

Project	Map Unit Name and Texture	Acres in total AOI	Percent of Total AOI	Slope (Percent)	Hydric	Drainage
A	Linker-Mountainburg association, rocky (LRE)	0.2	0.00%	12-25	No	Well drained
G	Mountainburg-Urban land complex (MuD)	12.2	3.80%	3-12	No	Well drained
J	Tiak fine sandy loam (TaB)	15.8	4.90%	1-3	No	Moderately well drained
F, J	Tiak-Urban land complex (TuC)	31.1	9.70%	3-8	No	Moderately well drained
A, B, C2, D, E, J	Urban land (Ut)	130	40.40%	NA	No	NA
G	Water (W)	3.2	1.00%	NA	NA	NA

3.7.2 Environmental Consequences

This section discusses potential impacts to soil resources located within the footprints of the proposed projects. Impacts to soils can result from disturbances (e.g., grading during construction activities) that expose soil to wind or water erosion. Potential for soil erosion and the limitations of soil for construction were considered when evaluating potential impacts to soils. Generally, impacts can be avoided or minimized if proper construction techniques, erosion control measures, and structural engineering designs are incorporated into project development.

3.7.2.1 Proposed Action

Under the Proposed Actions, construction and demolition activities would not appear to affect geological features, as the areas are currently developed with buildings, parking spaces, roads, and landscaping. Erosion controls (such as straw wattles, storm drain protection, erosion barrier, etc.) would be implemented during and after construction activities to minimize the potential for erosion from the project area.

The Little Rock AFB Integrated Solid Waste Management Plan (ISWMP) (Little Rock AFB 2022e) encourages the minimization of construction and demolition related waste and states that excess soil from construction areas has been used to reclaim former borrow areas and to replenish eroded soils in barren areas. The Proposed Action would follow the applicable measures in the ISWMP. Therefore, implementation of the Proposed Action would result in a less than significant impact to geology and soils.

3.7.2.2 No Action Alternative

Under the No Action Alternative, no change to the existing conditions would occur. Existing soil conditions would remain. Therefore, implementation of the No Action Alternative would result in a less than significant impact to geology and soils.

3.8 NOISE AND VIBRATION / ACOUSTIC ENVIRONMENT

Noise is defined as any sound that is undesired by the recipient and typically includes sounds not present in the natural environment, such as sounds emanating from aircraft; highways; and industrial, commercial,

and residential sources. Noise generally interferes with normal activities or otherwise diminishes the quality of the natural environment. Noise may be intermittent or continuous, steady or impulsive, stationary or transient.

A Noise Analysis and Technical Report was prepared for this EA, examining the current conditions and predicting the impacts from demolition/construction and renovation activities. This technical report is contained in Appendix D; a summary of this technical report and its conclusions are provided in this section.

3.8.1 Affected Environment

For Little Rock AFB, noise-sensitive land uses were identified (Appendix D). Noise-sensitive land uses include:

- Nearby residential areas
- Schools
- Hospitals
- Hotels/motels
- Churches/cemeteries
- Libraries
- Public Parks

Little Rock AFB is generally consistent with a suburban setting. Aircraft noise is generally the dominant noise source and is heaviest along the Little Rock AFB flightline to the north. Other noise sources in the area include mobile sources (such as personal and commercial vehicles) and stationary sources (such as heating, ventilation, and air conditioning units attached to buildings). Vehicle traffic and associated noise is heaviest along U.S. Highway 167, which borders Little Rock AFB to the southeast.

Locations on Little Rock AFB near the flightline may be affected by aircraft noise. These areas may experience aircraft noise levels in excess of 65 dBA, albeit for short periods of time. Baseline sound levels were measured at representative locations at Little Rock AFB that are not typically affected by aircraft noise. Sound levels were measured using an Extech Instruments Model 407736 digital sound level meter, which meets American National Standards Institute S1.4-1983 and International Electrotechnical Commission 60651 Type II standards. The meter's internal calibration feature was checked prior to obtaining measurements at each location, and the meter was operated on the A-weighting scale with slow response using a porous windscreen.

- Project G area, on Dam Spillway = 42 dbA (November 16, 2021, 10:58 AM)
- Project G area, near stream = 55 dbA (November 16, 2021, 10:56 AM)
- Project I, near Building 670 = 49-54 dbA (November 16, 2021, 8:37 AM)

3.8.2 Environmental Consequences

3.8.2.1 Proposed Action

Under the Proposed Action, demolition/construction activities and renovation activities associated with installation development activities would occur. These activities would be accompanied by a conservatively predicted short-term noise level increase to approximately 80.2 dBA at 100 feet from the source and 67.4 dBA at 500 feet from the source (comparable to traffic sound levels from a nearby freeway). The increase in noise levels in the vicinity of the construction activities would be short-term but noticeable. As the distance from the source is increased, the noise levels attributable to the demolition/construction activities continue to decrease as they approach existing background sound levels.

Renovation activities would be accompanied by a conservatively predicted short-term noise level increase to approximately 77.6 dBA at 100 feet from the source and 63.7 dBA at 500 feet from the source (comparable to traffic sound levels from a nearby freeway).

The perceived impacts from the increase in noise levels would depend on the receptor and site-specific conditions (including sound shielding). The predicted increases in noise levels would be consistent with typical urban construction projects, activities could be scheduled for normal daytime business hours, and proper equipment maintenance and noise shielding would minimize noise level increases from construction activities. Sound levels, in the immediate vicinity of the construction activities averaged over an entire day may approach the USEPA-recommended noise level standards.

Demolition/construction activities would include vibration-producing activities (such as excavation, grading, basement excavation, and clearing). Depending on the specific demolition/construction equipment used and operations involved, short-term increases in ground vibration may result. The increase in vibration levels in the vicinity of the construction activities would be short-term but noticeable. Activities would be limited to daytime hours and would be anticipated to be a minor disturbance to neighboring receptors.

Demolition/construction-related noise impacts would be adverse, short-term, and potentially moderate in magnitude (approaching USEPA threshold levels), depending on the receptor type and proximity to the project location. Demolition/construction-related vibration impacts would also be adverse, short-term, and potentially moderate in magnitude, depending on the receptor type and proximity to the project location.

Routine operations at Little Rock AFB would not significantly increase sound levels from existing background levels. New facilities could be designed to position and incorporate sound shielding for stationary noise-generating equipment (such as refrigeration units). Traffic-related noise levels may increase in the vicinity of the proposed new facilities but would not be expected to increase disproportionately from current levels typical of urban settings. Routine operation would not be expected to increase vibration levels.

Operation-related noise impacts would be minor. Operation-related vibration impacts would not be expected. Therefore, implementation of the Proposed Action would result in a less than significant impact to noise and vibration.

3.8.2.2 No Action Alternative

Under the No Action Alternative, installation development activities would not occur, and the existing facilities would continue to be utilized. No significant changes to current noise levels would occur. Therefore, implementation of the No Action Alternative would result in a less than significant impacts to noise and vibration.

3.9 LAND USE AND AESTHETICS

Land use is defined by the physical and functional arrangement of and interrelationships between structures, transportation systems, utilities, uses, and open lands. Human decisions and actions create, influence, and are subject to these physical and functional systems.

Land use generally refers to the management and use of land by people. The attributes of land use include general land use patterns, land ownership, land management plans, and special use areas. General land use patterns characterize the types of uses within a particular area. Specific uses of land typically include residential, commercial, industrial, agricultural, military, and recreational. Land use also includes areas set aside for preservation or protection of natural resources, wildlife habitat, vegetation, or unique features.

Management plans, policies, ordinances, and regulations determine the types of uses that protect specially designated or environmentally sensitive uses.

For the purposes of this land use analysis, the Region of Interest for the Proposed Action and No Action Alternative includes the land area inside the boundary fence of Little Rock AFB with the exception of project J which lies outside of the boundary fence but is within Little Rock AFB property. This land use analysis does not consider land outside this definition because none of the proposed projects would result in any land use changes outside of Little Rock AFB property.

3.9.1 Affected Environment

Land use at Little Rock AFB is divided into 12 categories in the Installation Development Plan (IDP) (Little Rock AFB 2016). The 12 categories and the typical facility types and uses found in each category are listed in Table 3-6 and presented on Figure 3-1. Facilities and operations at Little Rock AFB are typically grouped by functional areas and land use categories. The airfield is in the northern portion of the installation, with functionally related uses (i.e., airfield operations and maintenance [O&M]) located directly adjacent to the south. Most housing uses are located in the southern portion of the installation near outdoor recreation and community land uses.

Following USAF guidance, five primary planning districts along with two sub-districts were created during the Little Rock AFB Vision Workshop (Little Rock AFB 2016). The five planning districts are: Flightline and Maintenance District, Air National Guard District, Center of Excellence, Industrial Support District, and Community Partnership District (includes Housing Sub-District and Academic Sub-District). Each planning district is based on framework plan elements, relationships to the existing transportation network, and established land use patterns. Within these planning districts future planning areas are defined, where appropriate, to focus future analyses or development studies. Permitted facilities or land uses in each planning district and future planning area that allow development flexibility while maintaining land use compatibility are identified in Table 9.2 of the IDP (Little Rock AFB 2016).

Table 3-6. Land Use Categories and Typical Facilities/Features

Land Use Category	Typical Facilities/Features
Administration	HQ, security operations, office space, training space
Airfield	Runways, taxiways, aprons, overruns
Airfield	Clearance Areas immediately adjacent to airfield pavements including the Clear Zone
Airfield O&M	Hangars, aircraft maintenance units, squadron operations, tower, fire station
Community Commercial	Base exchange, commissary
Community Service	Child development center and chapel
Housing – Accompanied	Family housing (privatized)
Housing – Unaccompanied	Airmen housing, visitor housing – VQ, temporary lodging facilities
Maintenance	Munitions storage, fuels storage, maintenance shops, warehousing
Medical / Dental	Medical center, pharmacy
Open Space / Buffer Zone	Conservation areas, buffer space
Outdoor Recreation	Outdoor pool and courts, picnic areas, athletic fields and golf course

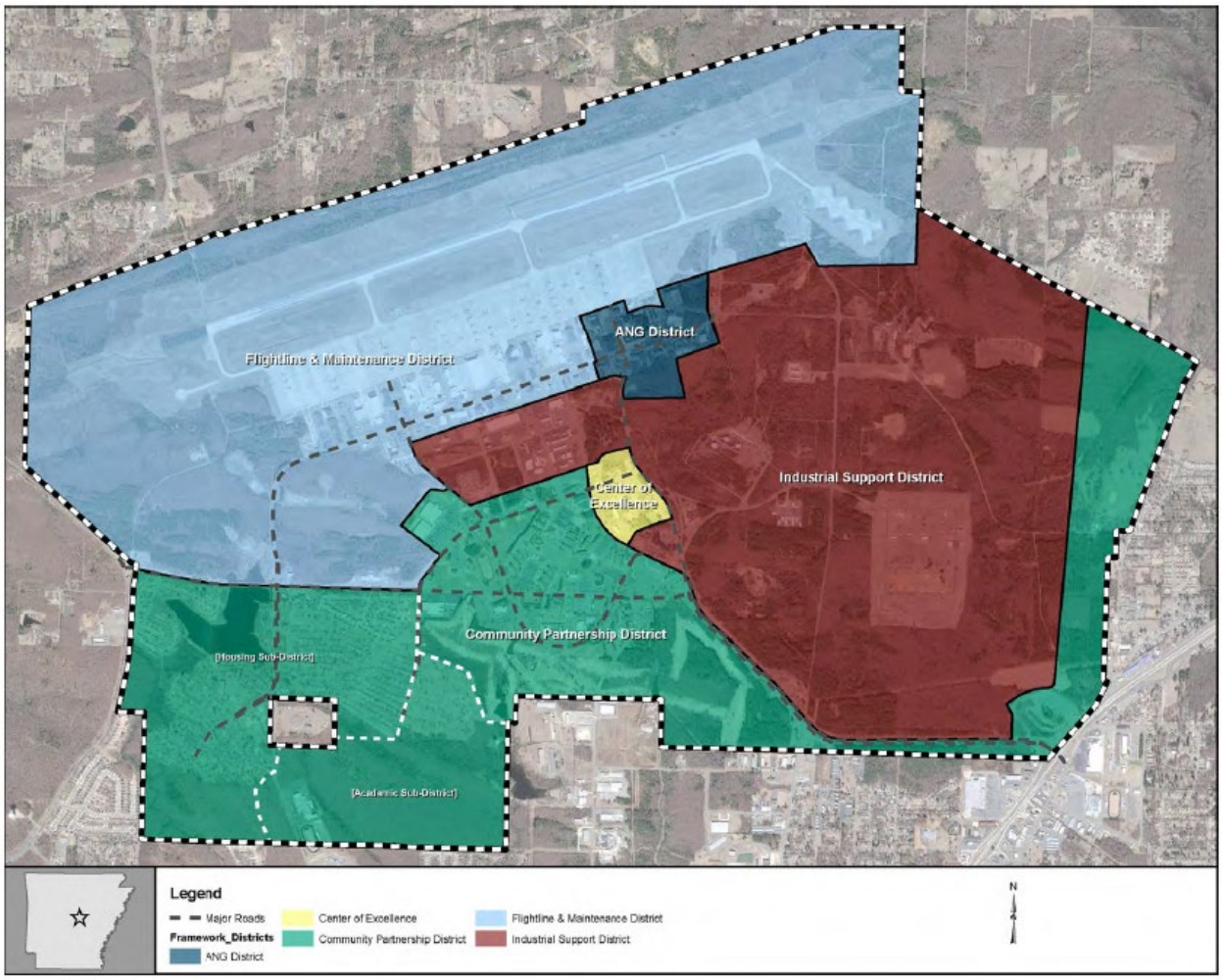

Figure 3-1. Existing Land Use at Little Rock AFB (Little Rock AFB 2016)

3.9.2 Environmental Consequences

3.9.2.1 Proposed Action

Potential impacts to land use are evaluated with respect to the extent, context, and intensity of the impact in relation to relevant regulations, guidelines, and scientific documentation. The methodology to assess impacts to individual land uses requires identification of those uses and determination of the degree to which they would be affected by each action. The significance of potential land use impacts is based on the level of land use sensitivity in affected areas. In general, land use impacts would be significant if they would:

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

The majority of the proposed facility construction projects would result in no changes to land use. Proposed projects that could result in changes to land use include Project H (from Administration to Open Space). Project H includes the demolition of Building 670, the adjacent tower and parking lot. The resulting surface would be graded to match the surrounding level and seeded with approved vegetation, which would then be maintained (mowed).

The USAF has not identified any significant, adverse impacts to land use that would result from implementation of any of the proposed projects. The majority of the proposed projects would result in no change to existing land use designations for the potentially affected areas, or the change would be negligible, and the new land use would be compatible with the adjacent land uses. Additionally, the proposed projects would not have any specific land use restrictions within the applicable planning districts and future planning areas as defined in the IDP (Little Rock AFB 2016).

The Proposed Actions are not predicted to result in significant adverse aesthetic impacts. All Proposed Actions include design principles to be implemented for new/renovated facilities, and includes sustainable design, defensive design, land prevention, low-impact development, and landscaping elements. Adherence to these design principles would provide consistent and aesthetically appealing campus. Therefore, implementation of the Proposed Action would result in a less than significant impact to land use and aesthetics.

3.9.2.2 No Action Alternative

Under the No Action Alternative, there would be no additional land use impacts beyond the scope of normal conditions and influences within the land use region of interest. None of the proposed facility and infrastructure construction projects or demolition projects would be implemented, and the existing land use designations at Little Rock AFB would remain unchanged. Facilities may continue to degrade making them less suitable for USAF mission use (e.g., continued degradation of the shooting range). Therefore, implementation of the Proposed Action would result in a less than significant impact to land use and aesthetics but could present a negative impact.

3.10 INFRASTRUCTURE AND UTILITIES

The utility systems described and analyzed include potable water, wastewater, electricity, natural gas, stormwater, and solid waste. The description of each utility system focuses on existing infrastructure, currant usage, and any predefined capacity or limitation as set forth in permits or regulations.

3.10.1 Affected Environment

Potable Water

The City of Jacksonville supplies potable water to Little Rock AFB from Lake Winona and Lake Maumelle. The supply capacity from the City of Jacksonville is 3.2 million gallons per day (average) to 3.94 million gallons per day (peak). The potable water is stored in a primary, 1.35-million-gallon, ground-level storage tank and two secondary, 30,000-gallon tanks used in times of peak demand. Five centrifugal pumps transport water from the primary water storage tank to the installation's water distribution system. Little Rock AFB's target discharge pressure is 55 pounds per square inch (psi) (Little Rock AFB 2016). The overall condition of the Little Rock AFB potable water system is rated as adequate (Little Rock AFB 2016).

Although the golf course closed in 2019, irrigation ponds on the Little Rock AFB golf course were the primary source of water for irrigating the golf course prior to closing. Additional water form Wilson Lake or a potable water line was used as necessary. Golf course irrigation no longer occurs.

Wastewater

Domestic and industrial wastewater at Little Rock AFB is discharged to JWWU's Johnson Regional Treatment Facility. The treatment facility has a maximum design capacity of 30.0 million gallons per day and averages less than 4.5 million gallons per day of treatment. The Little Rock AFB sewer system is a gravity collection system supported by 20 lift stations. Little Rock AFB typically discharges 0.6 million gallons per day (average) to 0.8 million gallons per day (peak).

Little Rock AFB is still using the base's original wastewater system, which was constructed in 1950. The main and lateral system lines are in need of extensive replacement to prevent poor joints between piping. Stormwater continues to fill pumping stations during large rainfall events, causing an overflow of the system. The overall condition of the Little Rock AFB wastewater system is rated as degraded (Little Rock AFB 2016).

Electricity

Entergy Corporation provides electricity to Little Rock AFB via a 13.8-kilovolt switch station that distributes power throughout the installation thought four feeders. The base has backup power generators that support only mission essential facilities. The electrical system has a total power capacity of 45 megawatts or 394,200 megawatt-hours and a current demand of approximately 85,861 megawatt-hours.

Many of the electrical power poles on the installation are more than 50 years old. Future plans include the transitions of overhead power lines to underground power lines to the system up to the transformers. The overall condition of the Little Rock AFB electrical distribution system is rated as degraded (Little Rock AFB 2016).

Natural Gas

Summit Utilities provides natural gas to Little Rock AFB via one primary connection located at the southern boundary of the installation. Natural gas is distributed throughout the installation through approximately 127,000 feet of upgraded polyethylene piping and 4,000 feet of steel piping, originally installed in the 1950s. The natural gas system at Little Rock AFB is rated for the maximum allowable operating pressure (60 pounds per square inch gage [psig]). The natural gas capacity at Little Rock AFB is 275,000 cubic feet per hour, with a current demand of 228,892 cubic feet per hour (Little Rock AFB 2016). The system has adequate capacity to meet the natural gas demands during regular, peak, and emergency operations. However, it is estimated that approximately 10 percent of the installation's natural gas infrastructure has exceeded its useful life. The overall condition of the Little Rock AFB natural gas distribution system is in good condition.

Stormwater System

The stormwater drainage system at Little Rock AFB consists of storm sewers and various water features (i.e., ditches, creeks, culverts, retentions basins, and swales). Stormwater from the installation flows into secondary streams: Cypress Branch to the west, and Jack's Bayou to the east, and Rocky Branch to the south. Stormwater runoff on the installation primarily drains to the south.

The Proposed Action would require demolition of facilities, construction of new facilities, and additions to existing facilities. Minor, short-term impacts to the stormwater system could be experienced during the

demolition and construction activities associated with the proposed projects. The use of sustainable development techniques and natural retention, infiltration, and absorption features to reduce runoff and delay stormwater discharge is expected to result in minor, long-term, beneficial impacts to the stormwater system. Little Rock AFB has a SWPPP, a SWMP, and an active approach to stormwater management (Little Rock AFB 2021b and 2019b); all of which describe controls and practices for stormwater management.

Solid Waste Management

Solid waste at Little Rock AFB is managed in accordance with the installation's ISWMP (Little Rock AFB, 2022e), which documents the installation's solid waste management program and plan to meet the requirements of Air Force Manual (AFMAN) 32-7002, *Environmental Compliance and Pollution Prevention*.

Little Rock AFB contracts with a commercial waste hauler for pick up and disposal of municipal solid waste (MSW). The installation has a recycling program. Yard waste from the housing area is collected once per week by the solid waste contractor and transported off base to American Composting for appropriate composting. MSW from Little Rock AFB is transported to the Two Pine Landfill, which has a projected life expectance of 10 additional years (through approximately 2032) (ADEQ 2008). Debris from specific construction, demolition, renovation, and maintenance projects is the responsibility of the contractor performing the work.

3.10.2 Environmental Consequences

Effects to utility infrastructure from the proposed projects were evaluated based on the potential for changes to the existing levels of service and additional needs for water, energy, and natural gas; wastewater systems; and solid waste availability.

The Proposed Action was used to determine impacts to infrastructure capacities and conditions. Some of the proposed projects would require changes to the existing infrastructure at Little Rock AFB. All infrastructure utility upgrades would comply with energy efficiency and sustainable development mandates.

3.10.2.1 Proposed Action

Potable Water

Projects B, C, D, E, and F involve the construction of a facility and would require new potable water lines to connect to tie-in points and the existing base distribution system. Projects B, C, D, F, and H would include the demolition of buildings. Potable water lines would be properly disconnected. Minor, short-term impacts and interruptions could be experienced during implementation of the Proposed Action when water lines are being disconnected or connected to the main lines.

No negative long-term impacts to potable water supplies are expected from the Proposed Action. No new personnel would be added, and no new major potable water would be required. Typical water usage may increase slightly but would continue at levels well below the base's daily potential supply volume.

Wastewater

Projects B, C, D, E, and F involve the construction of a facility and would require new wastewater lines that would connect to tie-in points and existing base infrastructure. Projects B, C, D, F, and H would include the demolition of buildings and wastewater lines at these buildings would be properly disconnected and abandoned. Minor, short-term impacts and interruptions could be experienced during implementation of the Proposed Action when water lines are being disconnected or connected to the main lines.

No long-term negative impacts to the capacity of the wastewater system at Little Rock AFB would result from the implementation of the proposed projects as no new permanent base personnel would be added. Wastewater volumes would remain at levels well below the base's permitted discharge volumes.

Electricity

Projects B, C, D, E, and F would require new electric power lines and would connect to tie-in points and the existing base distribution system. Projects B, C, D, F, and H would include the demolition of buildings. Electric power lines connected to these buildings would be properly disconnected. Minor, short-term impacts and interruptions could be experienced during implementation of the Proposed Action when buildings are being disconnected or connected to the electric power infrastructure. Disruptions to the electric power supply would be temporary and coordinated with area users.

No negative impacts to the electric power supply at Little Rock AFB would result from implementation of the Proposed Action because no new permanent personnel would be added, no new, major electrical use would be added. The construction of new and more efficient buildings and the consolidation of multiple groups into one facility are expected to result in minor, long-term, beneficial impacts to the base electrical system. Typical usage would continue at levels below the base's daily peak supply.

Natural Gas

Projects B, C, D, and F would require new natural gas supply lines and would connect to tie-in points and the existing base distribution system. Projects B, C, D, F, and H would include the demolition of buildings. Natural gas lines connected to these buildings would be properly disconnected. Minor, short-term impacts and interruptions could be experienced during implementation of the Proposed Action when buildings are being disconnected or connected to the electric power infrastructure. Disruptions to the natural gas supply would be temporary and coordinated with area users.

No negative impacts to the natural gas supply at Little Rock AFB would result from implementation of the Proposed Action because no new permanent base personnel would be added. The construction of new and more efficient buildings and the consolidation of single base functions into one facility are expected to result in minor, long-term, beneficial impacts to the natural gas supply. Typical usage would continue at levels well below the system's capacity.

Stormwater System

The Proposed Action would require the demolition of facilities, construction of new facilities, and additions to existing facilities. Minor short-term impacts to the stormwater system could be experienced during construction, renovation, and demolition activities associated with the Proposed Action. During these activities, all contractors would be required to comply with applicable statues, standards, regulations, and procedures regarding stormwater management.

A variety of stormwater controls and low-impact development could be incorporated into construction plans during the design phase. Stormwater controls could include planting vegetation in disturbed areas as soon as possible after construction; construction retention and infiltration facilities; and implementing structural controls (e.g., interceptor dikes, swales [excavated depressions], silt fences, straw bales, and other storm drain inlet protection), as necessary, to prevent sediment from entering inlet structures. The use of sustainable development techniques and natural retention, infiltration, and absorption features to reduce runoff and delay stormwater discharges is expected to result in minor, long-term, beneficial impacts to the stormwater system. In total, construction and demolition activities would result in a net increase of approximately 20,000 ft^2 (0.5 acre) of additional impervious surfaces that would contribute to additional

stormwater runoff. This represents a minor increase to the total impervious surface at Little Rock AFB and would not contribute significantly to additional stormwater runoff.

Overall, potential impacts to the stormwater system from implementation of the Proposed Action would not be significant.

Solid Waste Management

Solid waste generated from the proposed construction and demolition activities would consist of building materials such as concrete, metals (e.g., conduit, piping, and wiring), and lumber. Disposal of the debris would be completed through an integrated construction and demolition debris diversion approach or by disposal to landfills. The integrated construction and demolition debris diversion approach includes reuse, recycling, volume reduction/energy recovery, and similar diversion actions. Waste Management and Two Pines Landfills receive approximately 250,000 tons of waste per year.

Contractors would be required to comply with federal, state, and local regulations for the collection and disposal of MSW from the base. Construction and demolition debris, including debris contaminated with hazardous waste and/or hazardous components, would be managed in accordance with AFMAN 32-7002.

Summary

Therefore, implementation of the Proposed Action would result in a less than significant impact to infrastructure and utilities.

3.10.2.2 No Action Alternative

Under the No Action Alternative, no effect to the infrastructure and utilities would be expected. New facilities and infrastructure would not be constructed, and Little Rock AFB would not be altered from its current state. Therefore, implementation of the No Action Alternative would result in a less than significant impact to infrastructure and utilities.

3.11 SOLID AND HAZARDOUS MATERIALS/WASTE

The terms “hazardous materials” and “hazardous waste” refer to substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristic, could present substantial danger to public health or the environment when released into the environment.

Products containing hazardous materials that could result in the generation of hazardous waste include fuel, adhesives, sealants, corrosion prevention compounds, hydraulic fluids, lubricants, oils, paints, polishes, thinners, and cleaners. The key federal regulatory requirements related to hazardous materials and waste include:

- RCRA of 1976 (42 USC 6901 et seq.);
- Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 (42 USC 11001-11050);
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986 (42 USC 9601-9675);
- Community Environmental Response Facilitation Act of 1992 (42 USC 9620);
- Asbestos Hazard Emergency Response Act (15 USC 2651);
- Spill Prevention, Control and Countermeasure Rule (40 CFR 112);
- USEPA Regulation on Identification and Listing of Hazardous Waste (40 CFR 261);

- USEPA Regulation on Standards for the Management of Used Oil (40 CFR 279);
- USEPA Regulation on Designation, Reportable Quantities, and Notification (40 CFR 302);
- EO 13514, Federal Leadership in Environmental, Energy, and Economic Performance;
- Toxic Substances Control Act (TSCA) of 1976 (40 CFR 700–766); and
- CAA of 1970, including the 1990 CAA Amendments (40 CFR 61).

Several USAF regulations address the management and safe handling of hazardous materials and wastes in accordance with applicable federal and state regulations. These include:

- AFI 32-7086, Hazardous Materials Management;
- AFMAN 32-7002, Environmental Compliance and Pollution Prevention; and
- AFI 32-1052, Facility Asbestos Management.

For the purposes of this hazardous materials and waste analysis, the region of interest (ROI) for the Proposed Action and No Action Alternative includes Little Rock AFB where these substances are used, stored, transported, or disposed. The ROI for environmental restoration sites is the footprint of the proposed construction projects described in Chapter 2 of the EA.

Impacts on hazardous materials management would be considered adverse if a Proposed Action resulted in noncompliance with applicable federal and state regulations or increased the amounts of hazardous waste generated or produced beyond Little Rock AFB's current waste management procedures and capacities. Impacts on the Installation restoration program would be considered adverse if the federal action disturbed or created contaminated sites resulting in negative effects on human health or the environment.

3.11.1 Affected Environment

Solid Waste Management at Little Rock AFB is guided by the Little Rock AFB ISWMP which enhances and sustains mission resources by establishing the most cost-effective waste management program possible that reduces waste generation, increases waste diversion, and optimizes cost avoidance (Little Rock AFB 2022e).

Hazardous materials used by USAF and contractor personnel at Little Rock AFB are managed in accordance with the Little Rock AFB Hazardous Materials Management Guide in conjunction with AFI 32-7086 and AFMAN 32-7002. A Hazardous Materials Pharmacy (HAZMART) is the only entity on the installation authorized to issue government-owned hazardous materials. This process provides management of 1) the procurement, handling, storage, and issuance of hazardous materials, and 2) the turn-in, recovery, reuse, or recycling of hazardous materials. Three HAZMARTs are located on Little Rock AFB.

Little Rock AFB is a Large Quantity Generator (LQG) of hazardous waste, as defined by the USEPA, with USEPA identification number of AR6571824808. Hazardous wastes on Little Rock AFB are managed in accordance with the Little Rock AFB Hazardous Waste Management Plan (Little Rock AFB 2021c). This plan describes the responsibilities, training, policies, and procedures for managing hazardous wastes on the installation and ensures compliance with applicable federal, state, and local laws and regulations at Little Rock AFB. The Hazardous Waste Management Plan applies to all organizations and activities located on or occurring at Little Rock AFB.

3.11.1.1 Aboveground and Underground Storage Tanks

Little Rock AFB manages oil and hazardous substance spills and releases through the implementation of the Little Rock AFB "One Plan" Installation Contingency Plan (ICP) (Little Rock AFB 2022a). The ICP is a collective document that consolidates the following emergency response plans: Facility Response Plan

(FRP), Spill Prevention, Control, and Countermeasures (SPCC) Plan, and Hazardous Waste Contingency (Spill Response) Plan. The ICP details procedures for efficiently mobilizing response personnel and equipment to address any spill releases from the base and to minimize the potential for life-threatening situations and damage to natural resources.

The Little Rock AFB ICP also contains an inventory of aboveground storage tanks (ASTs) and underground storage tanks (USTs). The 58 ASTs on the base have a total capacity of approximately 4,336,772 gallons and include tanks containing Jet-A, diesel, and gasoline. The 21 USTs on the base have a total capacity of approximately 795,000 gallons and contain Jet-A, diesel, and gasoline, (Little Rock AFB 2022b). The ASTs, USTs, and associated piping are managed in accordance with the compliance requirements prescribed in Department of the Air Force Manual (DAFMAN) 32-1067, *Water and Fuel Systems.*

3.11.1.2 Toxic Substances

Toxic substances, as regulated under the TSCA, include asbestos, lead, and polychlorinated biphenyls (PCBs). For the purposes of this EA, these substances are evaluated in their common forms (e.g., as asbestos-containing materials [ACMs] and lead-based paint [LBP] found in buildings, and as PCBs found in electrical transformers or other mechanical devices).

The Little Rock AFB ACM and LBP Program is managed by the 19 CES/CEIEC, with shared responsibilities in the 19th Medical Group Bioenvironmental Engineering. The most recent ACM survey was completed in 2000 with an Asbestos Management/Operations Plan updated in 2005. The most recent survey for facilities suspected to contain LBP was completed in 2004. In both surveys, priority facilities were surveyed first, and remaining buildings were surveyed as funding allowed. State-licensed contractors perform all ACM/LBP removal or abatement operations contractors.

The Little Rock AFB Asbestos Management and Operating Plan 091-17 establishes procedures for the management of ACMs on base (Little Rock AFB 2021d). This plan contains policies and procedures to comply with AFI 32-1052, AFMAN 32-7002, and state (i.e., Regulation 21, Arkansas Asbestos Abatement Regulation) and federal regulations. In addition, this plan provides guidance and Procedures for the management of facilities containing ACMs or presumed to contain ACMs; the protection of personnel from the hazards associated with ACMs; and the removal, encapsulation, or enclosure of ACMs. Design, maintenance, repair, demolition, renovation, or construction on existing facilities are reviewed to determine if ACM is present in the proposed work area. For each project on base, ACM wastes are removed by licensed contractors and disposed of at an approved off-base landfill in accordance with state and federal regulations.

The Lead Hazard Management and Exposure Control Plan 001-12 provides guidance and specifies actions required to protect facility occupants, workers, and the environment from hazardous exposure to lead in LBP and other lead-containing materials (Little Rock AFB 2021e). This plan also provides specific actions to identify, evaluate, manage, and abate LBP and other lead-containing materials. All demolition, renovation, and maintenance projects are reviewed to determine if lead-containing materials are present in the proposed work area. All LBP wastes are disposed of in accordance with state and federal regulations. The base complies with all federal, state, and local requirements regarding LBP activities and hazards.

All transformers on Little Rock AFB have been sampled and no PCBs are present. Light ballasts containing PCBs are disposed of as hazardous waste.

3.11.1.3 Installation Restoration Program

The Installation Restoration Program (IRP) was initiated at the base under the Defense Environmental Restoration Program (DERP). Little Rock AFB implemented this program to comply with applicable environmental laws and regulations, and to ensure that present and future waste and resource management practices are followed according to Department of Air Force Instructions (DAFI) 32-7020, *Environmental Restoration Program*.

The IRP program currently includes preliminary assessment, site inspections, and remedial investigation/feasibility studies to determine the disposition and cleanup of hazardous substances identified at the base. The program is administered through Air Force Civil Engineer Center (AFCEC)/CZO and is supported by 19 CES/CEIER, Public Affairs, and the Staff Judge Advocate Office.

Little Rock AFB currently has 68 IRP sites. Forty-nine of the IRP sites have received no further action per the state regulatory Remedial Action Decision Document (RADD) (Feb 2007) and amended RADD (Mar 2010) (Nov 2014). Ten new sites were established after the Final Site Investigation of Aqueous Film Forming Foam (AFFF) Releases Report dated June 2019. Eight of the AFFF release sites are under Remedial Investigation for per-and polyfluoroalkyl substances (PFAS). Figure 3-2 presents the active restoration sites at LRAFB as of March 2022.

Two IRP sites (ST025 and LF013) are actively in Remedial Action Operations and seven IRP sites (WP002, LF030, LF046, ST006, LF007, LF008, and LF010) have land use control (LUC) restrictions (Little Rock AFB 2022c).

Little Rock AFB utilizes the Land Use Control Implementation Plan for Multiple Sites as an internal management tool to inform current and potential future employees, contractors, and landowners of the restrictions and LUCs that have been implemented to protect human health and the environment by minimizing exposure risks. The objective of implementing the ADEQ RADD-approved LUCs is to restrict access to affected sites and media with the use of physical barriers and administrative controls (i.e., dig permits). These LUCs ensure that contaminants remain in place and people are not affected by the contaminants (Little Rock AFB 2022d).

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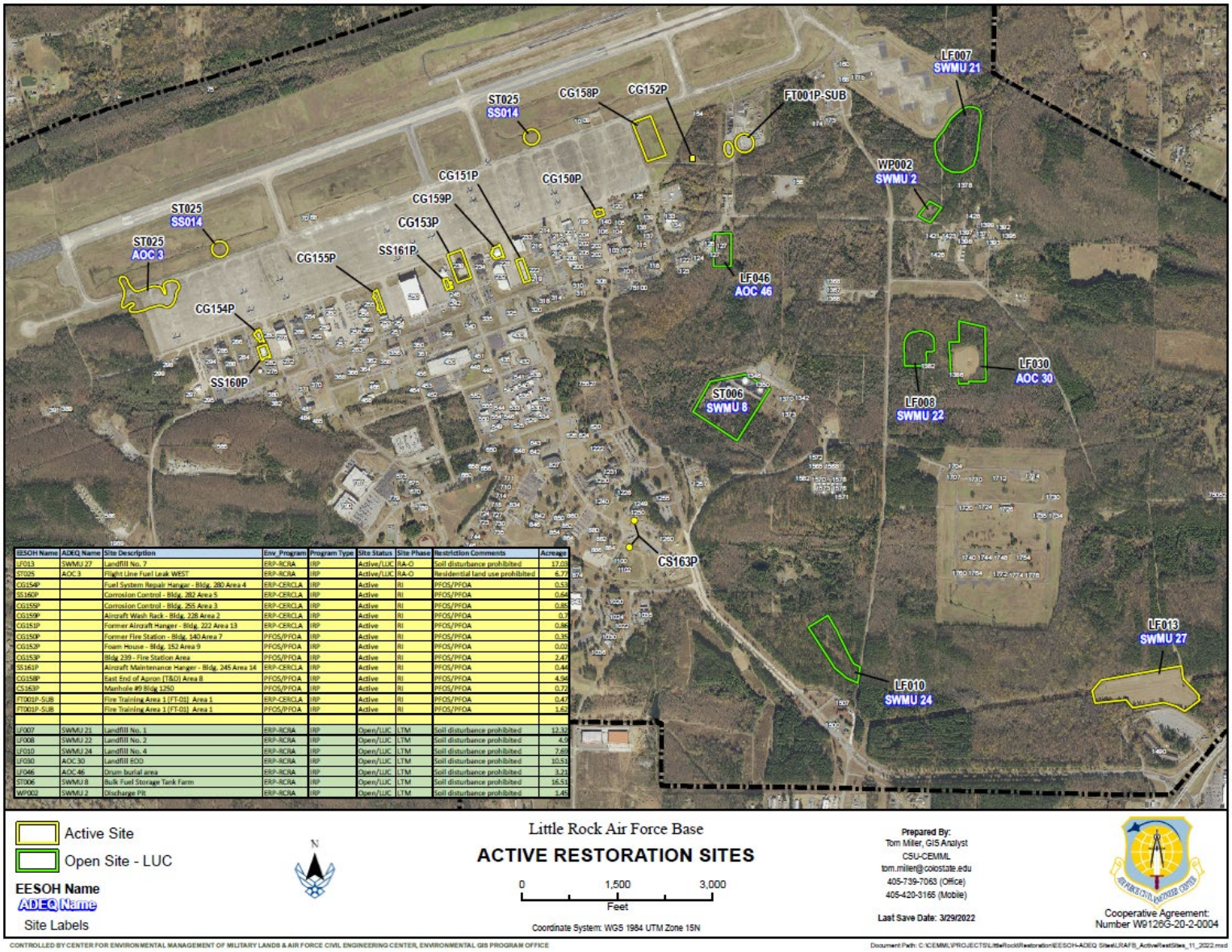

EESOH Name	ADEQ Name	Site Description	Env_Program	Program Type	Site Status	Site Phase	Restriction Comments	Acreage
LF013	SWMU 27	Landfill No. 7	ERP-RCRA	RP	Active/LUC	RA-O	Soil disturbance prohibited	17.03
ST025	AOC 3	Flight Line Fuel Leak WEST	ERP-RCRA	RP	Active/LUC	RA-O	Residential land use prohibited	6.73
CG154P		Fuel System Repair Hanger - Bldg. 280 Area 4	ERP-CERCLA	RP	Active	RI	PFOS/PFOA	0.53
SS160P		Corrosion Control - Bldg. 282 Area 5	ERP-CERCLA	RP	Active	RI	PFOS/PFOA	0.64
CG155P		Corrosion Control - Bldg. 255 Area 3	ERP-CERCLA	RP	Active	RI	PFOS/PFOA	0.85
CG159P		Aircraft Wash Rack - Bldg. 228 Area 2	ERP-CERCLA	RP	Active	RI	PFOS/PFOA	0.7
CG151P		Former Aircraft Hanger - Bldg. 222 Area 13	ERP-CERCLA	RP	Active	RI	PFOS/PFOA	0.86
CG150P		Former Fire Station - Bldg. 140 Area 7	PFOS/PFOA	RP	Active	RI	PFOS/PFOA	0.35
CG152P		Foam House - Bldg. 152 Area 9	PFOS/PFOA	RP	Active	RI	PFOS/PFOA	0.02
CG153P		Bldg 239 - Fire Station Area	PFOS/PFOA	RP	Active	RI	PFOS/PFOA	2.41
SS161P		Aircraft Maintenance Hanger - Bldg. 245 Area 14	ERP-CERCLA	RP	Active	RI	PFOS/PFOA	0.44
CG158P		East End of Apron (T&O) Area 8	PFOS/PFOA	RP	Active	RI	PFOS/PFOA	4.94
CS163P		Manhole #9 Bldg 1250	PFOS/PFOA	RP	Active	RI	PFOS/PFOA	0.72
FT001P-SUB		Fire Training Area 1 (FT-01) Area 1	ERP-CERCLA	RP	Active	RI	PFOS/PFOA	0.47
FT001P-SUB		Fire Training Area 1 (FT-01) Area 1	PFOS/PFOA	RP	Active	RI	PFOS/PFOA	1.63
LF007	SWMU 21	Landfill No. 1	ERP-RCRA	RP	Open/LUC	LTM	Soil disturbance prohibited	12.32
LF008	SWMU 22	Landfill No. 2	ERP-RCRA	RP	Open/LUC	LTM	Soil disturbance prohibited	4.9
LF010	SWMU 24	Landfill No. 4	ERP-RCRA	RP	Open/LUC	LTM	Soil disturbance prohibited	7.65
LF030	AOC 30	Landfill EOD	ERP-RCRA	RP	Open/LUC	LTM	Soil disturbance prohibited	10.53
LF046	AOC 46	Drum burial area	ERP-RCRA	RP	Open/LUC	LTM	Soil disturbance prohibited	3.21
ST006	SWMU 8	Bulk Fuel Storage Tank Farm	ERP-RCRA	RP	Open/LUC	LTM	Soil disturbance prohibited	16.53
WP002	SWMU 2	Discharge Pit	ERP-RCRA	RP	Open/LUC	LTM	Soil disturbance prohibited	1.45

Figure 3-2. Active Restoration Sites at Little Rock AFB

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3.11.2 Environmental Consequences

3.11.2.1 Proposed Action

Hazardous Materials and Wastes

Implementation of the Proposed Action would require the use of hazardous materials (e.g., fuels, lubricants, solvents, etc.), which would require proper storage, handling, use, and disposal. Little Rock AFB Hazardous Waste Management Plan provides requirements and direction proper management of hazardous waste (Little Rock AFB 2021c). The Little Rock AFB INRMP describes the systems in place for POL storage tanks and equipment, recycling and solid waste, hazardous waste, hazardous and toxic materials, and contaminated sites (Little Rock AFB 2019a). After construction, all new facilities would continue to follow existing Little Rock AFB hazardous materials management procedures. These procedures ensure that hazardous materials are managed according to all federal, state, and local laws and regulations. As such, there would be no impact from the storage, handling, use, and disposal of hazardous materials under the Proposed Action.

Any additional hazardous wastes generated from the implementation of the Proposed Action would be properly handled, stored, and disposed of in accordance with the Little Rock AFB Hazardous Waste Management Plan (Little Rock AFB 2021c), ensuring that hazardous waste is managed according to all federal, state, and local laws and regulations. As such there would be no impact from the storage and disposal of hazardous waste under the Proposed Action.

Aboveground and Underground Storage Tanks

Any ASTs or USTs scheduled for installation or removal during installation development activities would be coordinated with the Little Rock AFB Environmental Management Office. Appropriate material disposal and/or decontamination efforts would be performed as directed.

Toxic Substances

Prior to demolition of buildings 160, 459, 550, 553, 554, and 670, contractors would perform surveying/testing to confirm whether ACM and/or LBP are present. If such materials are present, abatement work would be completed in accordance with applicable Occupational Safety and Health Administration (OSHA), USEPA, and state regulations.

Implementation of the Proposed Action would not use ACM or LBP. The Proposed Action would be implemented in accordance with all applicable OSHA, state, and other regulatory exposure requirements during demolition to reduce the likelihood of adverse impacts to worker health and safety in association with ACM and LBP. Activities would continue to follow the Little Rock AFB Asbestos Management Plan and the Little Rock AFB LBP Management Plan.

There is a low potential for radon to pose a health hazard at Little Rock AFB. As such, no impact from radon is anticipated under the Proposed Action.

While no PCBs are anticipated, if potential PCBs are encountered during demolition, they would be disposed of in accordance with all applicable federal, state, and local laws. PCBs would not be used in new construction under the Proposed Action.

Installation Restoration Program

A comparison of project locations as depicted in Figure 2-1 against the locations of the active restoration sites as depicted in Figure 3-2 reveals that none of the Proposed Action projects would impact any active

IRP sites or IRP sites with LUCs. Thus, there would be no impact to the IRP program from the Proposed Action.

Solid Waste Management

The Little Rock AFB ISWMP encourages the reduction of construction and demolition (C&D) waste. Development of strategies will be critical to the continued success of maintaining a diversion rate that meets or exceeds the goals set by DoD. The following steps should be considered in development of the C&D waste.

- Identify local and regional reuse programs, including non-profit organizations such as schools, local housing agencies, and public arts programs that accept used materials (e.g., Habitat for Humanity, national materials exchange networks).
- A list of specific waste materials that will be salvaged for resale, salvaged, and reused, or recycled, and which recycling facilities will be used.
- Identify existing local resources and determine that they bring to the C&D waste management challenge
- Identify environmental compliance requirements and best C&D management practices for eliminating, mitigating, or complying with the requirements
- Quantify and characterize the potential annual C&D waste stream on the installation
- Identify the range of contracting options available to implement C&D waste management practices
- Develop a C&D waste management strategy for complying with USAF policy and achieving the USAF measure of merit
- Develop generic waste management plans

A detailed discussion of each of these elements can be found in the Air Force's C&D Waste Management Guide.

Therefore, implementation of the Proposed Action would result in a less than significant impact to hazardous materials and wastes, contaminated sites, and toxic substances.

3.11.2.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. Hazardous materials, hazardous waste, ACM, LBP, radon, and PCBs would continue to be managed in accordance with Little Rock AFB, federal, state, and local regulations. Therefore, implementation of the No Action Alternative would result in less than significant impacts to hazardous materials and wastes, contaminated sites, and toxic substances.

3.12 TRANSPORTATION AND PARKING

3.12.1 Definition of the Resource

Transportation refers to the movement of people and goods on a local and regional surface transportation network, consisting of roads, transit facilities, bicycle lanes, and other modes of transportation.

Roads are commonly classified based on their intended function in terms of adjacent land use access, travel distance and speed, and connections to other roadways. Interstate highways and other freeways are designed to maximize travel distance and speed while providing minimal or no access to fronting land uses. By contrast, local roads provide direct access to adjacent property while having substantially lower speeds than

freeways or arterial highways. Collector streets provide a connection between local roads and arterials, and their capacity, speed, and access to adjacent land lies between the other two functional classifications.

Transit facilities consist of local and regional bus services and both light rail and heavy rail transit. Other transportation facilities include emerging travel modes and technologies, such as micromobility services (e.g., shared dockless electric scooters). Parking relates to balancing the existing and projected demand for vehicle parking with supply, which is commonly provided in surface lots, multi-level structures, and on-street parking (for example, angled and parallel parking). Other modes of transportation include bicycling and walking.

3.12.2 Affected Environment

3.12.2.1 Transportation

Vehicular access to and from Little Rock AFB is provided by a network of freeways, multi-lane arterial highways, and collector and local roadways. The closest interstate highways are Interstate- (I)-30 and I-40, which pass through the northern portion of the Little Rock metropolitan area, to the north of the Arkansas River.

Regional access to Little Rock AFB is provided via U.S. Highway 67/167 to the east of the installation and Arkansas Highway 107 to the west. North/south collector roadways within Little Rock AFB include Arnold Drive, Chief Master Sergeant Williams Drive, Cannon Drive, Vandenberg Boulevard, and Marshall Road. There is a relatively dense grid road network to the south of the runway apron and several residential roadways serve the housing areas clustered around Thomas Lake, south of Arnold Drive and east of AR 107.

Vehicular access to Little Rock AFB is controlled at the Vandenberg, Harris, and Arnold Gates. The Vandenberg Gate is the primary access gate, accommodates the highest traffic volumes, and is open 24 hours a day, seven days a week. The Arnold Gate is open between 5:00 AM and 10:00 PM, seven days a week, and the Harris Gate only operates for school traffic in the morning and afternoon between 6:30 AM to 8:30 AM and 2:30 PM to 6:30 PM when Jacksonville North Pulaski School District classes are in session.

Local and regional transit service is operated by Rock Region METRO. Route 36, the Jacksonville/Sherwood Express, operates between Downtown Little Rock and the Vandenberg Gate. Route 36 provides express service via I-30 and U.S. 67/167 during the peak commuting periods (i.e., northbound in the morning and southbound in the afternoon). In the non-peak direction of travel, buses operate arterial highways to the west of U.S. 67/167.

No sidewalks or striped/signed bike facilities are in the immediate vicinity of the Vandenberg Gate. Pedestrians wishing to walk off-base walk on the shoulder of the road or through the maintained vegetation on the road shoulder. Some of the existing sidewalks on base are in disrepair which impedes safe and efficient walking.

3.12.2.2 Parking

Numerous surface parking lots are clustered around buildings and other facilities within the developed areas to the south of the runway apron. There is a network of sidewalks linking the parking lots to surrounding buildings. Sidewalks and crosswalks were visible on recent aerial photographs along Chief Master Sergeant Williams Drive, but pedestrian amenities are uniformly provided throughout the installation.

3.12.3 Environmental Consequences

3.12.3.1 Evaluation Criteria

A project's potential effect on transportation and parking is measured based on its direct or induced impact on traffic congestion and/or parking capacity. The severity of these impacts is determined based on the location, intensity, and persistence of the effects on transportation and parking. For instance, a potentially significant impact could occur if a project were to result in a substantial and recurring increase in traffic generation within an already-congested area. By contrast, a project's impacts could be considered relatively minor if they would result in a minimal increase in traffic that would be temporary and localized.

3.12.3.2 Proposed Action

Each of the proposed projects (i.e., A through J) are construction/demolition activities whose effect on transportation and parking would be similar in scope (i.e., localized and limited in duration). In addition, Projects I and J are expected to have a beneficial operations effect on transportation by improving pedestrian access to on- and off-base locations. Construction/demolitions and operations effects on transportation and parking are summarized below.

Construction/Demolition

Construction-related activities would involve the removal of construction and demolition debris, the delivery of construction materials and equipment, worker commuting, and the removal of equipment after construction concludes. It is anticipated that delivery and removal activities would be periodic and would not recur regularly through the duration of construction. Construction worker travel would recur on a daily basis and would likely coincide with peak commuting periods.

Transportation

The Proposed Action would result in a temporary increase in traffic volumes for the duration of construction. Delivery and removal trips would be periodic and may be scheduled outside of the traditional peak commuting periods. While worker trips would recur during the peak commuting periods, some of these trips would likely involve carpooling and/or transit, thus limiting effects on traffic. Delivery and removal activities would involve truck trips traveling to and from construction staging areas.

The implementation of Project D would require bringing in fill material. Based on site conditions and the proposed building footprint, approximately 175,000 cubic feet of fill material would be brought to the site from a nearby location(s). Based on a typical truck capacity of 540 cubic feet (20 cubic yards), approximately 330 truckloads of fill material would be delivered to the site. This equates to approximately 660 truck trips. The truck trips would last for a period of approximately two months or 50 working days and would average less than 20 loads (40 trips) a day.

Because of their large size and sluggish performance, trucks and other heavy vehicles have a disproportionate effect on roadway capacity, as compared to passenger vehicles.

To reduce potential impacts to area transportation from trucks and other vehicles, the contractor would develop, implement, and monitor a Transportation Management Plan (TMP). The objective of the TMP would be to organize and schedule construction traffic to avoid peak commuting periods (typically 7:00 to 9:00 AM and 4:30 to 6:30 PM) and/or the peak direction of travel. The TMP would also ensure that there would be adequate access to and parking for existing uses that would remain in operation during the construction period. The TMP would also address construction worker vehicle parking, the staging of construction materials and equipment, and the local circulation pattern of fill and debris haul trips.

Parking

Construction/demolition activities would not directly affect existing parking facilities. However, construction workers would increase parking demand during construction, although the increase would be expected to be relatively minor, and portions of parking lots may be used for construction staging.

Operations

None of the projects would individually or cumulatively result in a change in mission, activities or personnel at Little Rock AFB. As such, the impacts of Projects A through J would be limited to the duration of construction, and no adverse operations impact would occur. Construction of sidewalks (i.e., Projects I and J) would improve circulation and access and divert some trips from driving to walking, which would in turn reduce parking demand and traffic volumes, resulting in a beneficial impact on transportation and parking.

Summary

Construction/demolition activities of the Proposed Action would result in temporary and localized impacts on transportation and parking, which would be minimized through the implementation of a TMP. No adverse operations impact would occur, but Projects I and J would have a relatively minor beneficial effect. Therefore, implementation of the Proposed Action would result in less than significant impacts to transportation and parking.

3.12.3.3 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. No temporary and localized impacts would occur to transportation and parking as a result, and the minor beneficial impact to operations would likewise not occur. Existing pedestrian access challenges would remain due to the lack or disrepair of sidewalks. Therefore, implementation of the No Action Alternative would result in less than significant impacts to transportation and parking.

3.13 SAFETY AND OCCUPATIONAL HEALTH

A safe environment is one in which there is no potential, or an optimally reduced potential, for death, serious bodily injury or illness, or property damage. Potential safety issues at Little Rock AFB include ground, AT/FP, explosives, construction jobsite, and flight safety. Ground safety considers issues associated with human activities and O&M activities that support unit operations. A specific aspect of ground safety addresses AT/FP considerations. Explosives, munitions, and range safety addresses the management and use of ordnance or munitions associated with installation operations and training activities. Construction jobsite safety considerations include the prevention of mishaps related to construction, demolition, and renovation projects. Flight safety considers aircraft flight risks such as aircraft mishaps and accidents. For the purposes of this safety analysis, the region of influence for the Proposed Action and No Action Alternative includes Little Rock AFB and the area immediately adjacent to the installation.

3.13.1 Affected Environment

Numerous federal, civil, and military laws and regulations govern day-to-day O&M activities at Little Rock AFB. Individually and collectively, these laws and regulations prescribe measures, processes, and procedures required to ensure safe operations and to protect the public, military, and property.

Ground Safety

Day-to-day O&M activities conducted at Little Rock AFB are performed in accordance with applicable USAF safety regulations, published Air Force Technical Orders, and standards prescribed by Air Force Occupational Safety and Health (AFOSH) requirements. Adherence to these regulations and standards is intended to reduce occupational risks to government personnel and contractors, and to protect other persons that reside on or visit the base or areas near the base.

Anti-Terrorism/Force Protection

AT/FP is a security program designed to protect USAF personnel, civilian employees, family members, and facilities and equipment in all locations and situations. The program is accomplished through the planned and integrated application of anti-terrorism measures, physical security, operations security, and personal protective services. It is supported by intelligence, counterintelligence, and other security programs. In response to terrorist attacks, several regulations have been promulgated to ensure that force protection standards are incorporated into the planning, programming, and budgeting for the design and construction of Military Construction (MILCON)-funded facilities. UFC 04-010-01, *DoD Minimum Antiterrorism Standards for Buildings,* establishes minimum standoff distances that must be maintained between several categories of structures and areas that are relatively accessible to terrorists. The three existing entry control facilities and Visitor's Center at Little Rock AFB have security deficiencies and limit traffic capacity. These deficiencies impact on and off-installation road networks.

The intent of AT/FP and design guidance is to improve security, minimize fatalities, and limit damage to facilities in the event of a terrorist attack. It is required that new facility designs and modifications of existing facilities at Little Rock AFB incorporate AT/FP standards to the maximum extent practicable.

Explosives, Munitions, and Small Arms Range Safety

The explosives and munitions safety program at Little Rock AFB is conducted in accordance with AFMAN 91-201, *Explosive Safety Standards*. The purpose of the program is to provide the maximum possible protection to personnel and property, both inside and outside the installation, from the damaging effects of potential accidents involving ammunition and explosives. AFMAN 91-201 establishes the size of the clear zone around facilities used to store, handle, and maintain munitions based on the Quantity-Distance (QD) criteria.

The small arms range safety program at Little Rock AFB is conducted in accordance with AFI 36-2654, *Combat Arms Program,* which provides guidance for the efficient management, administration, safe operation, training use, and maintenance of small arm and light weapon ranges and facilities.

Construction Jobsite Safety

Construction jobsite safety and the prevention of accidents is an ongoing activity on any Little Rock AFB jobsite. All contractors performing construction activities on the base are responsible for complying with USAF safety and OSHA regulations and are required to conduct construction activities in a manner that does not pose any undue risk to workers or personnel.

Flight Safety

The primary concern with regard to flight safety at Little Rock AFB is the potential for aircraft mishaps or accidents. One such mishap that could occur is an aircraft collision, or strike, with a bird or other wildlife at or near Little Rock AFB. The Little Rock AFB BASH Plan and program provide procedures to minimize local and transient aircraft exposure to potentially hazardous bird/wildlife strikes at or near Little Rock

AFB, associated operating areas, and transition airfields. Sufficient wildlife-deterrent fencing does not currently enclose the airfield. Deer and other wildlife are routinely observed on the airfield, resulting in a Deer Watch Advisory and the need for dispersal or lethal control.

3.13.2 Environmental Consequences

3.13.2.1 Proposed Action

This section addresses the potential environmental impacts to ground, AT/FP, explosives, construction jobsite, and flight safety that could occur at or in the vicinity of Little Rock AFB with the implementation of the Proposed Action.

Ground Safety

No aspects of the proposed construction, demolition, or infrastructure projects at Little Rock AFB are expected to create new or unique ground safety issues. Emergency response plans would be updated to capture new, renovated, and demolished facilities. O&M procedures, as they relate to ground safety, are conducted by base personnel, and would not change from current conditions. All activities would continue to be conducted in accordance with applicable regulations, technical orders, and AFOSH standards. Construction of new sidewalks as part of projects I and J would enhance pedestrian safety at Little Rock AFB.

Anti-Terrorism/Force Protection

The AT/FP security program at Little Rock AFB would not be impacted by potential installation development projects.

Explosives, Munitions, and Small Arms Safety

The explosives and munitions safety program at Little Rock AFB would continue to be conducted in accordance with AFMAN 91-201. The small arms range safety program would continue to be conducted in accordance with AFI 36-2654.

Construction Jobsite Safety

Short-term safety risks are associated with any construction, renovation, or demolition activity, including those activities associated with the Proposed Action at Little Rock AFB. However, adherence to standard safety practices would minimize any potential risks.

No unique construction practices or materials would be required as part of any of the construction, renovation, or demolition projects associated with the Proposed Action. All renovation and construction activities would be conducted in compliance with all applicable OSHA regulations to protect workers. The USAF does not anticipate any significant safety impacts to result from the construction, demolition, or renovation proposed at Little Rock AFB if all applicable AFOSH and OSHA requirements are implemented.

3.13.2.2 No Action Alternative

Under the No Action Alternative, no effect to the safety and occupational health of Little Rock AFB would be expected. New facilities and infrastructure would not be constructed, and Little Rock AFB would not be altered from its current state. Existing safety issues would continue at the pedestrian corridors. Therefore, implementation of the No Action Alternative would result in a less than significant impact to safety and occupational health.

3.14 SOCIOECONOMICS

3.14.1 Affected Environment

Socioeconomic resources are described using demographic and employment measures, as these measures influence the local economy, community services, and housing demand. Table 3-7 presents socioeconomic statistics for an area within three miles of the project area.

Table 3-7. Socioeconomic Statistics

Area	County	Population (within 3 miles)	Population Density (persons per square mile)
Little Rock AFB	Pulaski	47,220	555
Source: U.S. Census Bureau (USCB) 2022.			

This population density is indicative of a rural-to-suburban setting. Little Rock AFB is located in the greater Little Rock, AR metropolitan area. As such, an available workforce to support construction activities and facility operations and maintenance needs currently exists in the immediate area.

3.14.2 Environmental Consequences

3.14.2.1 Proposed Action

At this time, there are no new mission beddowns associated with the Proposed Action that would result in a substantial change in personnel levels. However, there may be some minor staffing changes to existing units over time. Any potential impacts from these minor unit-level changes in staffing are anticipated to be negligible. Under the Proposed Action, Little Rock AFB operations would continue albeit in new or renovated facilities. A new CDC would benefit the Little Rock AFB population by providing a modern facility for military families. Construction of the new sidewalk under Project J would also have a beneficial impact by increasing the ability for personnel and dependents to access adjacent retail and commercial establishments. No significant changes to population, income levels, housing, or local tax revenues are anticipated. Given the large metropolitan area of Little Rock, AR, it is assumed that the project construction activities could be accomplished with a local workforce, resulting in a minor and short-term localized beneficial impact to socioeconomic resources Therefore, implementation of the Proposed Action would result in a less than significant impact to socioeconomics.

3.14.2.2 No Action Alternative

Under the No Action Alternative, installation development activities would not occur, and no adverse or beneficial impacts to socioeconomic resources would occur. Existing socioeconomic conditions would continue. The existing CDC would continue to be subject to repairs and flooding, which may result in some parents opting to use non-military child development services. Use of off-Base services would increase costs to military families. Therefore, implementation of the No Action Alternative would result in a less than significant impact to socioeconomics.

3.15 COMMUNITY SERVICES

Community services are provided by public and non-profit agencies and organizations to support and enhance the community with educational, protective, medical, and recreational services. These services

include local community hospitals and clinics, fire/rescue and emergency medical services, law enforcement, local schools, and parks and recreation facilities.

3.15.1 Affected Environment

Little Rock AFB is located near the Little Rock, AR metropolitan area. As such, significant community services are available to the population supporting activities at Little Rock AFB. Many of the community services supporting Little Rock AFB functions are provided directly by the USAF, including local law enforcement and medical and fire response capabilities.

3.15.2 Environmental Consequences

3.15.2.1 Proposed Action

At this time, there are no new mission beddowns associated with the Proposed Action that would result in a substantial change in personnel levels. No significant additional load is expected to be placed on the fire or police departments as the result of the Proposed Action. Expanded use of other public or community services as a result of the Proposed Action is not expected. A new CDC would benefit the Little Rock AFB population by providing a modern facility for military families. Additionally, construction of new sidewalks would also have a beneficial impact by potentially reducing the demand for emergency services resulting from pedestrian injuries. As such, the Proposed Action is expected to have a negligible adverse and potential beneficial impact on local public services. Therefore, implementation of the Proposed Action would result in a less than significant impact and a potentially beneficial impact to community services.

3.15.2.2 No Action Alternative

Under the No Action Alternative, installation development activities would not occur, and less than significant impacts to community services would result.

3.16 Environmental Justice

3.16.1 Affected Environment

Environmental justice applies to potential adverse environmental impacts disproportionately borne by minority or low income populations. Environmental justice includes protection from health and safety risks if the potential for such risks are driven by an environmental impact. Table 3-8 presents environmental justice statistics for an area with three miles of the project area. The Demographic Index is an average of the two demographic indicators that are of primary interest in evaluating potential environmental justice impacts: minority population and low income population. Table 3-8 also shows the percentile rank in the U.S. of the project area.

Table 3-8. Environmental Justice Statistics

Area	County	Minority Population (percentile in U.S.)	Low Income Population (percentile in U.S.)	Demographic Index (percentile in U.S.)
Little Rock AFB	Pulaski	39% (57)	37% (65)	39% (62)
Source: USEPA 2022b.				

3.16.2 Environmental Consequences

An analysis of environmental justice determines whether a disproportionate share of adverse human health or environmental impacts from implementing a federal action would be borne by minority or low-income populations.

3.16.2.1 Proposed Action

Construction and operational impacts from the Proposed Action would be limited to the project vicinity, which is located in an area that has a lower minority and low-income population than the national average as demonstrated by a demographic index of 39% (62nd percentile in the U.S.) (Table 3-8). With the exception of Project C, project areas are not in the immediate vicinity of areas with higher concentrations of children, such as schools, and potential safety risks to children would be minimal. No significant adverse environmental or health impacts are predicted from the Proposed Action, and therefore, environmental or health impacts would not be disproportionately borne by any environmental justice community.

The Proposed Action would occur on government property. Under the Proposed Action, standard job site safety measures would be implemented, which include securing equipment, materials, and vehicles, and neutralizing safety hazards during construction. Potential air quality and noise impacts to adjacent housing areas (to include the children within) are addressed in the relevant resource area sections. No new land use activities that might potentially impact minority/low income populations or children would be introduced. A new CDC would benefit the Little Rock AFB population by providing a modern facility for military families. Therefore, as projected impacts from the Proposed Action are consider to be less than significant, there would be no disproportionate impact to minority or low income populations or children from implementation of the Proposed Action.

3.16.2.2 No Action Alternative

Under the No Action Alternative, installation development activities would not occur. Therefore, there would be no disproportionate impact to minority or low-income populations or children.

CHAPTER 4
CUMULATIVE EFFECTS

Cumulative effects on environmental resources result from the incremental effects of an action when combined with other past, present, and reasonably foreseeable future projects in the area. Cumulative effects can result from individually minor but collectively substantial actions taken over a period of time. In accordance with NEPA, a discussion of cumulative effects is required. Past projects or reasonably foreseeable future projects with the potential to contribute to cumulative effects of the Proposed Action have been evaluated in this section. Future actions that are speculative are not considered in this EA. See IDEA Cumulative section for an intro.

4.1 PROJECTS CONSIDERED FOR POTENTIAL CUMULATIVE EFFECTS

The IDP for Little Rock AFB identified 15 projects for development in 2018-2022. The IDP EA evaluated the potential impact of each project and the collective/aggregated impacts of implementing all the projects (AFCEC 2018). In 2021, USAF prepared an EA assessing the potential environmental consequences associated with the treatment and control of targeted invasive vegetation at Little Rock AFB (19 AW 2021). In addition, the Arkansas Department of Transportation proposes to widen Highway 67 from Main Street to Vandenberg Boulevard.

4.2 CUMULATIVE EFFECTS ANALYSIS

This section evaluates the cumulative effects from the past, present, and reasonably foreseeable future actions and the Proposed Action at and adjacent to Little Rock AFB. The analysis in the EA indicates that implementing the Proposed Action would not have significant effects on any resource area. Based on a screening of the identified cumulative projects, this cumulative effect analysis focuses on those resources with the most potential to be affected: air quality; cultural resources; biological resources; water resources; floodplains, wetlands and coastal zone; geology and soils; noise; hazardous materials and wastes; and transportation and parking. The following sections present the results of this cumulative effects assessment.

4.2.1 Air Quality and Climate Change (Greenhouse Gas Emissions)

As shown in Table 3-1, the total annual emissions from all of the projects included under the Proposed Action would be below *de minimis* levels and the GHG threshold identified by CEQ in draft guidance for evaluating the significance of GHG emissions. Present and future projects at Little Rock AFB and throughout the Central Arkansas Intrastate AQCR would contribute criteria pollutant and GHG emissions. As demonstrated by the current attainment status of Pulaski County for the NAAQS, regional emissions have not resulted in an exceedance of the NAAQS. Therefore, cumulative impacts to air quality at Little Rock AFB that could result from implementation of the Proposed Action in conjunction with past, present, and reasonably foreseeable future actions would not be significant.

4.2.2 Cultural Resources

The Proposed Action is not likely to cause adverse effects on cultural resources at Little Rock AFB. No archaeological sites have been observed within the APE. There are no NRHP eligible resources located

within the APE. There are no potential Traditional Cultural Properties that have been identified on Little Rock AFB. However, any ground disturbing activities could have the potential to adversely impact currently unidentified cultural resources. The Proposed Action would not cause direct or indirect impacts to NRHP-eligible resources; no adverse effects would occur. Little Rock AFB would continue to perform Section 106 consultation for potential impacts to cultural resources for all undertakings as applicable. Therefore, cumulative impacts to cultural resources at Little Rock AFB that could result from implementation of the Proposed Action in conjunction with past, present, and reasonably foreseeable future actions would have no adverse effect.

4.2.3 Biological Resources

Potential impacts on biological resources would be minimized by following the Little Rock AFB INRMP and BMPs to implement projects efficiently and effectively, and to be protective of the environment. Through the Invasive Species Control project, long-term beneficial effects would be due to maintaining and improving the quality of habitat by controlling invasive vegetative species. Improved native vegetation communities would increase habitat value for both listed and non-listed wildlife species. The Proposed Action would not (1) adversely affect species or habitats of concern over relatively large areas, or (2) cause a reduction in a population size or distribution that may jeopardize the continued existence of that species. No other actions or activities have been identified that when combined with the Proposed Action would have significant effects. Therefore, cumulative impacts to biological resources at Little Rock AFB that could result from implementation of the Proposed Action in conjunction with past, present, and reasonably foreseeable future actions would not be significant.

4.2.4 Water Resources

Potential effects to water resources would be from ground-disturbing activities at Little Rock AFB. Potential impacts would be minimized by following the recommendations in the INRMP (LRAFB 2019a) and use of BMPs. The Proposed Action would not (1) reduce water availability to or interfere with the supply of existing users; (2) exceed safe annual yield of water supplies; (3) adversely affect water quality or endanger public health by creating or worsening adverse health hazards; (4) threaten or damage unique hydrologic characteristics; or (5) violate established water resources laws or regulations. No other actions or activities have been identified that when combined with the Proposed Action would have significant effects. Therefore, cumulative impacts to water resources at Little Rock AFB that could result from implementation of the Proposed Action in conjunction with past, present, and reasonably foreseeable future actions would not be significant.

4.2.5 Floodplains, Wetlands, and Coastal Zone

The Proposed Action and identified cumulative projects would first avoid impacting floodplains and wetlands. If impacts are still to occur, they would be minimized. Little Rock AFB would obtain all necessary CWA permits and water quality certifications prior to implementing projects that would impact wetlands. The permits may contain provisions for mitigation to offset impacts, which Little Rock AFB would implement. Therefore, cumulative impacts to floodplains, wetlands, and coastal zone resources at Little Rock AFB that could result from implementation of the Proposed Action in conjunction with past, present, and reasonably foreseeable future actions would not be significant.

4.2.6 Geology and Soils

Potential effects to geology and soils would be from ground-disturbing activities at Little Rock AFB. Potential impacts would be minimized by following the integrated pest management (IPM) recommendations in the INRMP (LRAFB 2019a) and use of BMPs to prevent soil erosion. The Proposed Action would not (1) adversely affect current land uses; or (2) cause loss of unique and sensitive soils or geologic features. No other actions or activities have been identified that when combined with the Proposed Action would have significant effects. Therefore, cumulative impacts to geology and soils at Little Rock AFB that could result from implementation of the Proposed Action in conjunction with past, present, and reasonably foreseeable future actions would not be significant.

4.2.7 Noise

Potential effects from increases in noise would be due to the limited use of heavy equipment and trucks during construction activities. The Proposed Action would not (1) result in the violation of applicable federal, state, or local noise ordinance; (2) create incompatible land uses for areas with sensitive noise receptors outside the installation boundary; or (3) be loud enough to threaten or harm human health. No other actions or activities have been identified that when combined with the Proposed Action would have significant effects. Therefore, cumulative impacts to noise and vibration at Little Rock AFB that could result from implementation of the Proposed Action in conjunction with past, present, and reasonably foreseeable future actions would not be significant.

4.2.8 Hazardous Materials and Wastes, Contaminated Sites, and Toxic Substances

Implementation of the Proposed Action would not result in a significant impact from hazardous materials, hazardous waste, toxic substances, or contaminated sites. When combined with other projects identified in the cumulative effects region, there is a potential for an increase in impacts from hazardous materials or wastes being handled improperly; however, each project would comply with the applicable regulations pertaining to hazardous materials and wastes, contaminated sites and toxic substances. There would be no change in mission activity or increase in personnel; thus, there would be no increase in the use, storage, generation, or disposal of hazardous materials or wastes at Little Rock AFB. In all projects, regardless of the ultimate volume of material generated for disposal, required abatement and waste management planning and control measures would be implemented. With regard to the potential to displace toxic substances such as ACM, LBP, and PCBs, all Little Rock AFB projects that include a demolition element may contribute to the volume of toxic substances removed, transported, and disposed of, especially when the subject facility was constructed prior to 1978. All toxic materials would continue to occur in compliance with all applicable federal, state, and local regulations. The management, transport, and remediation of hazardous wastes, toxic substances, and contaminated sites at Little Rock AFB would continue to occur in compliance with all applicable federal, state, and local regulations. Therefore, cumulative impacts to hazardous materials, hazardous wastes, toxic substances, and contaminated sites at Little Rock AFB that could result from implementation of the Proposed Action in conjunction with past, present, and reasonably foreseeable future actions would not be significant.

4.2.9 Transportation and Parking

Implementation of the Proposed Action would result in short-term impacts to transportation and parking due to construction-related activity and loss of parking spaces. Other projects at Little Rock AFB are and would continue to result in similar construction-related transportation impacts. The contribution of the Proposed Action is comparatively small when considered in the context of the overall base. At the completion of the construction projects, which would likely be phased, transportation impacts from construction activity would cease. The widening of Highway 67 would improve regional transportation feeding into Little Rock AFB. Therefore, cumulative impacts to transportation and parking at Little Rock AFB that could result from implementation of the Proposed Action in conjunction with past, present, and reasonably foreseeable future actions would not be significant.

CHAPTER 5
PERSONS AND AGENCIES CONSULTED/COORDINATED

5.1 NEPA PROCESS AND PUBLIC INVOLVEMENT

As stated in the USAF's EIAP (32 CFR Part 989), public involvement for an EA may include public engagement during scoping and drafting and finalizing the EA through publication of notices or public meetings. The public involvement process for this EA consisted of an early public notice announcing the project and upcoming availability of a Draft EA, publication of a Notice of Availability of the Draft EA, and a public comment period on the Draft EA. Public comments will be taken into consideration during preparation of the Final EA and FONSI/FONPA.

Since the selected alternative would include construction activities within a wetland or a floodplain, a FONPA must be considered, and early public notice of the project must be announced. The early public notice for this EA was published in the Arkansas Democrat-Gazette on July 10-11, 2022, and in the Arkansas Leader on July 6, 2022. Publication proofs are included in Appendix A.

The USAF's NEPA guidance states that the EA process must include at least a 30-day public comment period on the Draft EA, which starts with the publication of an NOA. The NOA for will be published in the Arkansas Democrat-Gazette and the Arkansas Leader. A copy of the Draft EA will be made available at the Esther Dewitt Nixon Library. An electronic version of the Draft EA will also be made available on the Little Rock AFB website.

5.2 AGENCY COORDINATION

During the scoping process for this EA, USAF contacted federal, state, and local agencies with oversight responsibilities related to this project. Additionally, USAF contacted potentially affected tribes notifying them of the proposed project activities. Agency correspondence was addressed on June 22, 2022, and tribal correspondence was addressed on August 12, 2022. Table 5-1 and Table 5-2 list the agencies and tribes contacted, respectively. Correspondence is included in Appendix A.

Table 5-1. Interagency Correspondence List

Arkansas Department of Energy and Environment Becky Keogh, Director 5301 Northshore Drive North Little Rock, AR 72118	**Arkansas Game and Fish Commission** Austin Booth, Director 2 Natural Resources Drive Little Rock, AR 72205
Arkansas Department of Agriculture Regulatory Section 1 Natural Resources Drive Little Rock, AR 72205	**Arkansas Department of Transportation** Juhn Fleming, Head, Environmental Division P.O. Box 2261 Little Rock, AR 72203
EPA Region 6, Water Resources Section Curry Jones, Chief 1201 Elm Street Dallas, TX 75270	**Jacksonville Planning Commission** Jim Moore, Chairman 1 Municipal Drive Jacksonville, AR 72076

Pulaski County Planning and Development Van McClendon, Director 3200 Brown Street Little Rock, AR 72204	**Arkansas Historic Preservation Program** Stacy Hurst, State Historic Preservation Officer 100 North Street Little Rock, AR 72201
Little Rock District Corps of Engineers Sarah Chitwood, Chief, Regulatory Division P.O. Box 867 Little Rock, AR 72203	**U.S. Fish and Wildlife Service** Arkansas Ecological Services Field Office Melvin Tobin, Field Supervisor 110 South Amity Road, Suite 300 Conway, AR 72032

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Table 5-2. Tribal Correspondence List

Caddo Nation Jonathan Rohrer, THPO P.O. Box 487 Binger, OK 73009	**Cherokee Nation** Principal Chief Chuck Hoskin P.O. Box 948 Tahlequah, OK 74465
Choctaw Nation of Oklahoma Chief Gary Batton P.O. Box 1210 Durant. OK 74702	**Jena Band of Choctaw Indians** Chief Cheryl Smith P.O. Box 14 Jena, LA 71342
Muscogee (Creek) Nation Principal Chief Hill P.O. Box 580 Okmulgee, OK 74447	**Osage Nation** Dr. Andrea Hunter, THPO 627 Grandview Ave Pawhuska, OK 74056
Quapaw Nation Everett Bandy, THPO P.O. Box 765 Quapaw, OK 74363	**Shawnee Tribe** Chief Ben Barnes P.O. Box 189 Miami, OK 74355

2 ## 5.3 PERMITS AND APPROVALS

3 Table 5-3 section lists environmental permits or other agreements that may need to be obtained by USAF
4 prior to implementing the Proposed Action in this EA.

Table 5-3. Environmental Permits and Agreements

Agency	Project Stage	Environmental Permit, Compliance, or Coordination	Key Requirements
Water Resources			
Arkansas Department of Environmental Quality (ADEQ)	Prior to construction	ADEQ NPDES General Permit for Stormwater Discharges from Construction Activities within the State of Arkansas	Construction projects that propose to disturb more than one acre of the ground surface must obtain and comply with the ADEQ NPDES General Permit ARR150000 for Stormwater Discharges from Construction Activities within the State of Arkansas.

Agency	Project Stage	Environmental Permit, Compliance, or Coordination	Key Requirements
Floodplains and Wetlands			
U.S. Army Corps of Engineers (USACE)	Prior to construction – If placement of dredged or fill material into a jurisdictional water of the U.S. is involved	Clean Water Act (CWA) Section 404 permit	If the project includes impacts to jurisdictional waters or wetlands, USACE will be consulted and an approved jurisdictional determination (AJD) and/or wetland delineation will be required.
Arkansas Department of Energy and Environment – Environmental Quality	Prior to construction and in parallel with the CWA Section 404 permit	CWA Section 401 Water Quality Certification and Short-Term Activity Authorization (STAA)	Anyone planning to conduct any activity in waters of the State, which might cause a violation of the Arkansas Water Quality Standards (e.g., fill activities), must obtain authorization from the Arkansas Department of Energy and Environment – Environmental Quality prior to entering waters of the State. STAAs do not take the place of a construction stormwater permits or BMPs.

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CHAPTER 6
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CHAPTER 7
LIST OF PREPARERS

U.S. Air Force
Little Rock AFB
Dana Hardage – Natural and Cultural Resources Manager
USACE
U.S. Army Corps of Engineers, Tulsa District
Gerard Randolph – NEPA Task Order Manager
Contractor Staff
Auxilio Management Services
Douglas Schlagel, P.E., CHMM – Project Manager/Environmental Engineer, B.S. Chemical Engineering, 26 years' experience
Kelli Price – Program Manager, 13 years' experience
Melissa Mitton, E.I.T. – Environmental Engineer, M.S. Civil and Environmental Engineering, 4 years' experience
Taylor Cordts – Environmental Engineering Support, B.S., Chemical Engineering, 2 years' experience
Scout Environmental, Inc.
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Julie Werner, P.E., LEED AP, Air Quality Analyst, B.S. Civil Engineering with Environmental Option, 13 years' experience
Kari McCollum, Junior NEPA Planner, B.A. Environmental Sustainability, 3 years' experience
Scott Barker, P.E., AICP, Transportation Planner, MS, Civil Engineering/Master of City Planning, 30 years' experience
Tiglas Ecological Services
Darcy Tiglas – Biologist, M.S. Environmental Science, 32 years' experience
Dr. John Hoffecker – Professional Archaeologist, Ph.D. Anthropology, 41 years' experience

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APPENDIX A – PUBLIC NOTIFICATIONS/IICEP

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Arkansas Democrat Gazette
STATEMENT OF LEGAL ADVERTISING

SCOUT ENVIRONMENTAL, INC.
169 SAXONY ROAD
ENCINITAS CA 92024

ATTN: Roxanne Beasley
DATE : 07/11/22 INVOICE #: 3263321
ACCT #: L6024278 P.O. #:

REMIT TO:
ARKANSAS DEMOCRAT-GAZETTE INC.
P.O. BOX 2221
LITTLE ROCK, AR 72203

For Billing Questions call: 501-399-3660

STATE OF ARKANSAS, }
COUNTY OF PULASKI, } ss.

I, Charles A McNeice Jr, do solemnly swear that I am the Business Manager of the Arkansas Democrat-Gazette, a daily newspaper printed and published in said County, State of Arkansas; that I was so related to this publication at and during the publication of the annexed legal advertisement the matter of:

Notice

pending in the Court, in said County, and at the dates of the several publications of said advertisement stated below, and that during said periods and at said dates, said newspaper was printed and had a bona fide circulation in said County; that said newspaper had been regularly printed and published in said County, and had a bona fide circulation therein for the period of one month before the date of the first publication of said advertisement; and that said advertisement was published in the regular daily issues of said newspaper as stated below.

DATE	DAY	LINAGE	RATE	DATE	DAY	LINAGE	RATE
07/10	Sun	79	1.57				
07/11	Mon	79	1.35				

TOTAL COST ---------- 230.68
Billing Ad #: 75571517

Subscribed and sworn to before me on this 11 day of July, 2022

Signature of Notary Public

OFFICIAL SEAL - =12706867
YVETTE HINES
NOTARY PUBLIC-ARKANSAS
PULASKI COUNTY
MY COMMISSION EXPIRES: 02-20-29

AD COPY

NOTICE FOR EARLY PUBLIC REVIEW OF A PROPOSED ACTIVITY WITHIN THE 100-YEAR FLOODPLAIN – UNITED STATES AIR FORCE

The U.S. Air Force (USAF) is inviting public input on a proposed activity at Little Rock Air Force Base (AFB), Arkansas. The Proposed Action consists of implementing twelve installation development projects at Little Rock AFB. The projects include aging facility demolition, new facility construction, facility upgrades, facility repair and renovation, community living/education upgrades, infrastructure improvement, recreational upgrades, and associated infrastructure improvements. The purpose of the Proposed Action is to provide infrastructure and functionality improvements necessary to support the missions of the 19th Airlift Wing and Little Rock AFB tenants.

The USAF is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act to analyze the potential environmental impacts of the Proposed Action. The EA will evaluate reasonable and practicable alternatives for implementing the Proposed Action in addition to the No Action Alternative.

The Proposed Action would occur within the 100-year floodplain. As such, the Proposed Action is subject to the requirements and objectives of Executive Order 11988, Floodplain Management. The public has 30 days from the publication of this notice to provide comments on the proposed activity within the floodplain.

Little Rock AFB has separately notified state and federal agencies and Native American tribal governments who may have a responsibility and/or interest in reviewing the Proposed Action.

Address written comments to the Little Rock AFB, 19 CES/CEIE, ATTN: Ms. Dana Hardage, 528 Thomas Avenue, Little Rock AFB, AR 72099, or via email: dana.hardage@us.af.mil, or via phone: (501) 987 3681.

75571517f

LEADER PUBLISHING, INC.

404 Graham Road • Jacksonville, Ark. • 72076
P.O. Box 766 • Jacksonville, Ark • 72078
(501) 982-9421 • (501) 941-5132 • 501-985-0026 (Fax)
Publishers of The Leader on Wednesdays in North Pulaski, Lonoke, White and Prairie Counties

State of Arkansas
County of Pulaski
County of Lonoke

This is to certify that the attached legal advertisement being Scout Environmental, Inc.

In the matter of Notice for Early Public Review

versus

pending in the court of said county, was published for 1 consecutive time(s) on the following dates:

July 6th, 2022 _____, 2022
_____, 2022 _____, 2022
_____, 2022 _____, 2022
_____, 2022 _____, 2022

in the regular edition of the THE LEADER, a newspaper of general bona fide circulation, have a Periodical Postal Permit and published continuously for a period of more than one year in the County of Lonoke, County of Pulaski, County of White or County of Prairie, State of Arkansas.

PUBLICATION FEE: $ 121.25

By: Thomas Alves
(for Jonathan Feldman, Editor)

State of Arkansas
County of Lonoke

SUBSCRIBED AND SWORN TO BEFORE ME ON THIS 6 DAY OF July, 2022.

(Joseph M. Robinson)

JOSEPH M. ROBINSON
NOTARY PUBLIC
ARKANSAS
LONOKE COUNTY
12388483 EXPIRES 7-25-2022

Notary Public, Lonoke County, Arkansas
Commission #12388483
My commission expires July 25th, 2022.

LEGAL NOTICE

LEGAL NOTICE as published in the July 6th, 2022 edition of the Leader.

NOTICE FOR EARLY PUBLIC REVIEW OF A PROPOSED ACTIVITY WITHIN THE 100-YEAR FLOODPLAIN – UNITED STATES AIR FORCE

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LITTLE ROCK AFB has separately notified state and federal agencies and Native American tribal governments who may have a responsibility and/or interest in reviewing the Proposed Action.

ADDRESS WRITTEN comments to the Little Rock AFB, [illegible]/CEIE, ATTN: Ms. Dana Hardage, 528 Thomas Avenue, Little Rock AFB, AR 72099, or via email: dana.hardage.[illegible]@mil, or via phone: (501)987-3681.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

June 22, 2022

Ms. Dana Hardage
NEPA Lead
19 CES/CEIE
528 Thomas Avenue
Little Rock AFB, AR 72099

Ms. Becky Keogh
Director, Arkansas Department of Energy and Environment
5301 Northshore Dr
North Little Rock, AR 72118

Dear Ms. Keogh

The 19th Airlift Wing (19 AW) is preparing an Environmental Assessment (EA) for installation development projects at Little Rock Air Force Base (AFB), Arkansas in accordance with the Council on Environmental Quality guidelines pursuant to the National Environmental Policy Act (NEPA) of 1969 the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] 1500-1508), the Air Force Environmental Impact Analysis Process Regulations at 32 CFR 989, and Air Force Instruction (AFI) 32-7061.

The intent of the installation development projects is to provide infrastructure and functionality improvements necessary to support the missions at Little Rock AFB. The Proposed Action does not include changes to airfield operations, training activities, or personnel at Little Rock AFB. The EA will analyze the potential effects to the human and natural environment associated with the implementation of the 12 installation development projects within the installation boundary at Little Rock AFB presented in Table 1.

Table 1. Little Rock AFB Installation Development Projects

Project ID(s).	Project Name and Number	Project Description
A	Repair Small Arms Range	Proposed upgrades would consist of removing the existing containment walls and installing fencing in its place to improve natural ventilation and control range access.
B	Construct New Vehicle Maintenance Facility	Construct a new 34,207 square foot (sf) combined vehicle maintenance facility and supporting infrastructure in the same location of the existing facility and demolish four buildings.
C1, C2	Construct New Child Development Center	Construct a new 54,082 sf Child Development Center and supporting infrastructure at one of two potential locations and demolish the existing 24,670 sf Child Development Center and return the site to preconstruction conditions
D	Construct New Combat Training Squadron Facility	Construct a new two story 28,847 sf Combat Training Squadron facility and supporting infrastructure near the existing facility and demolish the existing facility (Building 160) and return the site to preconstruction conditions.

Project ID(s).	Project Name and Number	Project Description
E	Construct Addition to Aerial Delivery Facility	Construct an approximately 7,825 sf addition to the west side of Building 259, upgrade existing building elements, and enclose adjacent area.
F	Construct Munitions Maintenance Shop	Construct a new 5,500 sf conventional maintenance facility with two bays and supporting infrastructure and demolish the existing facility (Building 1713).
G	Improve Wilson Lake Spillway	Clear vegetation and install water management infrastructure and pedestrian walkway at Wilson Lake dam.
H	Repair Concrete Apron and Taxiway	Replace 33 slabs of apron/taxiway, replace asphalt shoulder, install new aircraft tiedowns, and install a new underdrain system and new lights.
I	Repair Fitness Center	Repair the fitness center foundation, repair the roof, and install new energy-efficient lighting.
J	Demolish Building 670 and Tower	Demolish Building 670 and adjacent tower then grade and seed the resulting flat surface with approved vegetation.
K*	Construct Sidewalks	Construct approximately 2,225 linear feet of 4-foot-wide pedestrian sidewalks in various locations.
L1*, L2*	Construct Sidewalk Along Vandenburg Boulevard	Construct an approximately 4-foot-wide sidewalk offset from the northern or southern side of Vandenberg Boulevard from the gate to the end of government property.

** Denotes project with potential to impact the 100-year floodplain.*

In accordance with Executive Order 12372, *Intergovernmental Review of Federal Programs*, we solicit your comments concerning the proposal and any potential environmental consequences of the action. We also request information regarding other recently completed, ongoing, or proposed projects in the vicinity that create cumulative impacts in association with the Proposed Action. Please provide any comments you may have within 30 days of receipt of this letter.

The USAF looks forward to your participation in this NEPA process. Please provide written comments within 30 days from the date of this letter to me, Ms. Dana Hardage, 528 Thomas Avenue, Little Rock AFB, Arkansas 72099-4987 or via email to dana.hardage@us.af.mil. Thank you for your assistance.

Sincerely

Dana L Hardage

Dana Hardage
NEPA Lead

Enclosure:
Disc: Final Description of Proposed Action and Alternatives

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

June 22, 2022

Ms. Dana Hardage
NEPA Lead
19 CES/CEIE
528 Thomas Avenue
Little Rock AFB, AR 72099

Mr. Austin Booth
Director, Arkansas Game and Fish Commission
2 Natural Resources Drive
Little Rock, AR 72205

Dear Mr. Booth

The 19th Airlift Wing (19 AW) is preparing an Environmental Assessment (EA) for installation development projects at Little Rock Air Force Base (AFB), Arkansas in accordance with the Council on Environmental Quality guidelines pursuant to the National Environmental Policy Act (NEPA) of 1969 the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] 1500-1508), the Air Force Environmental Impact Analysis Process Regulations at 32 CFR 989, and Air Force Instruction (AFI) 32-7061.

The intent of the installation development projects is to provide infrastructure and functionality improvements necessary to support the missions at Little Rock AFB. The Proposed Action does not include changes to airfield operations, training activities, or personnel at Little Rock AFB. The EA will analyze the potential effects to the human and natural environment associated with the implementation of the 12 installation development projects within the installation boundary at Little Rock AFB presented in Table 1.

Table 1. Little Rock AFB Installation Development Projects

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Sincerely

Dana L Hardage

Dana Hardage
NEPA Lead

Enclosure:
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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

June 22, 2022

Ms. Dana Hardage
NEPA Lead
19 CES/CEIE
528 Thomas Avenue
Little Rock AFB, AR 72099

Arkansas Department of Agriculture
Regulatory Section
1 Natural Resources Drive
Little Rock, AR 72205

Dear Ma'am, Sir

The 19th Airlift Wing (19 AW) is preparing an Environmental Assessment (EA) for installation development projects at Little Rock Air Force Base (AFB), Arkansas in accordance with the Council on Environmental Quality guidelines pursuant to the National Environmental Policy Act (NEPA) of 1969 the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] 1500-1508), the Air Force Environmental Impact Analysis Process Regulations at 32 CFR 989, and Air Force Instruction (AFI) 32-7061.

The intent of the installation development projects is to provide infrastructure and functionality improvements necessary to support the missions at Little Rock AFB. The Proposed Action does not include changes to airfield operations, training activities, or personnel at Little Rock AFB. The EA will analyze the potential effects to the human and natural environment associated with the implementation of the 12 installation development projects within the installation boundary at Little Rock AFB presented in Table 1.

Table 1. Little Rock AFB Installation Development Projects

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Sincerely

Dana L Hardage

Dana Hardage
NEPA Lead

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

June 22, 2022

Ms. Dana Hardage
NEPA Lead
19 CES/CEIE
528 Thomas Avenue
Little Rock AFB, AR 72099

Mr. John Fleming
Head, Environmental Division
Arkansas Department of Transportation
P. O. Box 2261
Little Rock, AR 72203

Dear Mr. Fleming

The 19th Airlift Wing (19 AW) is preparing an Environmental Assessment (EA) for installation development projects at Little Rock Air Force Base (AFB), Arkansas in accordance with the Council on Environmental Quality guidelines pursuant to the National Environmental Policy Act (NEPA) of 1969 the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] 1500-1508), the Air Force Environmental Impact Analysis Process Regulations at 32 CFR 989, and Air Force Instruction (AFI) 32-7061.

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Sincerely

Dana L Hardage

Dana Hardage
NEPA Lead

Enclosure:
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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

June 22, 2022

Ms. Dana Hardage
NEPA Lead
19 CES/CEIE
528 Thomas Avenue
Little Rock AFB, AR 72099

Mr. Curry Jones, Chief
Water Resources Section (ECD-WR)
EPA Region 6
1201 Elm Street
Dallas, TX 75270

Dear Mr. Curry

The 19th Airlift Wing (19 AW) is preparing an Environmental Assessment (EA) for installation development projects at Little Rock Air Force Base (AFB), Arkansas in accordance with the Council on Environmental Quality guidelines pursuant to the National Environmental Policy Act (NEPA) of 1969 the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] 1500-1508), the Air Force Environmental Impact Analysis Process Regulations at 32 CFR 989, and Air Force Instruction (AFI) 32-7061.

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Sincerely

Dana L Hardage

Dana Hardage
NEPA Lead

Enclosure:
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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

June 22, 2022

Ms. Dana Hardage
NEPA Lead
19 CES/CEIE
528 Thomas Avenue
Little Rock AFB, AR 72099

Mr. Jim Moore
Chairman, Jacksonville Planning Commission
1 Municipal Drive
Jacksonville, AR 72076

Dear Mr. Moore

The 19th Airlift Wing (19 AW) is preparing an Environmental Assessment (EA) for installation development projects at Little Rock Air Force Base (AFB), Arkansas in accordance with the Council on Environmental Quality guidelines pursuant to the National Environmental Policy Act (NEPA) of 1969 the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] 1500-1508), the Air Force Environmental Impact Analysis Process Regulations at 32 CFR 989, and Air Force Instruction (AFI) 32-7061.

The intent of the installation development projects is to provide infrastructure and functionality improvements necessary to support the missions at Little Rock AFB. The Proposed Action does not include changes to airfield operations, training activities, or personnel at Little Rock AFB. The EA will analyze the potential effects to the human and natural environment associated with the implementation of the 12 installation development projects within the installation boundary at Little Rock AFB presented in Table 1.

Table 1. Little Rock AFB Installation Development Projects

Project ID(s).	Project Name and Number	Project Description
A	Repair Small Arms Range	Proposed upgrades would consist of removing the existing containment walls and installing fencing in its place to improve natural ventilation and control range access.
B	Construct New Vehicle Maintenance Facility	Construct a new 34,207 square foot (sf) combined vehicle maintenance facility and supporting infrastructure in the same location of the existing facility and demolish four buildings.
C1, C2	Construct New Child Development Center	Construct a new 54,082 sf Child Development Center and supporting infrastructure at one of two potential locations and demolish the existing 24,670 sf Child Development Center and return the site to preconstruction conditions
D	Construct New Combat Training Squadron Facility	Construct a new two story 28,847 sf Combat Training Squadron facility and supporting infrastructure near the existing facility and demolish the existing facility (Building 160) and return the site to preconstruction conditions.

Project ID(s).	Project Name and Number	Project Description
E	Construct Addition to Aerial Delivery Facility	Construct an approximately 7,825 sf addition to the west side of Building 259, upgrade existing building elements, and enclose adjacent area.
F	Construct Munitions Maintenance Shop	Construct a new 5,500 sf conventional maintenance facility with two bays and supporting infrastructure and demolish the existing facility (Building 1713).
G	Improve Wilson Lake Spillway	Clear vegetation and install water management infrastructure and pedestrian walkway at Wilson Lake dam.
H	Repair Concrete Apron and Taxiway	Replace 33 slabs of apron/taxiway, replace asphalt shoulder, install new aircraft tiedowns, and install a new underdrain system and new lights.
I	Repair Fitness Center	Repair the fitness center foundation, repair the roof, and install new energy-efficient lighting.
J	Demolish Building 670 and Tower	Demolish Building 670 and adjacent tower then grade and seed the resulting flat surface with approved vegetation.
K*	Construct Sidewalks	Construct approximately 2,225 linear feet of 4-foot-wide pedestrian sidewalks in various locations.
L1*, L2*	Construct Sidewalk Along Vandenburg Boulevard	Construct an approximately 4-foot-wide sidewalk offset from the northern or southern side of Vandenberg Boulevard from the gate to the end of government property.

** Denotes project with potential to impact the 100-year floodplain.*

In accordance with Executive Order 12372, *Intergovernmental Review of Federal Programs*, we solicit your comments concerning the proposal and any potential environmental consequences of the action. We also request information regarding other recently completed, ongoing, or proposed projects in the vicinity that create cumulative impacts in association with the Proposed Action. Please provide any comments you may have within 30 days of receipt of this letter.

The USAF looks forward to your participation in this NEPA process. Please provide written comments within 30 days from the date of this letter to me, Ms. Dana Hardage, 528 Thomas Avenue, Little Rock AFB, Arkansas 72099-4987 or via email to dana.hardage@us.af.mil. Thank you for your assistance.

Sincerely

Dana L Hardage

Dana Hardage
NEPA Lead

Enclosure:
Disc: Final Description of Proposed Action and Alternatives

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

June 22, 2022

Ms. Dana Hardage
NEPA Lead
19 CES/CEIE
528 Thomas Avenue
Little Rock AFB, AR 72099

Mr. Van McClendon, Director
Pulaski County Planning and Development
3200 Brown Street
Little Rock, AR 72204

Dear Mr. McClendon,

The 19th Airlift Wing (19 AW) is preparing an Environmental Assessment (EA) for installation development projects at Little Rock Air Force Base (AFB), Arkansas in accordance with the Council on Environmental Quality guidelines pursuant to the National Environmental Policy Act (NEPA) of 1969 the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] 1500-1508), the Air Force Environmental Impact Analysis Process Regulations at 32 CFR 989, and Air Force Instruction (AFI) 32-7061.

The intent of the installation development projects is to provide infrastructure and functionality improvements necessary to support the missions at Little Rock AFB. The Proposed Action does not include changes to airfield operations, training activities, or personnel at Little Rock AFB. The EA will analyze the potential effects to the human and natural environment associated with the implementation of the 12 installation development projects within the installation boundary at Little Rock AFB presented in Table 1.

Table 1. Little Rock AFB Installation Development Projects

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** Denotes project with potential to impact the 100-year floodplain.*

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The USAF looks forward to your participation in this NEPA process. Please provide written comments within 30 days from the date of this letter to me, Ms. Dana Hardage, 528 Thomas Avenue, Little Rock AFB, Arkansas 72099-4987 or via email to dana.hardage@us.af.mil. Thank you for your assistance.

Sincerely

Dana L Hardage

Dana Hardage
NEPA Lead

Enclosure:
Disc: Final Description of Proposed Action and Alternatives

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

June 22, 2022

Ms. Dana Hardage
NEPA Lead
19 CES/CEIE
528 Thomas Avenue
Little Rock AFB, AR 72099

Ms. Stacy Hurst
State Historic Preservation Officer
Arkansas Historic Preservation Program
100 North Street
Little Rock, AR 72201

Dear Ms. Hurst

The 19th Airlift Wing (19 AW) is preparing an Environmental Assessment (EA) for installation development projects at Little Rock Air Force Base (AFB), Arkansas in accordance with the Council on Environmental Quality guidelines pursuant to the National Environmental Policy Act (NEPA) of 1969 the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] 1500-1508), the Air Force Environmental Impact Analysis Process Regulations at 32 CFR 989, and Air Force Instruction (AFI) 32-7061.

The intent of the installation development projects is to provide infrastructure and functionality improvements necessary to support the missions at Little Rock AFB. The Proposed Action does not include changes to airfield operations, training activities, or personnel at Little Rock AFB. The EA will analyze the potential effects to the human and natural environment associated with the implementation of the 12 installation development projects within the installation boundary at Little Rock AFB presented in Table 1.

Table 1. Little Rock AFB Installation Development Projects

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In accordance with Executive Order 12372, *Intergovernmental Review of Federal Programs*, we solicit your comments concerning the proposal and any potential environmental consequences of the action. We also request information regarding other recently completed, ongoing, or proposed projects in the vicinity that create cumulative impacts in association with the Proposed Action. Please provide any comments you may have within 30 days of receipt of this letter.

The USAF looks forward to your participation in this NEPA process. Please provide written comments within 30 days from the date of this letter to me, Ms. Dana Hardage, 528 Thomas Avenue, Little Rock AFB, Arkansas 72099-4987 or via email to dana.hardage@us.af.mil. Thank you for your assistance.

Sincerely

Dana L Hardage

Dana Hardage
NEPA Lead

Enclosure:
Disc: Final Description of Proposed Action and Alternatives

Asa Hutchinson
Governor
Stacy Hurst
Secretary

July 28, 2022

Dana Hardage
NEPA Lead
Department of the Air Force
528 Thomas Ave.
Little Rock AFB, AR 72099

Re: Pulaski County – Little Rock
Section 106 Review – USAF
Proposed Undertaking – Installation Development Projects at the Little Rock Air Force Base, Pulaski County, AR
AHPP Tracking Number 109989

Dear Ms. Hardage:

The staff of the Arkansas Historic Preservation Program (AHPP) reviewed the proposed undertaking at the Little Rock Air Force Base (AFB), Pulaski County, AR. As described, the undertaking several projects, including construction of a new Vehicle Maintenance Facility, a new Child Development Center, a new Combat Training Facility, a new Munitions Maintenance Shop, and several sidewalks. Additionally, the Small Arms Range will be repaired, clearing and adding water management infrastructure to the Wilson Lake Spillway, repairing the concrete apron and taxiway, and demolishing Building 670 and its associated tower.

Based on the provided information, the AHPP concurs with a finding of **no historic properties affected pursuant to 36 CFR § 800.4(d)(1)** for the proposed undertaking.

We appreciate the opportunity to review this undertaking. If you have any questions, please contact George Burson at (501) 324-9270 or at George.Burson@arkansas.gov. Please refer to the AHPP Tracking Number above in any correspondence.

Sincerely,

for
Scott Kaufman
Director, AHPP

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

June 28, 2022

Ms. Dana Hardage
NEPA Lead
19 CES/CEIE
528 Thomas Avenue
Little Rock AFB, AR 72099

Ms. Sarah Chitwood
Chief, SWL Regulatory Division
Little Rock District Corps of Engineers
P.O. Box 867
Little Rock, AR 72203

Sent via Email: CESWL-Regulatory@usace.army.mil

Dear Ms. Chitwood

The 19th Airlift Wing (19 AW) is preparing an Environmental Assessment (EA) for installation development projects at Little Rock Air Force Base (AFB), Arkansas in accordance with the Council on Environmental Quality guidelines pursuant to the National Environmental Policy Act (NEPA) of 1969 the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] 1500-1508), the Air Force Environmental Impact Analysis Process Regulations at 32 CFR 989, and Air Force Instruction (AFI) 32-7061.

The intent of the installation development projects is to provide infrastructure and functionality improvements necessary to support the missions at Little Rock AFB. The Proposed Action does not include changes to airfield operations, training activities, or personnel at Little Rock AFB. The EA will analyze the potential effects to the human and natural environment associated with the implementation of the 12 installation development projects within the installation boundary at Little Rock AFB presented in Table 1.

Table 1. Little Rock AFB Installation Development Projects

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The USAF looks forward to your participation in this NEPA process. Please provide written comments within 30 days from the date of this letter to me, Ms. Dana Hardage, 528 Thomas Avenue, Little Rock AFB, Arkansas 72099-4987 or via email to dana.hardage@us.af.mil. Thank you for your assistance.

Sincerely

Dana Hardage
NEPA Lead

Enclosure:
Disc: Final Description of Proposed Action and Alternatives

cc:
Mr. Gerald Dickson, Environmental Protection Specialist

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

June 28, 2022

Ms. Dana Hardage
NEPA Lead
19 CES/CEIE
528 Thomas Avenue
Little Rock AFB, AR 72099

Mr. Melvin Tobin, Field Supervisor
US Fish and Wildlife Service
Arkansas Ecological Services Field Office
110 South Amity Road, Ste. 300
Conway, AR 72032

Sent via Email: melvin_tobin@fws.gov

Dear Mr. Tobin

The 19th Airlift Wing (19 AW) is preparing an Environmental Assessment (EA) for installation development projects at Little Rock Air Force Base (AFB), Arkansas in accordance with the Council on Environmental Quality guidelines pursuant to the National Environmental Policy Act (NEPA) of 1969 the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] 1500-1508), the Air Force Environmental Impact Analysis Process Regulations at 32 CFR 989, and Air Force Instruction (AFI) 32-7061.

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Table 1. Little Rock AFB Installation Development Projects

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Sincerely

Dana Hardage
NEPA Lead

Enclosure:
Disc: Final Description of Proposed Action and Alternatives

cc:
Mr. Chris Davidson, Deputy Field Supervisor

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

12 August 2022

Colonel Angela F. Ochoa, USAF
Commander, 19th Airlift Wing
1250 Thomas Avenue, Suite 106
Little Rock AFB AR 72099-4940

Principal Chief Chuck Hoskin Jr.
Cherokee Nation
P. O. 948
Tahlequah OK 74465

Dear Principal Chief Hoskin

The purpose of this letter is twofold: 1) to invite your Tribe to participate in government-to-government consultation with Little Rock Air Force Base (AFB) pursuant to Section 106 of the National Historic Preservation Act (NHPA); and 2) to provide an opportunity for you to review and comment on proposed activities at Little Rock Air Force Base pursuant to the National Environmental Policy Act (NEPA) of 1969, wherein you identify any properties of religious and cultural significance within the Area of Potential Effect.

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) under NEPA (42 United States Code [USC] § 4331 et seq.), the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] §§ 1500-1508), the Air Force Environmental Impact Assessment Process Regulations at 32 CFR Part 989, and Air Force Instruction 32-7061 for installation development projects at Little Rock AFB.

The intent of the proposed undertaking is to provide infrastructure and functionality improvements necessary to support the missions at Little Rock AFB. The Proposed Action does not include changes to airfield operations, training activities, or personnel at Little Rock AFB. The EA will analyze the potential effects to the human and natural environment associated with the implementation of the 12 projects for development within the installation boundary at Little Rock AFB presented in Table 1.

Table 1. Little Rock AFB Installation Development Projects

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In addition to the 12 projects that will be analyzed in the EA, a project is proposed to resurface the Warfit Football and Softball Fields with artificial turf. The resurfacing effort would require the excavation of approximately two feet across the fields in order to install the base materials and drainage features. The football field was originally graded and installed with bermuda sod in 2006 and the softball fields in 1998.

Per 54 USC § 306108 (Section 106 of the NHPA) and its implementing regulations at 36 CFR Part 800, the USAF is accounting for various environmental concerns and engaging early with tribal governments as it formulates the undertakings. We invite the Cherokee Nation to review the information contained in this letter and enclosed Description of Proposed Action and Alternatives (DOPAA), and submit any comments or concerns you have, with a focus on identifying any properties of religious or cultural significance within the Area of Potential Effect. Later, once it is ready, we will also send you a draft copy of the EA. Your early communication will aid in our planning and our ability to prepare an all-inclusive EA.

No impacts on archaeological sites are expected from these projects. One archaeological site located on Little Rock AFB property is eligible for listing in the National Register of Historic Places (NRHP); however, the site is not within the Area of Potential Effect for the undertaking.

In accordance with the NHPA, the USAF would like to initiate government-to-government consultation regarding the proposed installation development projects at Little Rock AFB. To date, no tribe has identified any properties of religious and cultural significance (i.e., Traditional Cultural Properties [TCPs] on the installation). Please let us know if you would like to share any information on TCPs that we could use in our planning process to avoid or minimize impacts to them.

We look forward to hearing from the Cherokee Nation about TCPs or any issues or areas of concern you feel should be addressed in the EA. For staff questions, comments, or input on the NEPA process, please contact my Cultural Resources Manager, Ms. Dana Hardage, 528 Thomas Avenue, Little Rock AFB, AR 72099-4987, (501) 987-3681, dana.hardage@us.af.mil. For matters related to government-to-government consultation, you may contact me directly at (501) 987-1901.

Sincerely

ANGELA F. OCHOA, Colonel, USAF
Commander

Enclosure:
Description and Maps of Proposed Activities at Little Rock AFB (Disc)

cc:
Ms. Elizabeth Toombs, Tribal Historic Preservation Officer

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

12 August 2022

Colonel Angela F. Ochoa, USAF
Commander, 19th Airlift Wing
1250 Thomas Avenue, Suite 106
Little Rock AFB AR 72099-4940

Chief Gary Batton
Choctaw Nation
P. O. Box 1210
Durant OK 74702

Dear Chief Batton

The purpose of this letter is twofold: 1) to invite your Tribe to participate in government-to-government consultation with Little Rock Air Force Base (AFB) pursuant to Section 106 of the National Historic Preservation Act (NHPA); and 2) to provide an opportunity for you to review and comment on proposed activities at Little Rock Air Force Base pursuant to the National Environmental Policy Act (NEPA) of 1969, wherein you identify any properties of religious and cultural significance within the Area of Potential Effect.

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L1*, L2*	Construct Sidewalk Along Vandenburg Boulevard	Construct an approximately 4-foot-wide sidewalk offset from the northern or southern side of Vandenberg Boulevard from the gate to the end of government property.

** Denotes project with potential to impact the 100-year floodplain.*

In addition to the 12 projects that will be analyzed in the EA, a project is proposed to resurface the Warfit Football and Softball Fields with artificial turf. The resurfacing effort would require the excavation of approximately two feet across the fields in order to install the base materials and drainage features. The football field was originally graded and installed with bermuda sod in 2006 and the softball fields in 1998.

Per 54 USC § 306108 (Section 106 of the NHPA) and its implementing regulations at 36 CFR Part 800, the USAF is accounting for various environmental concerns and engaging early with tribal governments as it formulates the undertakings. We invite the Choctaw Nation to review the information contained in this letter and enclosed Description of Proposed Action and Alternatives (DOPAA), and submit any comments or concerns you have, with a focus on identifying any properties of religious or cultural significance within the Area of Potential Effect. Later, once it is ready, we will also send you a draft copy of the EA. Your early communication will aid in our planning and our ability to prepare an all-inclusive EA.

No impacts on archaeological sites are expected from these projects. One archaeological site located on Little Rock AFB property is eligible for listing in the National Register of Historic Places (NRHP); however, the site is not within the Area of Potential Effect for the undertaking.

In accordance with the NHPA, the USAF would like to initiate government-to-government consultation regarding the proposed installation development projects at Little Rock AFB. To date, no tribe has identified any properties of religious and cultural significance (i.e., Traditional Cultural Properties [TCPs] on the installation). Please let us know if you would like to share any information on TCPs that we could use in our planning process to avoid or minimize impacts to them.

We look forward to hearing from the Choctaw Nation about TCPs or any issues or areas of concern you feel should be addressed in the EA. For staff questions, comments, or input on the NEPA process, please contact my Cultural Resources Manager, Ms. Dana Hardage, 528 Thomas Avenue, Little Rock AFB, AR 72099-4987, (501) 987-3681, dana.hardage@us.af.mil. For matters related to government-to-government consultation, you may contact me directly at (501) 987-1901.

Sincerely

ANGELA F. OCHOA, Colonel, USAF
Commander

Enclosure:
Description and Maps of Proposed Activities at Little Rock AFB (Disc)

cc:
Ms. Maddie Currie, National Historic Preservation Act Compliance Review Specialist

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

12 August 2022

Colonel Angela F. Ochoa, USAF
Commander, 19th Airlift Wing
1250 Thomas Avenue, Suite 106
Little Rock AFB AR 72099-4940

Chief Cheryl Smith
Jena Band of Choctaw Indians
P. O. Box 14
Jena LA 71342

Dear Chief Smith

The purpose of this letter is twofold: 1) to invite your Tribe to participate in government-to-government consultation with Little Rock Air Force Base (AFB) pursuant to Section 106 of the National Historic Preservation Act (NHPA); and 2) to provide an opportunity for you to review and comment on proposed activities at Little Rock Air Force Base pursuant to the National Environmental Policy Act (NEPA) of 1969, wherein you identify any properties of religious and cultural significance within the Area of Potential Effect.

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) under NEPA (42 United States Code [USC] § 4331 et seq.), the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] §§ 1500-1508), the Air Force Environmental Impact Assessment Process Regulations at 32 CFR Part 989, and Air Force Instruction 32-7061 for installation development projects at Little Rock AFB.

The intent of the proposed undertakings is to provide infrastructure and functionality improvements necessary to support the missions at Little Rock AFB. The Proposed Action does not include changes to airfield operations, training activities, or personnel at Little Rock AFB. The EA will analyze the potential effects to the human and natural environment associated with the implementation of the 12 projects for development within the installation boundary at Little Rock AFB presented in Table 1.

Table 1. Little Rock AFB Installation Development Projects

Project ID(s)	Project Name and Number	Project Description
A	Repair Small Arms Range	Proposed upgrades would consist of removing the existing containment walls and installing fencing in its place to improve natural ventilation and control range access.
B	Construct New Vehicle Maintenance Facility	Construct a new 34,207 square foot (sf) combined vehicle maintenance facility and supporting infrastructure in the same location of the existing facility and demolish four buildings.
C1, C2	Construct New Child Development Center	Construct a new 54,082 sf Child Development Center and supporting infrastructure at one of two potential locations, demolish the existing 24,670 sf Child Development Center, and return the site to preconstruction conditions.

Project ID(s)	Project Name and Number	Project Description
D	Construct New Combat Training Squadron Facility	Construct a new two story 28,847 sf Combat Training Squadron facility and supporting infrastructure near the existing facility and demolish the existing facility (Building 160) and return the site to preconstruction conditions.
E	Construct Addition to Aerial Delivery Facility	Construct an approximately 7,825 sf addition to the west side of Building 259, upgrade existing building elements, and enclose adjacent area.
F	Construct Munitions Maintenance Shop	Construct a new 5,500 sf conventional maintenance facility with two bays and supporting infrastructure and demolish the existing facility (Building 1714).
G	Improve Wilson Lake Spillway	Clear vegetation and install water management infrastructure and pedestrian walkway at Wilson Lake dam.
H	Repair Concrete Apron and Taxiway	Replace 33 slabs of apron/taxiway, replace asphalt shoulder, install new aircraft tiedowns, and install a new underdrain system and new lights.
I	Repair Fitness Center	Repair the fitness center foundation, repair the roof, and install new energy-efficient lighting.
J	Demolish Building 670 and Tower	Demolish Building 670 and adjacent tower then grade and seed the resulting flat surface with approved vegetation.
K*	Construct Sidewalks	Construct approximately 2,225 linear feet of 4-foot-wide pedestrian sidewalks in various locations.
L1*, L2*	Construct Sidewalk Along Vandenburg Boulevard	Construct an approximately 4-foot-wide sidewalk offset from the northern or southern side of Vandenberg Boulevard from the gate to the end of government property.

** Denotes project with potential to impact the 100-year floodplain.*

In addition to the 12 projects that will be analyzed in the EA, a project is proposed to resurface the Warfit Football and Softball Fields with artificial turf. The resurfacing effort would require the excavation of approximately two feet across the fields in order to install the base materials and drainage features. The football field was originally graded and installed with bermuda sod in 2006 and the softball fields in 1998.

Per 54 USC § 306108 (Section 106 of the NHPA) and its implementing regulations at 36 CFR Part 800, the USAF is accounting for various environmental concerns and engaging early with tribal governments as it formulates the undertaking. We invite the Jena Band of Choctaw Indians to review the information contained in this letter and attached Description of Proposed Action and Alternatives (DOPAA), and submit any comments or concerns you have, with a focus on identifying any properties of religious or cultural significance within the Area of Potential Effect. Later, once it is ready, we will also send you a draft copy of the EA. Your early communication will aid in our planning and our ability to prepare an all-inclusive EA.

No impacts on archaeological sites are expected from these projects. One archaeological site located on Little Rock AFB property is eligible for listing in the National Register of Historic Places (NRHP); however, the site is not within the Area of Potential Effect for the undertaking.

In accordance with the NHPA, the USAF would like to initiate government-to-government consultation regarding the proposed installation development projects at Little Rock AFB. To date, no tribe has identified any properties of religious and cultural significance (i.e., Traditional Cultural Properties [TCPs] on the installation). Please let us know if you would like to share any information on TCPs that we could use in our planning process to avoid or minimize impacts to them.

We look forward to hearing from the Jena Band of Choctaw Indians about TCPs or any issues or areas of concern you feel should be addressed in the EA. For staff questions, comments, or input on the NEPA process, please contact my Cultural Resources Manager, Ms. Dana Hardage, 528 Thomas Avenue, Little Rock AFB, AR 72099-4987, (501) 987-3681, dana.hardage@us.af.mil. For matters related to government-to-government consultation, you may contact me directly at (501) 987-1901.

Sincerely

ANGELA F. OCHOA, Colonel, USAF
Commander

Attachment:
Final Description of Proposed Actions and Alternatives (Disc)

cc:
Ms. Johnna Flynn, Tribal Historic Preservation Officer

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

12 August 2022

Colonel Angela F. Ochoa, USAF
Commander, 19th Airlift Wing
1250 Thomas Avenue, Suite 106
Little Rock AFB AR 72099-4940

Principal Chief David Hill
Muscogee (Creek) Nation
P.O. Box 580
Okmulgee OK 74447

Dear Principal Chief Hill

The purpose of this letter is twofold: 1) to invite your Tribe to participate in government-to-government consultation with Little Rock Air Force Base (AFB) pursuant to Section 106 of the National Historic Preservation Act (NHPA); and 2) to provide an opportunity for you to review and comment on proposed activities at Little Rock Air Force Base pursuant to the National Environmental Policy Act (NEPA) of 1969, wherein you identify any properties of religious and cultural significance within the Area of Potential Effect.

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) under NEPA (42 United States Code [USC] § 4331 et seq.), the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] §§ 1500-1508), the Air Force Environmental Impact Assessment Process Regulations at 32 CFR Part 989, and Air Force Instruction 32-7061 for installation development projects at Little Rock AFB.

The intent of the proposed undertakings is to provide infrastructure and functionality improvements necessary to support the missions at Little Rock AFB. The Proposed Action does not include changes to airfield operations, training activities, or personnel at Little Rock AFB. The EA will analyze the potential effects to the human and natural environment associated with the implementation of the 12 projects for development within the installation boundary at Little Rock AFB presented in Table 1.

Table 1. Little Rock AFB Installation Development Projects

Project ID(s)	Project Name and Number	Project Description
A	Repair Small Arms Range	Proposed upgrades would consist of removing the existing containment walls and installing fencing in its place to improve natural ventilation and control range access.
B	Construct New Vehicle Maintenance Facility	Construct a new 34,207 square foot (sf) combined vehicle maintenance facility and supporting infrastructure in the same location of the existing facility and demolish four buildings.
C1, C2	Construct New Child Development Center	Construct a new 54,082 sf Child Development Center and supporting infrastructure at one of two potential locations, demolish the existing 24,670 sf Child Development Center, and return the site to preconstruction conditions.

Project ID(s)	Project Name and Number	Project Description
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F	Construct Munitions Maintenance Shop	Construct a new 5,500 sf conventional maintenance facility with two bays and supporting infrastructure and demolish the existing facility (Building 1714).
G	Improve Wilson Lake Spillway	Clear vegetation and install water management infrastructure and pedestrian walkway at Wilson Lake dam.
H	Repair Concrete Apron and Taxiway	Replace 33 slabs of apron/taxiway, replace asphalt shoulder, install new aircraft tiedowns, and install a new underdrain system and new lights.
I	Repair Fitness Center	Repair the fitness center foundation, repair the roof, and install new energy-efficient lighting.
J	Demolish Building 670 and Tower	Demolish Building 670 and adjacent tower then grade and seed the resulting flat surface with approved vegetation.
K*	Construct Sidewalks	Construct approximately 2,225 linear feet of 4-foot-wide pedestrian sidewalks in various locations.
L1*, L2*	Construct Sidewalk Along Vandenburg Boulevard	Construct an approximately 4-foot-wide sidewalk offset from the northern or southern side of Vandenberg Boulevard from the gate to the end of government property.

** Denotes project with potential to impact the 100-year floodplain.*

In addition to the 12 projects that will be analyzed in the EA, a project is proposed to resurface the Warfit Football and Softball Fields with artificial turf. The resurfacing effort would require the excavation of approximately two feet across the fields in order to install the base materials and drainage features. The football field was originally graded and installed with bermuda sod in 2006 and the softball fields in 1998.

Per 54 USC § 306108 (Section 106 of the NHPA) and its implementing regulations at 36 CFR Part 800, the USAF is accounting for various environmental concerns and engaging early with tribal governments as it formulates the undertaking. We invite the Muscogee (Creek) Nation to review the information contained in this letter and enclosed Description of Proposed Action and Alternatives (DOPAA), and submit any comments or concerns you have, with a focus on identifying any properties of religious or cultural significance within the Area of Potential Effect. Later, once it is ready, we will also send you a draft copy of the EA. Your early communication will aid in our planning and our ability to prepare an all-inclusive EA.

No impacts on archaeological sites are expected from these projects. One archaeological site located on Little Rock AFB property is eligible for listing in the National Register of Historic Places (NRHP); however, the site is not within the Area of Potential Effect for the undertaking.

In accordance with the NHPA, the USAF would like to initiate government-to-government consultation regarding the proposed installation development projects at Little Rock AFB. To date, no tribe has identified any properties of religious and cultural significance (i.e., Traditional Cultural Properties [TCPs] on the installation). Please let us know if you would like to share any information on TCPs that we could use in our planning process to avoid or minimize impacts to them.

We look forward to hearing from the Muscogee (Creek) Nation about TCPs or any issues or areas of concern you feel should be addressed in the EA. For staff questions, comments, or input on the NEPA process, please contact my Cultural Resources Manager, Ms. Dana Hardage, 528 Thomas Avenue, Little Rock AFB, AR 72099-4987, (501) 987-3681, dana.hardage@us.af.mil. For matters related to government-to-government consultation, you may contact me directly at (501) 987-1901.

Sincerely

ANGELA F. OCHOA, Colonel, USAF
Commander

Enclosure:
Final Description of Proposed Actions and Alternatives (Disc)

cc:
Ms. Corain Lowe-Zepeda, Tribal Historic Preservation Officer

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

12 August 2022

Colonel Angela F. Ochoa, USAF
Commander, 19th Airlift Wing
1250 Thomas Avenue, Suite 106
Little Rock AFB AR 72099-4940

Chief Ben Barnes
Shawnee Tribe
29 South Hwy 69A
Miami OK 74354

Dear Chief Barnes

The purpose of this letter is twofold: 1) to invite your Tribe to participate in government-to-government consultation with Little Rock Air Force Base (AFB) pursuant to Section 106 of the National Historic Preservation Act (NHPA); and 2) to provide an opportunity for you to review and comment on proposed activities at Little Rock Air Force Base pursuant to the National Environmental Policy Act (NEPA) of 1969, wherein you identify any properties of religious and cultural significance within the Area of Potential Effect.

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) under NEPA (42 United States Code [USC] § 4331 et seq.), the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] §§ 1500-1508), the Air Force Environmental Impact Assessment Process Regulations at 32 CFR Part 989, and Air Force Instruction 32-7061 for installation development projects at Little Rock AFB.

The intent of the proposed undertaking is to provide infrastructure and functionality improvements necessary to support the missions at Little Rock AFB. The Proposed Action does not include changes to airfield operations, training activities, or personnel at Little Rock AFB. The EA will analyze the potential effects to the human and natural environment associated with the implementation of the 12 projects for development within the installation boundary at Little Rock AFB presented in Table 1.

Table 1. Little Rock AFB Installation Development Projects

Project ID(s)	Project Name and Number	Project Description
A	Repair Small Arms Range	Proposed upgrades would consist of removing the existing containment walls and installing fencing in its place to improve natural ventilation and control range access.
B	Construct New Vehicle Maintenance Facility	Construct a new 34,207 square foot (sf) combined vehicle maintenance facility and supporting infrastructure in the same location of the existing facility and demolish four buildings.
C1, C2	Construct New Child Development Center	Construct a new 54,082 sf Child Development Center and supporting infrastructure at one of two potential locations, demolish the existing 24,670 sf Child Development Center, and return the site to preconstruction conditions.

Project ID(s)	Project Name and Number	Project Description
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F	Construct Munitions Maintenance Shop	Construct a new 5,500 sf conventional maintenance facility with two bays and supporting infrastructure and demolish the existing facility (Building 1714).
G	Improve Wilson Lake Spillway	Clear vegetation and install water management infrastructure and pedestrian walkway at Wilson Lake dam.
H	Repair Concrete Apron and Taxiway	Replace 33 slabs of apron/taxiway, replace asphalt shoulder, install new aircraft tiedowns, and install a new underdrain system and new lights.
I	Repair Fitness Center	Repair the fitness center foundation, repair the roof, and install new energy-efficient lighting.
J	Demolish Building 670 and Tower	Demolish Building 670 and adjacent tower then grade and seed the resulting flat surface with approved vegetation.
K*	Construct Sidewalks	Construct approximately 2,225 linear feet of 4-foot-wide pedestrian sidewalks in various locations.
L1*, L2*	Construct Sidewalk Along Vandenburg Boulevard	Construct an approximately 4-foot-wide sidewalk offset from the northern or southern side of Vandenberg Boulevard from the gate to the end of government property.

** Denotes project with potential to impact the 100-year floodplain.*

In addition to the 12 projects that will be analyzed in the EA, a project is proposed to resurface the Warfit Football and Softball Fields with artificial turf. The resurfacing effort would require the excavation of approximately two feet across the fields in order to install the base materials and drainage features. The football field was originally graded and installed with bermuda sod in 2006 and the softball fields in 1998.

Per 54 USC § 306108 (Section 106 of the NHPA) and its implementing regulations at 36 CFR Part 800, the USAF is accounting for various environmental concerns and engaging early with tribal governments as it formulates the undertaking. We invite the Shawnee Tribe to review the information contained in this letter and attached Description of Proposed Action and Alternatives (DOPAA), and submit any comments or concerns you have, with a focus on identifying any properties of religious or cultural significance within the Area of Potential Effect. Later, once it is ready, we will also send you a draft copy of the EA. Your early communication will aid in our planning and our ability to prepare an all-inclusive EA.

No impacts on archaeological sites are expected from these projects. One archaeological site located on Little Rock AFB property is eligible for listing in the National Register of Historic Places (NRHP); however, the site is not within the Area of Potential Effect for the undertaking.

In accordance with the NHPA, the USAF would like to initiate government-to-government consultation regarding the proposed installation development projects at Little Rock AFB. To date, no tribe has identified any properties of religious and cultural significance (i.e., Traditional Cultural Properties [TCPs] on the installation). Please let us know if you would like to share any information on TCPs that we could use in our planning process to avoid or minimize impacts to them.

We look forward to hearing from the Shawnee Tribe about TCPs or any issues or areas of concern you feel should be addressed in the EA. For staff questions, comments, or input on the NEPA process, please contact my Cultural Resources Manager, Ms. Dana Hardage, 528 Thomas Avenue, Little Rock AFB, AR 72099-4987, (501) 987-3681, dana.hardage@us.af.mil. For matters related to government-to-government consultation, you may contact me directly at (501) 987-1901.

Sincerely

ANGELA F. OCHOA, Colonel, USAF
Commander

Attachment:
Final Description of Proposed Actions and Alternatives

cc:
Ms. Tonya Tipton, Tribal Historic Preservation Officer

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

Ms. Dana L. Hardage
Natural and Cultural Resources Manager
Little Rock Air Force Base
528 Thomas Ave
Little Rock AFB, AR 72099-4940

Mr. Jonathan Roher
Tribal Historic Preservation Officer
Caddo Nation
P.O. Box 487
Banger OK 73009

Dear Mr. Roher

The purpose of this letter is twofold: 1) to invite your Tribe to participate in government-to-government consultation with Little Rock Air Force Base (AFB) pursuant to Section 106 of the National Historic Preservation Act (NHPA); and 2) to provide an opportunity for you to review and comment on proposed activities at Little Rock AFB pursuant to the National Environmental Policy Act (NEPA) of 1969, wherein you identify any properties of religious and cultural significance within the Area of Potential Effect.

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) under NEPA (42 United States Code [USC] § 4331 et seq.), the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] §§ 1500-1508), the Air Force Environmental Impact Assessment Process Regulations at 32 CFR Part 989, and Air Force Instruction 32-7061 for installation development projects at Little Rock AFB.

The intent of the proposed undertaking is to provide infrastructure and functionality improvements necessary to support the missions at Little Rock AFB. The Proposed Action does not include changes to airfield operations, training activities, or personnel at Little Rock AFB. The EA will analyze the potential effects to the human and natural environment associated with the implementation of the 12 projects for development within the installation boundary at Little Rock AFB presented in Table 1.

Table 1. Little Rock AFB Installation Development Projects

Project ID(s)	Project Name and Number	Project Description
A	Repair Small Arms Range	Proposed upgrades would consist of removing the existing containment walls and installing fencing in its place to improve natural ventilation and control range access.
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C1, C2	Construct New Child Development Center	Construct a new 54,082 sf Child Development Center and supporting infrastructure at one of two potential locations, demolish the existing 24,670 sf Child Development Center, and return the site to preconstruction conditions.

Project ID(s)	Project Name and Number	Project Description
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E	Construct Addition to Aerial Delivery Facility	Construct an approximately 7,825 sf addition to the west side of Building 259, upgrade existing building elements, and enclose adjacent area.
F	Construct Munitions Maintenance Shop	Construct a new 5,500 sf conventional maintenance facility with two bays and supporting infrastructure and demolish the existing facility (Building 1714).
G	Improve Wilson Lake Spillway	Clear vegetation and install water management infrastructure and pedestrian walkway at Wilson Lake dam.
H	Repair Concrete Apron and Taxiway	Replace 33 slabs of apron/taxiway, replace asphalt shoulder, install new aircraft tiedowns, and install a new underdrain system and new lights.
I	Repair Fitness Center	Repair the fitness center foundation, repair the roof, and install new energy-efficient lighting.
J	Demolish Building 670 and Tower	Demolish Building 670 and adjacent tower then grade and seed the resulting flat surface with approved vegetation.
K*	Construct Sidewalks	Construct approximately 2,225 linear feet of 4-foot-wide pedestrian sidewalks in various locations.
L1*, L2*	Construct Sidewalk Along Vandenburg Boulevard	Construct an approximately 4-foot-wide sidewalk offset from the northern or southern side of Vandenberg Boulevard from the gate to the end of government property.

** Denotes project with potential to impact the 100-year floodplain.*

In addition to the 12 project that will be analyzed in the EA, a project is proposed to resurface the Warfit football and Softball Fields with artificial turf. The resurfacing effort would require the excavation of approximately two feet across the fields in order to install the base materials and drainage features. The football field was originally graded and installed with Bermuda sod in 2006 and the softball fields in 1998.

Per 54 USC § 306108 (Section 106 of the NHPA) and its implementing regulations at 36 CFR Part 800, the USAF is accounting for various environmental concerns and engaging early with tribal governments as it formulates the undertaking. We invite the Caddo Nation to review the information contained in this letter and enclosed Description of Proposed Action and Alternatives (DOPAA), and submit any comments or concerns you have, with a focus on identifying any properties of religious or cultural significance within the Area of Potential Effect. Later, once it is ready, we will also send you a draft copy of the EA. Your early communication will aid in our planning and our ability to prepare an all-inclusive EA.

No impacts on archaeological sites are expected from this project. One archaeological site located on Little Rock AFB property is eligible for listing in the National Register of Historic Places (NRHP); however, the site is not within the Area of Potential Effect for the undertaking.

In accordance with the NHPA, the USAF would like to initiate government-to-government consultation regarding the proposed installation development projects at Little Rock AFB. To date, no tribe has identified any properties of religious and cultural significance (i.e., Traditional Cultural Properties [TCPs] on the installation). Please let us know if you would like to share any information on TCPs that we could use in our planning process to avoid or minimize impacts to them.

I look forward to hearing from you about TCPs or any issues or areas of concern you feel should be addressed in the EA. Please feel free contact me at 528 Thomas Avenue, Little Rock AFB, AR 72099-4987, (501) 987-3681, dana.hardage@us.af.mil if you or your staff have any concerns.

Sincerely

Dana L Hardage

DANA L. HARDAGE
Natural and Cultural Resources Manager

Attachment:
Description and Maps of Proposed Activities at Little Rock AFB

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

Ms. Dana L. Hardage
Natural and Cultural Resources Manger
528 Thomas Ave
Little Rock AFB, AR 72099-4940

Dr. Andrea Hunter
Tribal Historic Preservation Officer
Osage Nation
627 Grandview
Pawhuska OK 74056

Dear Dr. Hunter

The purpose of this letter is twofold: 1) to invite your Tribe to participate in government-to-government consultation with Little Rock Air Force Base (AFB) pursuant to Section 106 of the National Historic Preservation Act (NHPA); and 2) to provide an opportunity for you to review and comment on proposed activities at Little Rock AFB pursuant to the National Environmental Policy Act (NEPA) of 1969, wherein you identify any properties of religious and cultural significance within the Area of Potential Effect.

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Per 54 USC § 306108 (Section 106 of the NHPA) and its implementing regulations at 36 CFR Part 800, the USAF is accounting for various environmental concerns and engaging early with tribal governments as it formulates the undertaking. We invite the Osage Nation to review the information contained in this letter and enclosed Description of Proposed Action and Alternatives (DOPAA), and submit any comments or concerns you have, with a focus on identifying any properties of religious or cultural significance within the Area of Potential Effect. Later, once it is ready, we will also send you a draft copy of the EA. Your early communication will aid in our planning and our ability to prepare an all-inclusive EA.

No impacts on archaeological sites are expected from this project. One archaeological site located on Little Rock AFB property is eligible for listing in the National Register of Historic Places (NRHP); however, the site is not within the Area of Potential Effect for the undertaking.

In accordance with the NHPA, the USAF would like to initiate government-to-government consultation regarding the proposed installation development projects at Little Rock AFB. To date, no tribe has identified any properties of religious and cultural significance (i.e., Traditional Cultural Properties [TCPs] on the installation). Please let us know if you would like to share any information on TCPs that we could use in our planning process to avoid or minimize impacts to them.

I look forward to hearing from you about TCPs or any issues or areas of concern you feel should be addressed in the EA. Please feel free contact me at 528 Thomas Avenue, Little Rock AFB, AR 72099-4987, (501) 987-3681, dana.hardage@us.af.mil if you or your staff have any concerns.

Sincerely

Dana L. Hardage

DANA L. HARDAGE
Natural and Cultural Resources Manager

Attachment:
Description and Maps of Proposed Activities at Little Rock AFB

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 19TH AIRLIFT WING (AMC)
LITTLE ROCK AIR FORCE BASE, ARKANSAS

Ms. Dana L. Hardage
Natural and Cultural Resources Manager
Little Rock Air Force Base
528 Thomas Ave
Little Rock AFB, AR 72099-4940

Mr. Everett Bandy
Tribal Historic Preservation Officer
Quapaw Nation
P.O. Box 765
Quapaw OK 74363

Dear Mr. Bandy

The purpose of this letter is twofold: 1) to invite your Tribe to participate in government-to-government consultation with Little Rock Air Force Base (AFB) pursuant to Section 106 of the National Historic Preservation Act (NHPA); and 2) to provide an opportunity for you to review and comment on proposed activities at Little Rock AFB pursuant to the National Environmental Policy Act (NEPA) of 1969, wherein you identify any properties of religious and cultural significance within the Area of Potential Effect.

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) under NEPA (42 United States Code [USC] § 4331 et seq.), the regulations of the President's Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] §§ 1500-1508), the Air Force Environmental Impact Assessment Process Regulations at 32 CFR Part 989, and Air Force Instruction 32-7061 for installation development projects at Little Rock AFB.

The intent of the proposed undertaking is to provide infrastructure and functionality improvements necessary to support the missions at Little Rock AFB. The Proposed Action does not include changes to airfield operations, training activities, or personnel at Little Rock AFB. The EA will analyze the potential effects to the human and natural environment associated with the implementation of the 12 projects for development within the installation boundary at Little Rock AFB presented in Table 1.

Table 1. Little Rock AFB Installation Development Projects

Project ID(s)	Project Name and Number	Project Description
A	Repair Small Arms Range	Proposed upgrades would consist of removing the existing containment walls and installing fencing in its place to improve natural ventilation and control range access.
B	Construct New Vehicle Maintenance Facility	Construct a new 34,207 square foot (sf) combined vehicle maintenance facility and supporting infrastructure in the same location of the existing facility and demolish four buildings.
C1, C2	Construct New Child Development Center	Construct a new 54,082 sf Child Development Center and supporting infrastructure at one of two potential locations, demolish the existing 24,670 sf Child Development Center, and return the site to preconstruction conditions.

Project ID(s)	Project Name and Number	Project Description
D	Construct New Combat Training Squadron Facility	Construct a new two story 28,847 sf Combat Training Squadron facility and supporting infrastructure near the existing facility and demolish the existing facility (Building 160) and return the site to preconstruction conditions.
E	Construct Addition to Aerial Delivery Facility	Construct an approximately 7,825 sf addition to the west side of Building 259, upgrade existing building elements, and enclose adjacent area.
F	Construct Munitions Maintenance Shop	Construct a new 5,500 sf conventional maintenance facility with two bays and supporting infrastructure and demolish the existing facility (Building 1714).
G	Improve Wilson Lake Spillway	Clear vegetation and install water management infrastructure and pedestrian walkway at Wilson Lake dam.
H	Repair Concrete Apron and Taxiway	Replace 33 slabs of apron/taxiway, replace asphalt shoulder, install new aircraft tiedowns, and install a new underdrain system and new lights.
I	Repair Fitness Center	Repair the fitness center foundation, repair the roof, and install new energy-efficient lighting.
J	Demolish Building 670 and Tower	Demolish Building 670 and adjacent tower then grade and seed the resulting flat surface with approved vegetation.
K*	Construct Sidewalks	Construct approximately 2,225 linear feet of 4-foot-wide pedestrian sidewalks in various locations.
L1*, L2*	Construct Sidewalk Along Vandenburg Boulevard	Construct an approximately 4-foot-wide sidewalk offset from the northern or southern side of Vandenberg Boulevard from the gate to the end of government property.

** Denotes project with potential to impact the 100-year floodplain.*

In addition to the 12 project that will be analyzed in the EA, a project is proposed to resurface the Warfit football and Softball Fields with artificial turf. The resurfacing effort would require the excavation of approximately two feet across the fields in order to install the base materials and drainage features. The football field was originally graded and installed with Bermuda sod in 2006 and the softball fields in 1998.

Per 54 USC § 306108 (Section 106 of the NHPA) and its implementing regulations at 36 CFR Part 800, the USAF is accounting for various environmental concerns and engaging early with tribal governments as it formulates the undertaking. We invite the Quapaw Nation to review the information contained in this letter and enclosed Description of Proposed Action and Alternatives (DOPAA), and submit any comments or concerns you have, with a focus on identifying any properties of religious or cultural significance within the Area of Potential Effect. Later, once it is ready, we will also send you a draft copy of the EA. Your early communication will aid in our planning and our ability to prepare an all-inclusive EA.

No impacts on archaeological sites are expected from this project. One archaeological site located on Little Rock AFB property is eligible for listing in the National Register of Historic Places (NRHP); however, the site is not within the Area of Potential Effect for the undertaking.

In accordance with the NHPA, the USAF would like to initiate government-to-government consultation regarding the proposed installation development projects at Little Rock AFB. To date, no tribe has identified any properties of religious and cultural significance (i.e., Traditional Cultural Properties [TCPs] on the installation). Please let us know if you would like to share any information on TCPs that we could use in our planning process to avoid or minimize impacts to them.

I look forward to hearing from you about TCPs or any issues or areas of concern you feel should be addressed in the EA. Please feel free contact me at 528 Thomas Avenue, Little Rock AFB, AR 72099-4987, (501) 987-3681, dana.hardage@us.af.mil if you or your staff have any concerns.

Sincerely

Dana L Hardage

DANA L. HARDAGE
Natural and Cultural Resources Manager

Attachment:
Description and Maps of Proposed Activities at Little Rock AFB

Osage Nation Historic Preservation Office

Date: September 23, 2022

Little Rock Air Force Base
Dana Hardage
528 Thomas Avenue
Little Rock AFB, AR 72099-4987

RE: DOD, AF, Little Rock AFB, Installation Development Projects (EA April 2022), Pulaski County, Arkansas

SENT VIA EMAIL

Dear Ms. Hardage,

The Osage Nation Historic Preservation Office has received notification and accompanying information for the proposed project listed as DOD, AF, Little Rock AFB, Installation Development Projects (EA April 2022), Pulaski County, Arkansas. **The Osage Nation requests that separate consultation letters be sent for each individual project.**

In accordance with the National Historic Preservation Act, (NHPA) [54 U.S.C. § 300101 et seq.] 1966, undertakings subject to the review process are referred to in 54 U.S.C. § 302706 (a), which clarifies that historic properties may have religious and cultural significance to Indian tribes. Additionally, Section 106 of NHPA requires Federal agencies to consider the effects of their actions on historic properties (36 CFR Part 800) as does the National Environmental Policy Act (43 U.S.C. 4321 and 4331-35 and 40 CFR 1501.7(a) of 1969).

The Osage Nation has a vital interest in protecting its historic and ancestral cultural resources. **The Osage Nation anticipates reviewing and commenting on the consultation letters for the proposed DOD, AF, Little Rock AFB, Installation Development Projects (EA April 2022), Pulaski County, Arkansas.**

The Osage Nation Historic Preservation Office S106 Procedures and Survey Standards can be accessed at the web address listed in the footnote of this letter. Should you have any questions or need any additional information please feel free to contact me at the number listed below. Thank you for consulting with the Osage Nation on this matter.

Andrea A. Hunter, Ph.D.
Director, Tribal Historic Preservation Officer

Robbie Murie, MA, RPA
Archaeologist

627 Grandview Ave. * Pawhuska, OK 74056 Telephone 918-287-5328 * Fax 918-287-5376
www.osagenation-nsn.gov/who-we-are/historic-preservation * HistoricPreservation@osagenation-nsn.gov

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CHEROKEE NATION®
P.O. Box 948 • Tahlequah, OK 74465-0948
918-453-5000 • www.cherokee.org

Chuck Hoskin Jr.
Principal Chief
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Bryan Warner
Deputy Principal Chief
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ᏔᎵᏁ ᎠᏓᏧᏁ ᎤᎬᏫᏳᎯ

September 19, 2022

Dana Hardage
Department of the Air Force
528 Thomas Avenue
Little Rock AFB, AR 72099-4987

Re: Little Rock AFB Installation Development

Ms. Dana Hardage:

The Cherokee Nation (Nation) is in receipt of your correspondence about **Little Rock AFB Installation Development**, and appreciates the opportunity to provide comment upon this project.

The Nation maintains databases and records of cultural, historic, and pre-historic resources in this area. Our Historic Preservation Office (Office) reviewed this project, cross referenced the project's legal description against our information, and found no instances where this project intersects or adjoins such resources. Thus, the Nation does not foresee this project imparting impacts to Cherokee cultural resources at this time.

However, the Nation requests that the Department of the Air Force (Air Force) halt all project activities immediately and re-contact our Offices for further consultation if items of cultural significance are discovered during the course of this project. Additionally, the Nation requests that the Air Force conduct appropriate inquiries with other pertinent Tribal and Historic Preservation Office regarding historic and prehistoric resources not included in the Nation's databases or records.

If you require additional information or have any questions, please contact me at your convenience. Thank you for your time and attention to this matter.

Wado,

Elizabeth Toombs

Elizabeth Toombs, Tribal Historic Preservation Officer
Cherokee Nation Tribal Historic Preservation Office
elizabeth-toombs@cherokee.org
918.453.5389

From:	HARDAGE, DANA L CIV USAF AMC 19 CES/CEIE
To:	jrohrer@mycaddonation.com
Cc:	section106@mycaddonation.com; FISHER, SETH E CIV USAF AMC 19 CES/CEIEC
Subject:	Environmental Assessment Little Rock AFB
Date:	Tuesday, January 24, 2023 11:27:00 AM
Attachments:	IDEA FY23-27 Sec 106 Caddo Nation.pdf DOPAA LRAFB FY23-FY27 Installation Development EA.pdf

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Good Morning Mr. Rohrer,

I hope this finds you well and your holidays were nice. I previously contacted your office to invite the Caddo Nation to participate in NHPA Sec 106 consultation regarding the preparation of an environmental assessment (EA) of several proposed installation development projects at Little Rock AFB (Z15, E578681, N3862572). The draft will soon be finalized, and I wanted to follow up with you to see if your historical preservation office is interested in reviewing the full EA. I have attached previous correspondence and the description of proposed actions and alternatives. No impacts on historical sites are expected from the implantation of the projects in the assessment.

I also wanted to take this opportunity to let you know that I have accepted another position at the Base, and Mr. Seth Fisher (cc'd) will now be managing Cultural Resources. However, please feel free to contact me with any questions or concerns pertaining to the EA.

Respectfully,
Dana L Hardage
Water Quality & Tanks Manager
EIAP/NEPA Lead
Little Rock Air Force Base, Arkansas
501-987-3681

From: HARDAGE, DANA L CIV USAF AMC 19 CES/CEIE
To: Madison D. Currie
Cc: FISHER, SETH E CIV USAF AMC 19 CES/CEIEC
Subject: Environmental Assessment Little Rock AFB
Date: Tuesday, January 24, 2023 10:49:00 AM
Attachments: IDEA FY23-27 Sec 106 Choctaw Nation.pdf
DOPAA LRAFB FY23-FY27 Installation Development EA.pdf

Good Morning Ms. Currie,

I hope this finds you well and your holidays were nice. Our Installation Commander, Colonel Angela Ochoa, previously invited the Choctaw Nation to participate in government-to-government consultation regarding the preparation of an environmental assessment (EA) of several proposed installation development projects at Little Rock AFB (Z15, E578681, N3862572). The draft will soon be finalized, and I wanted to follow up with you to see if your historical preservation office is interested in reviewing the full EA. I have attached previous correspondence and the description of proposed actions and alternatives. No impacts on historical sites are expected from the implantation of the projects in the assessment.

I also wanted to take this opportunity to let you know that I have accepted another position at the Base, and Mr. Seth Fisher (cc'd) will now be managing Cultural Resources. However, please feel free to contact me with any questions or concerns pertaining to the EA. It has been a pleasure corresponding with you.

Respectfully,
Dana L Hardage
Water Quality & Tanks Manager
EIAP/NEPA Lead
Little Rock Air Force Base, Arkansas
501-987-3681

From: Madison D. Currie
To: HARDAGE, DANA L CIV USAF AMC 19 CES/CEIE
Cc: Lindsey Bilyeu
Subject: [Non-DoD Source] Environmental Assessment Little Rock AFB
Date: Friday, January 27, 2023 10:22:11 AM
Attachments: image001.png

Halito Dana,

The Choctaw Nation of Oklahoma thanks you for your continued correspondence regarding the above referenced project. The Choctaw Nation Historic Preservation Department concurs with the finding of "no effect". However, we ask that work be stopped and our office contacted immediately in the event that Native American artifacts or human remains are encountered.

Congratulations on your new position, we will miss working with you!

If you have any questions, please contact me.

Yakoke,

Maddie Danielle Currie

NHPA Compliance Review Specialist

Historic Preservation Department

Choctaw Nation of Oklahoma

P.O. Box 1210

Durant, OK 74702

Office: 580-642-8467

Cell: 580-740-9537

From: HARDAGE, DANA L CIV USAF AMC 19 CES/CEIE
To: jflynn@jenachoctaw.org
Cc: FISHER, SETH E CIV USAF AMC 19 CES/CEIEC
Subject: Environmental Assessment Little Rock AFB
Date: Tuesday, January 24, 2023 10:58:00 AM
Attachments: IDEA FY23-27 Sec 106 Jena Band Choctaw Indians.pdf
DOPAA LRAFB FY23-FY27 Installation Development EA.pdf

Good Morning Ms. Flynn,

I hope your holidays were nice and this finds you well. Our Installation Commander, Colonel Angela Ochoa, previously invited the Jena Band of Choctaw Indians to participate in government-to-government consultation regarding the preparation of an environmental assessment (EA) of several proposed installation development projects at Little Rock AFB (Z15, E578681, N3862572). The draft will soon be finalized, and I wanted to follow up with you to see if your historical preservation office is interested in reviewing the full EA. I have attached previous correspondence and the description of proposed actions and alternatives. No impacts on historical sites are expected from the implantation of the projects in the assessment.

I also wanted to take this opportunity to let you know that I have accepted another position at the Base, and Mr. Seth Fisher (cc'd) will now be managing Cultural Resources. However, please feel free to contact me with any questions or concerns pertaining to the EA.

Respectfully,
Dana L Hardage
Water Quality & Tanks Manager
EIAP/NEPA Lead
Little Rock Air Force Base, Arkansas
501-987-3681

From: HARDAGE, DANA L CIV USAF AMC 19 CES/CEIE
To: thunt@muscogeenation.com
Cc: section106@mcn-nsn.gov; FISHER, SETH E CIV USAF AMC 19 CES/CEIEC
Subject: Environmental Assessment Little Rock AFB
Date: Tuesday, January 24, 2023 11:14:00 AM
Attachments: IDEA FY23-27 Sec 106 Muscogee (Creek) Nation.pdf
DOPAA LRAFB FY23-FY27 Installation Development EA.pdf

Good Morning Mr. Hunt,

I hope this finds you well and your holidays were nice. Our Installation Commander, Colonel Angela Ochoa, previously invited the Muscogee (Creek) Nation to participate in government-to-government consultation regarding the preparation of an environmental assessment (EA) of several proposed installation development projects at Little Rock AFB (Z15, E578681, N3862572). The draft will soon be finalized, and I wanted to follow up with you to see if your historical preservation office is interested in reviewing the full EA. I have attached previous correspondence and the description of proposed actions and alternatives. No impacts on historical sites are expected from the implantation of the projects in the assessment.

I also wanted to take this opportunity to let you know that I have accepted another position at the Base, and Mr. Seth Fisher (cc'd) will now be managing Cultural Resources. However, please feel free to contact me with any questions or concerns pertaining to the EA.

Respectfully,
Dana L Hardage
Water Quality & Tanks Manager
EIAP/NEPA Lead
Little Rock Air Force Base, Arkansas
501-987-3681

From: HARDAGE, DANA L CIV USAF AMC 19 CES/CEIE
To: section106@quapawnation.com
Cc: FISHER, SETH E CIV USAF AMC 19 CES/CEIEC
Subject: Environmental Assessment Little Rock AFB
Date: Tuesday, January 24, 2023 11:35:00 AM
Attachments: IDEA FY23-27 Sec 106 Quapaw Nation.pdf
DOPAA LRAFB FY23-FY27 Installation Development EA.pdf

Good Morning Mr. Bandy,

I hope this finds you well and your holidays were nice. I previously contacted your office to invite the Quapaw Nation to participate in NHPA Sec 106 consultation regarding the preparation of an environmental assessment (EA) of several proposed installation development projects at Little Rock AFB (Z15, E578681, N3862572). The draft will soon be finalized, and I wanted to follow up with you to see if your historical preservation office is interested in reviewing the full EA. I have attached previous correspondence and the description of proposed actions and alternatives. No impacts on historical sites are expected from the implantation of the projects in the assessment.

I also wanted to take this opportunity to let you know that I have accepted another position at the Base, and Mr. Seth Fisher (cc'd) will now be managing Cultural Resources. However, please feel free to contact me with any questions or concerns pertaining to the EA. It's been a pleasure corresponding with you.

Respectfully,
Dana L Hardage
Water Quality & Tanks Manager
EIAP/NEPA Lead
Little Rock Air Force Base, Arkansas
501-987-3681

From: HARDAGE, DANA L CIV USAF AMC 19 CES/CEIE
To: Tonya Tipton
Cc: FISHER, SETH E CIV USAF AMC 19 CES/CEIEC
Subject: Environmental Assessment Little Rock AFB
Date: Tuesday, January 24, 2023 11:18:00 AM
Attachments: IDEA FY23-27 Sec 106 Shawnee Tribe.pdf
DOPAA LRAFB FY23-FY27 Installation Development EA.pdf

Good Morning Ms. Tipton,

I hope this finds you well and your holidays were nice. Our Installation Commander, Colonel Angela Ochoa, previously invited the Shawnee Tribe to participate in government-to-government consultation regarding the preparation of an environmental assessment (EA) of several proposed installation development projects at Little Rock AFB (Z15, E578681, N3862572). The draft will soon be finalized, and I wanted to follow up with you to see if your historical preservation office is interested in reviewing the full EA. I have attached previous correspondence and the description of proposed actions and alternatives. No impacts on historical sites are expected from the implantation of the projects in the assessment.

I also wanted to take this opportunity to let you know that I have accepted another position at the Base, and Mr. Seth Fisher (cc'd) will now be managing Cultural Resources. However, please feel free to contact me with any questions or concerns pertaining to the EA. It has been a pleasure corresponding with you.

v/r,
Dana L Hardage
Water Quality & Tanks Manager
EIAP/NEPA Lead
Little Rock Air Force Base, Arkansas
501-987-3681

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APPENDIX B – AIR QUALITY ANALYSIS

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Little Rock AFB
Installation Development Environmental Assessment 2022
Appendix C: Air Quality Analysis Support

Table 1. Project Construction and Demolition Assumptions

ACAM Element	Project A	Project B	Project C	Project D	Project E	Project F	Project G	Project H	Project I	Project J
Demolition Phase Start	Oct-27	Oct-28	Oct-28	Oct-28	-	Dec-27	Oct-27	Oct-27	-	-
Demolition Phase Duration	1 month	1 month	1 month	1 month	-	1 month	1 month	1 month	-	-
Demolition Squarefootage (SF)	400	20000	25000	23190	-	3026	6000	7266	-	-
Demolition Height	10	20	15	30	-	12	20	50	-	-
Site Grading Start	Oct-27	Oct-28	Oct-28	Oct-28	-	-	Nov-27	Nov-27	Oct-27	Oct-27
Site Grading Duration	1 month	1 month	1 month	1 month	-	-	1 month	1 month	1 month	1 month
Area to be graded	1000	20000	25000	25000	-	-	10000	12000	14240	32000
Amount material hauled on	0	0	0	177840	-	-	0	0	2000	4000
Amount material hauled off	0	0	0	0	-	-	500	0	0	0
Trenching start	0	Oct-27	-	-	-	-	-	-	-	-
Trenching duration	0	1	-	-	-	-	-	-	-	-
Trenching SF	0	500	-	-	-	-	-	-	-	-
Trenching haul off	0	0	-	-	-	-	-	-	-	-
Trenching Haul on	0	0	-	-	-	-	-	-	-	-
Construction Start	0	Nov-27	Oct-27	Oct-27	Oct-27	Oct-27	Dec-27	-	Oct-27	Oct-27
Construct duration	0	12 months	12 months	12 months	3 months	3 months	1 month	-	3 months	3 months
Construction SF	0	34207	54082	28847	9000	2000	15000	-	6370	14000
Construct Height	0	25	15	30	35	12	10	-	2	2
Coatings Phase Start	0	Jul-28	Jul-28	Jul-28	-	Dec-27	-	-	-	-
Coating Duration	0	3	3	3	-	1	-	-	-	-
Coatings SF	0	34207	54082	28847	-	2000	-	-	-	-
Paving Start	0	Sep-28	Sep-28	Sep-28	-	-	-	-	-	-
Paving duration	0	1	1	1	-	-	-	-	-	-
Paving Area	0	100000	50000	25000	-	-	-	-	-	-
Notes	Approximated from figure.	Approximated from figure.	Approximated from figure and description.	Approximated from figure and description. Air Force provided demolition square footage.	Approximated from project description.	Approximated from project description. Air Force provided demolition square footage.	Project description was reviewed and determined the equivalent amount of construction time to building construction.	Approximated from project description. Air Force provided demolition square footage.	Project description was reviewed and determined the equivalent amount of construction time to building construction.	Project description was reviewed and determined the equivalent amount of construction time to building construction.

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location
Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Project A: Repair Small Arms Range

- Project Number/s (if applicable):

- Projected Action Start Date: 10 / 2027

- Action Purpose and Need:
Provide a modern and dependable small arms range. Personnel must achieve small arms qualifications as part of mission readiness. The range currently lacks proper drainage creating issues with pooling water. Improvements are also needed to control range access. The current earthen floor presents a ricochet hazard.

- Action Description:
Implementation of the preferred alternative would upgrade the existing small arms range. Proposed upgrades would consist of removing the existing containment walls and installing fencing in its place to improve natural ventilation and control range access. Additional lighting with dimming capacity would be added to cover the 7-meter line, 15-meter line, and the 25-meter line. To better manage stormwater runoff, this project would also add a concrete surface to the range and a roof.

- Point of Contact
Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Upgrade Small Arms Range

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Upgrade Small Arms Range

- Activity Description:
Remove existing containment walls, install fencing, add lighting, add concrete surface to range and roof.

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Activity Start Date
Start Month: 10
Start Month: 2027

- Activity End Date
Indefinite: False
End Month: 12
End Month: 2027

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.052086
SO_x	0.000936
NO_x	0.298576
CO	0.436034
PM 10	0.021611

Pollutant	Total Emissions (TONs)
PM 2.5	0.010813
Pb	0.000000
NH_3	0.000226
CO_2e	92.5

2.1 Demolition Phase

2.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 3
Number of Days: 0

2.1.2 Demolition Phase Assumptions

- General Demolition Information
Area of Building to be demolished (ft^2): 400
Height of Building to be demolished (ft): 10

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	6

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Concrete/Industrial Saws Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0336	0.0006	0.2470	0.3705	0.0093	0.0093	0.0030	58.539
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building being demolish (ft^2)
BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Site Grading Phase

2.2.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 1
Number of Days: 0

2.2.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 1000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

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- Site Grading Default Settings

Default Settings Used: Yes

Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.2.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.2.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)

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VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Project A: Repair Small Arms Range

c. Project Number/s (if applicable):

d. Projected Action Start Date: 10 / 2027

e. Action Description:

Implementation of the preferred alternative would upgrade the existing small arms range. Proposed upgrades would consist of removing the existing containment walls and installing fencing in its place to improve natural ventilation and control range access. Additional lighting with dimming capacity would be added to cover the 7-meter line, 15-meter line, and the 25-meter line. To better manage stormwater runoff, this project would also add a concrete surface to the range and a roof.

f. Point of Contact:

Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.052	250	No
NOx	0.299	250	No
CO	0.436	250	No
SOx	0.001	250	No
PM 10	0.022	250	No
PM 2.5	0.011	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	92.5		

2028 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality.Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs.No further air assessment is needed.

_____ _____

Julie Werner, Environmental Engineer DATE

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location
Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Project B: Construct New Vehicle Maintenance Facility

- Project Number/s (if applicable):

- Projected Action Start Date: 10 / 2027

- Action Purpose and Need:
Maintain vehicles in an efficient, safe, and properly configured setting. Ensure a higher percentage of vehicle fleet kept in operation to support achievement of mission requirements. The existing facilities do not have adequate space to maneuver many of the vehicles.In addition, access controls for certain areas are needed to ensure PPE compliance.

- Action Description:
Alternative B1 (Preferred Alternative). The USAF would construct a new 34,207 square foot (sf) combined vehicle maintenance facility in the same location of the existing facility. The new facility would combine General Purpose, Maintenance Analysis, Vehicle Operations, and Fleet Management sections and support up to 255 general purpose and 99 special purpose vehicles. The new layout would provide an efficient transportation and maintenance flow. At least one of the existing facilities would remain operational until construction of the new facility is complete, at which time the remaining existing facility(ies) would be demolished.

- Point of Contact
Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Project B: Construct New Vehicle Maintenance Facility

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Project B: Construct New Vehicle Maintenance Facility

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Activity Description:

The USAF would construct a new 34,207 square foot (sf) combined vehicle maintenance facility in the same location of the existing facility. The new facility would combine General Purpose, Maintenance Analysis, Vehicle Operations, and Fleet Management sections and support up to 255 general purpose and 99 special purpose vehicles. The new layout would provide an efficient transportation and maintenance flow. At least one of the existing facilities would remain operational until construction of the new facility is complete, at which time the remaining existing facility(ies) would be demolished.

- Activity Start Date

Start Month: 10
Start Month: 2027

- Activity End Date

Indefinite: False
End Month: 12
End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.723565
SO_x	0.005958
NO_x	1.841209
CO	2.694974
PM 10	0.353024

Pollutant	Total Emissions (TONs)
PM 2.5	0.064738
Pb	0.000000
NH_3	0.002241
CO_2e	577.5

2.1 Demolition Phase

2.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date

Start Month: 10
Start Quarter: 1
Start Year: 2028

- Phase Duration

Number of Month: 1
Number of Days: 0

2.1.2 Demolition Phase Assumptions

- General Demolition Information

Area of Building to be demolished (ft^2): 20000
Height of Building to be demolished (ft): 20

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	6

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Concrete/Industrial Saws Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0336	0.0006	0.2470	0.3705	0.0093	0.0093	0.0030	58.539
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)

NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building being demolish (ft^2)
BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Site Grading Phase

2.2.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2028

- Phase Duration

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Number of Month: 1
Number of Days: 0

2.2.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 20000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.2.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.2.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)

1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.3 Trenching/Excavating Phase

2.3.1 Trenching / Excavating Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 1
Number of Days: 0

2.3.2 Trenching / Excavating Phase Assumptions

- General Trenching/Excavating Information
Area of Site to be Trenched/Excavated (ft^2): 500
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Trenching Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	2	8
Other General Industrial Equipmen Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.3.3 Trenching / Excavating Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.3.4 Trenching / Excavating Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.4 Building Construction Phase

2.4.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 11
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 12
Number of Days: 0

2.4.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 34207
Height of Building (ft): 25
Number of Units: N/A

- Building Construction Default Settings

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	6
Forklifts Composite	2	6
Generator Sets Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8
Welders Composite	3	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips
Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.4.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Cranes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0680	0.0013	0.4222	0.3737	0.0143	0.0143	0.0061	128.77
Forklifts Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0236	0.0006	0.0859	0.2147	0.0025	0.0025	0.0021	54.449
Generator Sets Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0287	0.0006	0.2329	0.2666	0.0080	0.0080	0.0025	61.057
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872
Welders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0214	0.0003	0.1373	0.1745	0.0051	0.0051	0.0019	25.650

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e

LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.4.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
VMT_{VT} = BA * BH * (0.38 / 1000) * HT

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.5 Architectural Coatings Phase

2.5.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 7
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 3
Number of Days: 0

2.5.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 34027
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.5.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599

LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.5.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase
$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

2.6 Paving Phase

2.6.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 9
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 1
Number of Days: 0

2.6.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 100000

- Paving Default Settings

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Paving Equipment Composite	2	6
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.6.3 Paving Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.6.4 Paving Phase Formula(s)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase

$VOC_P = (2.62 * PA) / 43560$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Project B: Construct New Vehicle Maintenance Facility

c. Project Number/s (if applicable):

d. Projected Action Start Date: 10 / 2027

e. Action Description:

Alternative B1 (Preferred Alternative). The USAF would construct a new 34,207 square foot (sf) combined vehicle maintenance facility in the same location of the existing facility. The new facility would combine General Purpose, Maintenance Analysis, Vehicle Operations, and Fleet Management sections and support up to 255 general purpose and 99 special purpose vehicles. The new layout would provide an efficient transportation and maintenance flow. At least one of the existing facilities would remain operational until construction of the new facility is complete, at which time the remaining existing facility(ies) would be demolished.

f. Point of Contact:

Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions

occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.061	250	No
NOx	0.327	250	No
CO	0.517	250	No
SOx	0.001	250	No
PM 10	0.016	250	No
PM 2.5	0.011	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	114.3		

2028

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.662	250	No
NOx	1.514	250	No
CO	2.178	250	No
SOx	0.005	250	No
PM 10	0.337	250	No
PM 2.5	0.054	250	No
Pb	0.000	25	No
NH3	0.002	250	No
CO2e	463.2		

2029 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality.Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs.No further air assessment is needed.

_____ _____

Julie Werner, Environmental Engineer DATE

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location
Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Project C: Construct New Child Development Center

- Project Number/s (if applicable):

- Projected Action Start Date: 10 / 2027

- Action Purpose and Need:
Provide personnel with a safe, affordable, and convenient location for child enrichment. Maintain personnel morale and quality of life, which supports retention and readiness. Site conditions allow water intrusion into the current building at floor level during heavy rain, which can result in high moisture levels.

- Action Description:
The USAF would construct a new 54,082 sf CDC using economical design and construction methods in accordance with Little Rock AFB installation facility standards. The CDC would be located near the existing CDC on Arnold Drive, on a parcel that until approximately three years ago hosted an elementary school.

- Point of Contact
Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Project C: Construct New Child Development Center

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Project C: Construct New Child Development Center

- Activity Description:
The proposed action for this project is construct a child development center (CDC) and demolish the existing CDC (Building 1990)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Activity Start Date
Start Month: 10
Start Month: 2027

- Activity End Date
Indefinite: False
End Month: 11
End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.970523
SO_x	0.006005
NO_x	1.940632
CO	2.817001
PM 10	0.398759

Pollutant	Total Emissions (TONs)
PM 2.5	0.070972
Pb	0.000000
NH_3	0.002338
CO_2e	582.6

2.1 Demolition Phase

2.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 1
Number of Days: 0

2.1.2 Demolition Phase Assumptions

- General Demolition Information
Area of Building to be demolished (ft^2): 25000
Height of Building to be demolished (ft): 15

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	6

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Concrete/Industrial Saws Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0336	0.0006	0.2470	0.3705	0.0093	0.0093	0.0030	58.539
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

BA: Area of Building being demolish (ft^2)
BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Site Grading Phase

2.2.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 2
Start Year: 2028

- Phase Duration
Number of Month: 1
Number of Days: 0

2.2.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 25000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Site Grading Default Settings

Default Settings Used: Yes

Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.2.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.2.4 Site Grading Phase Formula(s)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

2.3 Building Construction Phase

2.3.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 12
Number of Days: 0

2.3.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 54082
Height of Building (ft): 15
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	6
Forklifts Composite	2	6
Generator Sets Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8
Welders Composite	3	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips
Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC

POVs	0	0	0	0	0	100.00	0

2.3.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Cranes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0680	0.0013	0.4222	0.3737	0.0143	0.0143	0.0061	128.77
Forklifts Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0236	0.0006	0.0859	0.2147	0.0025	0.0025	0.0021	54.449
Generator Sets Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0287	0.0006	0.2329	0.2666	0.0080	0.0080	0.0025	61.057
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872
Welders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0214	0.0003	0.1373	0.1745	0.0051	0.0051	0.0019	25.650

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**Pb**	**NH_3**	**CO_2e**
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.3.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.4 Architectural Coatings Phase

2.4.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 7
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 3
Number of Days: 0

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2.4.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 54082
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.4.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.4.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase
$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)

BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

2.5 Paving Phase

2.5.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 9
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 3
Number of Days: 0

2.5.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 50000

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Paving Equipment Composite	1	8
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.5.3 Paving Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.5.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
VOC_P = (2.62 * PA) / 43560

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Project C: Construct New Child Development Center

c. Project Number/s (if applicable):

d. Projected Action Start Date: 10 / 2027

e. Action Description:

The USAF would construct a new 54,082 sf CDC using economical design and construction methods in accordance with Little Rock AFB installation facility standards. The CDC would be located near the existing CDC on Arnold Drive, on a parcel that until approximately three years ago hosted an elementary school.

f. Point of Contact:

Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance

indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.062	250	No
NOx	0.354	250	No
CO	0.523	250	No
SOx	0.001	250	No
PM 10	0.012	250	No
PM 2.5	0.012	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	110.2		

2028

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.908	250	No
NOx	1.586	250	No
CO	2.294	250	No
SOx	0.005	250	No
PM 10	0.387	250	No
PM 2.5	0.059	250	No
Pb	0.000	25	No
NH3	0.002	250	No
CO2e	472.4		

2029 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality.Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs.No further air assessment is needed.

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

_____ _____

Julie Werner, Environmental Engineer DATE

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location
Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Project D: Construct New Combat Training Squadron Facility

- Project Number/s (if applicable):

- Projected Action Start Date: 10 / 2027

- Action Purpose and Need:
Provide personnel with a safe, affordable, and convenient location for child enrichment. Maintain personnel morale and quality of life, which supports retention and readiness. Site conditions allow water intrusion into the current building at floor level during heavy rain, which can result in high moisture levels.

- Action Description:
The USAF would construct a new 28,847 sf CTS near the existing CTS (Building 160). The two-story building would include a parking lot, site work, and all necessary supporting features to meet the requirements of the 34 CTS. Once the new CTS is operable, the USAF would demolish the existing Building 160, returning the site to preconstruction conditions. Additional fill is required to be imported to complete the construction.

- Point of Contact
Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Project D: Construct New Combat Training Squadron Facility

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Project D: Construct New Combat Training Squadron Facility

- Activity Description:

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

The proposed action for this project is construct a new combat training squadron (CTS) facility and demolish the existing CTS (Building 160)

- Activity Start Date
Start Month: 10
Start Month: 2027

- Activity End Date
Indefinite: False
End Month: 11
End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.783305
SO_x	0.008606
NO_x	2.955885
CO	3.182751
PM 10	0.499514

Pollutant	Total Emissions (TONs)
PM 2.5	0.101580
Pb	0.000000
NH_3	0.008142
CO_2e	883.9

2.1 Demolition Phase

2.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 1
Number of Days: 0

2.1.2 Demolition Phase Assumptions

- General Demolition Information
Area of Building to be demolished (ft^2): 23190
Height of Building to be demolished (ft): 30

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	6

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Concrete/Industrial Saws Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0336	0.0006	0.2470	0.3705	0.0093	0.0093	0.0030	58.539
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building being demolish (ft^2)
BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Site Grading Phase

2.2.1 Site Grading Phase Timeline Assumptions

- Phase Start Date

Start Month: 10
Start Quarter: 2
Start Year: 2028

- Phase Duration

Number of Month: 1
Number of Days: 0

2.2.2 Site Grading Phase Assumptions

- General Site Grading Information

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Area of Site to be Graded (ft^2): 25000
Amount of Material to be Hauled On-Site (yd^3): 177840
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.2.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199

HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.2.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.3 Building Construction Phase

2.3.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 12
Number of Days: 0

2.3.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 28847
Height of Building (ft): 30
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	6
Forklifts Composite	2	6
Generator Sets Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8
Welders Composite	3	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.3.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Cranes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0680	0.0013	0.4222	0.3737	0.0143	0.0143	0.0061	128.77
Forklifts Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0236	0.0006	0.0859	0.2147	0.0025	0.0025	0.0021	54.449
Generator Sets Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0287	0.0006	0.2329	0.2666	0.0080	0.0080	0.0025	61.057
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872
Welders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0214	0.0003	0.1373	0.1745	0.0051	0.0051	0.0019	25.650

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.3.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.4 Architectural Coatings Phase

2.4.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 7
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 3
Number of Days: 0

2.4.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 28847
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.4.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.4.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase
$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Off-Gassing Emissions per Phase
VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

2.5 Paving Phase

2.5.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 9
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 3
Number of Days: 0

2.5.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 25000

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Paving Equipment Composite	1	8
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.5.3 Paving Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**Pb**	**NH_3**	**CO_2e**
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.5.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase

$VOC_P = (2.62 * PA) / 43560$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Project D: Construct New Combat Training Squadron Facility

c. Project Number/s (if applicable):

d. Projected Action Start Date: 10 / 2027

e. Action Description:

The USAF would construct a new 28,847 sf CTS near the existing CTS (Building 160). The two-story building would include a parking lot, site work, and all necessary supporting features to meet the requirements of the 34 CTS. Once the new CTS is operable, the USAF would demolish the existing Building 160, returning the site to preconstruction conditions. Additional fill is required to be imported to complete the construction.

f. Point of Contact:

Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with

net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.062	250	No
NOx	0.356	250	No
CO	0.524	250	No
SOx	0.001	250	No
PM 10	0.012	250	No
PM 2.5	0.012	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	110.6		

2028

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.721	250	No
NOx	2.600	250	No
CO	2.659	250	No
SOx	0.007	250	No
PM 10	0.487	250	No
PM 2.5	0.090	250	No
Pb	0.000	25	No
NH3	0.008	250	No
CO2e	773.3		

2029 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality.Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs.No further air assessment is needed.

_____ _____

Julie Werner, Environmental Engineer DATE

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location
Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Project E: Construct Addition to Aerial Delivery Facility

- Project Number/s (if applicable):

- Projected Action Start Date: 10 / 2027

- Action Purpose and Need:
Provide enclosed and sufficient space for rigging. Support mission readiness through provision of rigging services. Due to the limited space, some pallets are packed and rigged in other maintenance hangars, when available, on makeshift platforms. An air-conditioned work space is needed to better support the 19 AW mission by eliminating lost time due to hot weather.

- Action Description:
The USAF would make an approximately 7,825 sf addition to the west side of Building 259. The addition would consist of a concrete foundation with steel frame construction. Five existing overhead roll-up doors in Building 259 would also be replaced and a new pallet conveyor system would be installed. Furthermore, an existing area currently used for parachute packing would be enclosed.

- Point of Contact

Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Project E: Construct Addition to Aerial Delivery Facility

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Project E: Construct Addition to Aerial Delivery Facility

- Activity Description:
The proposed action for this project is to perform an addition to the western side of Building 259.

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Activity Start Date
Start Month: 10
Start Month: 2027

- Activity End Date
Indefinite: False
End Month: 12
End Month: 2027

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.032109
SO_x	0.000675
NO_x	0.167158
CO	0.266386
PM 10	0.005327

Pollutant	Total Emissions (TONs)
PM 2.5	0.005242
Pb	0.000000
NH_3	0.000330
CO_2e	66.3

2.1 Building Construction Phase

2.1.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 3
Number of Days: 0

2.1.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 9000
Height of Building (ft): 35
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC

POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.1.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Cranes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0680	0.0013	0.4222	0.3737	0.0143	0.0143	0.0061	128.77
Forklifts Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0236	0.0006	0.0859	0.2147	0.0025	0.0025	0.0021	54.449
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.1.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Project E: Construct Addition to Aerial Delivery Facility

c. Project Number/s (if applicable):

d. Projected Action Start Date: 10 / 2027

e. Action Description:

The USAF would make an approximately 7,825 sf addition to the west side of Building 259. The addition would consist of a concrete foundation with steel frame construction. Five existing overhead roll-up doors in Building 259 would also be replaced and a new pallet conveyor system would be installed. Furthermore, an existing area currently used for parachute packing would be enclosed.

f. Point of Contact:

Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the

action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.032	250	No
NOx	0.167	250	No
CO	0.266	250	No
SOx	0.001	250	No
PM 10	0.005	250	No
PM 2.5	0.005	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	66.3		

2028 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality.Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs.No further air assessment is needed.

_____ _____

Julie Werner, Environmental Engineer DATE

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location
Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Project F: Construct New Munitions Maintenance Shop

- Project Number/s (if applicable):

- Projected Action Start Date: 10 / 2027

- Action Purpose and Need:
Provide safe facility for munitions maintenance. Avoid conflicts with incompatible land use. Building 1714 has deteriorated to an un-usable condition.

- Action Description:
The USAF would construct a 1,500-sf enclosure to the east side of 36 Building 1710 that would serve as a bay. Following construction, Building 1714 would be demolished, and the site would be returned to preconstruction conditions.

- Point of Contact
Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Project F: Construct New Munitions Maintenance Shop

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Project F: Construct New Munitions Maintenance Shop

- Activity Description:
The proposed action for this project is construct a new munitions maintenance shop and demolish Building 1714.

- Activity Start Date

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Start Month: 10
Start Month: 2027

- Activity End Date
Indefinite: False
End Month: 12
End Month: 2027

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.062659
SO_x	0.000788
NO_x	0.201025
CO	0.353819
PM 10	0.014189

Pollutant	Total Emissions (TONs)
PM 2.5	0.006543
Pb	0.000000
NH_3	0.000248
CO_2e	76.4

2.1 Demolition Phase

2.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date
Start Month: 12
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 1
Number of Days: 0

2.1.2 Demolition Phase Assumptions

- General Demolition Information
Area of Building to be demolished (ft^2): 3026
Height of Building to be demolished (ft): 12

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	6

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Concrete/Industrial Saws Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0336	0.0006	0.2470	0.3705	0.0093	0.0093	0.0030	58.539
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building being demolish (ft^2)

BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Building Construction Phase

2.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 3
Number of Days: 0

2.2.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 2000
Height of Building (ft): 12
Number of Units: N/A

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips
Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Cranes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0680	0.0013	0.4222	0.3737	0.0143	0.0143	0.0061	128.77
Forklifts Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0236	0.0006	0.0859	0.2147	0.0025	0.0025	0.0021	54.449
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)

(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.3 Architectural Coatings Phase

2.3.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 12
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 1
Number of Days: 0

2.3.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 2000
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.3.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.3.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase
$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Project F: Construct New Munitions Maintenance Shop

c. Project Number/s (if applicable):

d. Projected Action Start Date: 10 / 2027

e. Action Description:

The USAF would construct a 1,500-sf enclosure to the east side of 36 Building 1710 that would serve as a bay. Following construction, Building 1714 would be demolished, and the site would be returned to preconstruction conditions.

f. Point of Contact:

Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.063	250	No
NOx	0.201	250	No
CO	0.354	250	No
SOx	0.001	250	No
PM 10	0.014	250	No
PM 2.5	0.007	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	76.4		

2028 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality.Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs.No further air assessment is needed.

_____ _____

Julie Werner, Environmental Engineer DATE

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location
Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Project G: Improve Wilson Lake Spillway

- Project Number/s (if applicable):

- Projected Action Start Date: 10 / 2027

- Action Purpose and Need:
Comply with applicable dam safety and security requirements. Minimize potential flooding risk to people and property. The reclassification of Wilson Lake to a high hazard dam requires the size of a spillway/outlet structure be increased to convey the Spillway Design Flood.

- Action Description:
The USAF would remove encroaching vegetation (namely trees on the dam face), replace the existing controlled discharge with a 10' by 5' concrete box culvert, construct a trapezoidal weir, and install a pedestrian bridge to connect the existing walkway over the weir. Improvements to the existing walkway and dam toe drain would also occur. The USAF would temporarily lower the lake level during construction to allow for sufficient access to perform the spillway improvements.

- Point of Contact
Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

- Activity List:

	Activity Type	Activity Title
2.	Construction / Demolition	Project G: Improve Wilson Lake Spillway

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Project G: Improve Wilson Lake Spillway

- Activity Description:
The proposed action for this project is improve the existing Wilson Lake spillway.

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Activity Start Date
Start Month: 10
Start Month: 2027

- Activity End Date
Indefinite: False
End Month: 10
End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.044374
SO_x	0.000843
NO_x	0.251057
CO	0.337188
PM 10	0.133637

Pollutant	Total Emissions (TONs)
PM 2.5	0.008889
Pb	0.000000
NH_3	0.000297
CO_2e	84.0

2.1 Demolition Phase

2.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 1
Number of Days: 0

2.1.2 Demolition Phase Assumptions

- General Demolition Information
Area of Building to be demolished (ft^2): 6000
Height of Building to be demolished (ft): 20

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	6

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Concrete/Industrial Saws Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0336	0.0006	0.2470	0.3705	0.0093	0.0093	0.0030	58.539
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building being demolish (ft^2)
BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Site Grading Phase

2.2.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 11
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 1
Number of Days: 0

2.2.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 10000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 500

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- Site Grading Default Settings

Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.2.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.2.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.3 Building Construction Phase

2.3.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 12
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 1
Number of Days: 0

2.3.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 15000
Height of Building (ft): 10
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips
Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.3.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Cranes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0680	0.0013	0.4222	0.3737	0.0143	0.0143	0.0061	128.77
Forklifts Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0236	0.0006	0.0859	0.2147	0.0025	0.0025	0.0021	54.449
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**Pb**	**NH_3**	**CO_2e**
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.3.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

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$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Project G: Improve Wilson Lake Spillway

c. Project Number/s (if applicable):

d. Projected Action Start Date: 10 / 2027

e. Action Description:

The USAF would remove encroaching vegetation (namely trees on the dam face), replace the existing controlled discharge with a 10' by 5' concrete box culvert, construct a trapezoidal weir, and install a pedestrian bridge to connect the existing walkway over the weir. Improvements to the existing walkway and dam toe drain would also occur. The USAF would temporarily lower the lake level during construction to allow for sufficient access to perform the spillway improvements.

f. Point of Contact:

Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with

net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.044	250	No
NOx	0.251	250	No
CO	0.337	250	No
SOx	0.001	250	No
PM 10	0.134	250	No
PM 2.5	0.009	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	84.0		

2028

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

2029 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality.Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs.No further air assessment is needed.

_____ _____

Julie Werner, Environmental Engineer DATE

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location
Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Project H: Repair Concrete Apron and Taxiway

- Project Number/s (if applicable):

- Projected Action Start Date: 1 / 2028

- Action Purpose and Need:

- Action Description:
In this the first of ultimately five phases, the USAF would replace the existing concrete slab, replace the asphalt shoulder, install new aircraft tiedowns, and install a new underdrain system and new lights. Also included is relocating fire hydrants that currently require an airfield obstruction waiver. In total, the USAF would replace 33 slabs of apron/taxiway, each one measuring approximately 25' by 25' and with a thickness of approximately 17 inches.

- Point of Contact

Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Project H: Repair Concrete Apron and Taxiway

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Project H: Repair Concrete Apron and Taxiway

- Activity Description:
The proposed action for this project is repair the existing concrete apron and taxiway foxtrot.

- Activity Start Date

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Start Month: 1
Start Month: 2028

- Activity End Date
Indefinite: False
End Month: 12
End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.209890
SO_x	0.003766
NO_x	1.159273
CO	1.667386
PM 10	0.992872

Pollutant	Total Emissions (TONs)
PM 2.5	0.042885
Pb	0.000000
NH_3	0.001102
CO_2e	367.6

2.1 Demolition Phase

2.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 3
Number of Days: 0

2.1.2 Demolition Phase Assumptions

- General Demolition Information
Area of Building to be demolished (ft^2): 41250
Height of Building to be demolished (ft): 4

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	6

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Concrete/Industrial Saws Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0336	0.0006	0.2470	0.3705	0.0093	0.0093	0.0030	58.539
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building being demolish (ft^2)

BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Site Grading Phase

2.2.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 3
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 3
Number of Days: 0

2.2.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 30000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings

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Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.2.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.2.4 Site Grading Phase Formula(s)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

2.3 Trenching/Excavating Phase

2.3.1 Trenching / Excavating Phase Timeline Assumptions

- Phase Start Date
Start Month: 6
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 1
Number of Days: 0

2.3.2 Trenching / Excavating Phase Assumptions

- General Trenching/Excavating Information
Area of Site to be Trenched/Excavated (ft^2): 2000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Trenching Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	2	8
Other General Industrial Equipmen Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.3.3 Trenching / Excavating Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.3.4 Trenching / Excavating Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.4 Building Construction Phase

2.4.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 8
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 3
Number of Days: 0

2.4.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 60000
Height of Building (ft): 4
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	6
Forklifts Composite	2	6
Generator Sets Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8
Welders Composite	3	8

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.4.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Cranes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0680	0.0013	0.4222	0.3737	0.0143	0.0143	0.0061	128.77
Forklifts Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0236	0.0006	0.0859	0.2147	0.0025	0.0025	0.0021	54.449
Generator Sets Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0287	0.0006	0.2329	0.2666	0.0080	0.0080	0.0025	61.057
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872
Welders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0214	0.0003	0.1373	0.1745	0.0051	0.0051	0.0019	25.650

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.4.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

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$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.5 Paving Phase

2.5.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 11
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 2
Number of Days: 0

2.5.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 12375

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.5.3 Paving Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.5.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase

$VOC_P = (2.62 * PA) / 43560$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Project H: Repair Concrete Apron and Taxiway

c. Project Number/s (if applicable):

d. Projected Action Start Date: 1 / 2028

e. Action Description:

In this the first of ultimately five phases, the USAF would replace the existing concrete slab, replace the asphalt shoulder, install new aircraft tiedowns, and install a new underdrain system and new lights. Also included is relocating fire hydrants that currently require an airfield obstruction waiver. In total, the USAF would replace 33 slabs of apron/taxiway, each one measuring approximately 25' by 25' and with a thickness of approximately 17 inches.

f. Point of Contact:

Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2028

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.210	250	No
NOx	1.159	250	No
CO	1.667	250	No
SOx	0.004	250	No
PM 10	0.993	250	No
PM 2.5	0.043	250	No
Pb	0.000	25	No
NH3	0.001	250	No
CO2e	367.6		

2029 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality.Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs.No further air assessment is needed.

_____ _____

Julie Werner, Environmental Engineer DATE

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location
Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Project I: Repair Fitness Center

- Project Number/s (if applicable):

- Projected Action Start Date: 10 / 2027

- Action Purpose and Need:
Provide safe location for physical fitness. Support morale, welfare, and physical fitness of personnel, thus contributing to readiness. Several repair projects have been previously initiated to patch the wall separations and cracked mirror issues, but the underlying foundation problems remain.

- Action Description:
Alternative II (Preferred Alternative). The USAF would repair the foundation of the fitness center to eliminate the large cracks running throughout the foundation. The project requires slab jacking and underpinning to reinforce the foundation. The project also includes repairing the roof and installing new efficient lighting.

- Point of Contact
Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Project I: Repair Fitness Center

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Project I: Repair Fitness Center

- Activity Description:
The proposed action for this project is repair the foundation and roof of the existing fitness center, Building 827.

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Activity Start Date
Start Month: 10
Start Month: 2027

- Activity End Date
Indefinite: False
End Month: 12
End Month: 2027

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.030978
SO_x	0.000647
NO_x	0.156348
CO	0.262496
PM 10	0.004972

Pollutant	Total Emissions (TONs)
PM 2.5	0.004916
Pb	0.000000
NH_3	0.000268
CO_2e	63.1

2.1 Building Construction Phase

2.1.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 3
Number of Days: 0

2.1.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Commercial or Retail
Area of Building (ft^2): 12000
Height of Building (ft): 35
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.1.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Cranes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0680	0.0013	0.4222	0.3737	0.0143	0.0143	0.0061	128.77
Forklifts Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0236	0.0006	0.0859	0.2147	0.0025	0.0025	0.0021	54.449
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.1.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (0.32 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.32 / 1000): Conversion Factor ft^3 to trips (0.32 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.05 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.05 / 1000): Conversion Factor ft^3 to trips (0.05 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Project I: Repair Fitness Center

c. Project Number/s (if applicable):

d. Projected Action Start Date: 10 / 2027

e. Action Description:

Alternative II (Preferred Alternative). The USAF would repair the foundation of the fitness center to eliminate the large cracks running throughout the foundation. The project requires slab jacking and underpinning to reinforce the foundation. The project also includes repairing the roof and installing new efficient lighting.

f. Point of Contact:

Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the

action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.031	250	No
NOx	0.156	250	No
CO	0.262	250	No
SOx	0.001	250	No
PM 10	0.005	250	No
PM 2.5	0.005	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	63.1		

2028 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality.Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs.No further air assessment is needed.

_____ _____

Julie Werner, Environmental Engineer DATE

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location
Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Project H: Demolish Building 670 and Tower

- Project Number/s (if applicable):

- Projected Action Start Date: 10 / 2027

- Action Purpose and Need:
Remove unnecessary facilities and infrastructure. Maximize maintenance budget and usable installation space to support mission. A large portion of Building 670 is uninhabitable due to environmental issues.

- Action Description:
Alternative J1 (Preferred Alternative). The USAF would demolish all of Building 670 and the adjacent tower and parking lot. The resulting surface would be graded to match the surrounding level and seeded with approved vegetation, which would then be maintained (mowed). A small number of personnel currently utilizing Building 670 will be relocated to office space in Building 1255.

- Point of Contact

Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Project H: Demolish Building 670 and Tower

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Project H: Demolish Building 670 and Tower

- Activity Description:
The proposed action for this project is demolish Building 670 and the associated tower.

- Activity Start Date

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Start Month: 10
Start Month: 2027

- Activity End Date
Indefinite: False
End Month: 11
End Month: 2027

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.034276
SO_x	0.000633
NO_x	0.201116
CO	0.250472
PM 10	0.203041

Pollutant	Total Emissions (TONs)
PM 2.5	0.007315
Pb	0.000000
NH_3	0.000220
CO_2e	63.6

2.1 Demolition Phase

2.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 1
Number of Days: 0

2.1.2 Demolition Phase Assumptions

- General Demolition Information
Area of Building to be demolished (ft^2): 7266
Height of Building to be demolished (ft): 50

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	6

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Concrete/Industrial Saws Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0336	0.0006	0.2470	0.3705	0.0093	0.0093	0.0030	58.539
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building being demolish (ft^2)

BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Site Grading Phase

2.2.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 11
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 1
Number of Days: 0

2.2.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 12000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.2.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.2.4 Site Grading Phase Formula(s)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Project H: Demolish Building 670 and Tower

c. Project Number/s (if applicable):

d. Projected Action Start Date: 10 / 2027

e. Action Description:

Alternative J1 (Preferred Alternative). The USAF would demolish all of Building 670 and the adjacent tower and parking lot. The resulting surface would be graded to match the surrounding level and seeded with approved vegetation, which would then be maintained (mowed). A small number of personnel currently utilizing Building 670 will be relocated to office space in Building 1255.

f. Point of Contact:

Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the

action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.034	250	No
NOx	0.201	250	No
CO	0.250	250	No
SOx	0.001	250	No
PM 10	0.203	250	No
PM 2.5	0.007	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	63.6		

2028 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality.Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs.No further air assessment is needed.

_____ _____

Julie Werner, Environmental Engineer DATE

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location
Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Project I: Construct Sidewalks

- Project Number/s (if applicable):

- Projected Action Start Date: 10 / 2027

- Action Purpose and Need:
Provide safe and contiguouspedestrian pathways. Facilitate the safe, efficient, and regulatory-compliant movement of pedestrians.

- Action Description:
Alternative K1 (Preferred Alternative). The USAF would construct approximately 2,225 linear feet of 4-foot-wide pedestrian sidewalks in various locations on Little Rock AFB. The sidewalk would meet ADA requirements, which would include handicap ramps, crosswalk striping, and other attributes as required. Some locations would overlap the floodplain and would require drainage and small bridges to span swales.

- Point of Contact
Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Project I: Construct Sidewalks

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Project I: Construct Sidewalks

- Activity Description:
The proposed action for this project is construct sidewalks in various locations on Little Rock AFB.

- Activity Start Date

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Start Month: 10
Start Month: 2027

- Activity End Date
Indefinite: False
End Month: 12
End Month: 2027

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.097732
SO_x	0.001865
NO_x	0.524063
CO	0.703388
PM 10	0.443944

Pollutant	Total Emissions (TONs)
PM 2.5	0.018919
Pb	0.000000
NH_3	0.000407
CO_2e	183.9

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 3
Number of Days: 0

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 14240
Amount of Material to be Hauled On-Site (yd^3): 2000
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Building Construction Phase

2.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date

Start Month: 10
Start Quarter: 1
Start Year: 2027

- Phase Duration

Number of Month: 3
Number of Days: 0

2.2.2 Building Construction Phase Assumptions

- General Building Construction Information

Building Category: Office or Industrial

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Area of Building (ft^2): 6370
Height of Building (ft): 2
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips
Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Cranes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0680	0.0013	0.4222	0.3737	0.0143	0.0143	0.0061	128.77
Forklifts Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0236	0.0006	0.0859	0.2147	0.0025	0.0025	0.0021	54.449
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096

LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

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VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Project I: Construct Sidewalks

c. Project Number/s (if applicable):

d. Projected Action Start Date: 10 / 2027

e. Action Description:

Alternative K1 (Preferred Alternative). The USAF would construct approximately 2,225 linear feet of 4-foot-wide pedestrian sidewalks in various locations on Little Rock AFB. The sidewalk would meet ADA requirements, which would include handicap ramps, crosswalk striping, and other attributes as required. Some locations would overlap the floodplain and would require drainage and small bridges to span swales.

f. Point of Contact:

Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the

action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.098	250	No
NOx	0.524	250	No
CO	0.703	250	No
SOx	0.002	250	No
PM 10	0.444	250	No
PM 2.5	0.019	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	183.9		

2028 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality.Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs.No further air assessment is needed.

_____ _____

Julie Werner, Environmental Engineer DATE

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location
Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Project J: Construct Dedicated Sidewalk from Vandenberg Gate

- Project Number/s (if applicable):

- Projected Action Start Date: 10 / 2027

- Action Purpose and Need:
Provide safe pedestrian pathways to off-basedestinations. Encourage off-base mobility to nearby commercial businesses.

- Action Description:
Alternative L1 (South Action Alternative). The USAF would construct an approximately 4-foot-wide sidewalk offset from the southern side of Vandenberg Boulevard from the gate to the end of government property. The sidewalk would provide a linkage to a City of Jacksonville sidewalk that would then provide continuous safe access to retail shops in the area. Some locations of the sidewalk would overlap the floodplain and would require drainage and small bridges to span swales.

- Point of Contact
Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Project J: Construct Dedicated Sidewalk from Vandenberg Gate

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Project J: Construct Dedicated Sidewalk from Vandenberg Gate

- Activity Description:
The proposed action for this project is construct a sidewalk from the Vandenberg Gate to the City of Jacksonville.

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Activity Start Date
Start Month: 10
Start Month: 2027

- Activity End Date
Indefinite: False
End Month: 12
End Month: 2027

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.099046
SO_x	0.001897
NO_x	0.536619
CO	0.707905
PM 10	0.974385

Pollutant	Total Emissions (TONs)
PM 2.5	0.019298
Pb	0.000000
NH_3	0.000479
CO_2e	187.7

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 3
Number of Days: 0

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 32000
Amount of Material to be Hauled On-Site (yd^3): 4000
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599
LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)

EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Building Construction Phase

2.2.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 3
Number of Days: 0

2.2.2 Building Construction Phase Assumptions

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- General Building Construction Information

Building Category: Office or Industrial
Area of Building (ft^2): 14000
Height of Building (ft): 2
Number of Units: N/A

- Building Construction Default Settings

Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips

Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.2.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Cranes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0680	0.0013	0.4222	0.3737	0.0143	0.0143	0.0061	128.77
Forklifts Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0236	0.0006	0.0859	0.2147	0.0025	0.0025	0.0021	54.449
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.298	000.002	000.233	003.574	000.007	000.006		000.023	00318.599

LDGT	000.373	000.003	000.406	004.991	000.009	000.008		000.024	00411.462
HDGV	000.703	000.005	001.002	015.314	000.020	000.017		000.044	00762.096
LDDV	000.108	000.003	000.135	002.610	000.004	000.004		000.008	00309.688
LDDT	000.243	000.004	000.381	004.437	000.007	000.006		000.008	00440.199
HDDV	000.531	000.013	005.075	001.826	000.167	000.153		000.029	01506.057
MC	002.551	000.003	000.746	013.231	000.026	000.023		000.055	00396.372

2.2.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Vender Trips Emissions per Phase

$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: LITTLE ROCK AFB
State: Arkansas
County(s): Pulaski
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Project J: Construct Dedicated Sidewalk from Vandenberg Gate

c. Project Number/s (if applicable):

d. Projected Action Start Date: 10 / 2027

e. Action Description:

Alternative L1 (South Action Alternative). The USAF would construct an approximately 4-foot-wide sidewalk offset from the southern side of Vandenberg Boulevard from the gate to the end of government property. The sidewalk would provide a linkage to a City of Jacksonville sidewalk that would then provide continuous safe access to retail shops in the area. Some locations of the sidewalk would overlap the floodplain and would require drainage and small bridges to span swales.

f. Point of Contact:

Name: Julie Werner
Title: Environmental Engineer
Organization: Scout Environmental Inc.
Email: julie.werner@scoutenv.com
Phone Number: (760) 239-9611

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.099	250	No
NOx	0.537	250	No
CO	0.708	250	No
SOx	0.002	250	No
PM 10	0.974	250	No
PM 2.5	0.019	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	187.7		

2028 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality.Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs.No further air assessment is needed.

_____ _____

Julie Werner, Environmental Engineer DATE

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APPENDIX C – BIOLOGICAL ASSESSMENT

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BIOLOGICAL ASSESSMENT FOR FEDERALLY LISTED SPECIES FOR PROPOSED INSTALLATION DEVELOPMENT PROJECTS AT THE LITTLE ROCK AIR FORCE BASE IN ARKANSAS

Prepared For:

Auxilio Management Services
51 West 4th Avenue
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Prepared by:

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Loveland, Colorado 80537
970-222-2151

January 2023

BIOLOGICAL ASSESSMENT FOR FEDERALLY LISTED SPECIES FOR PROPOSED INSTALLATION DEVELOPMENT PROJECTS AT THE LITTLE ROCK AIR FORCE BASE IN ARKANSAS

INTRODUCTION

The Endangered Species Act of 1973, as amended, under oversight by the U.S. Fish and Wildlife Service (USFWS), directs Federal agencies to conserve endangered and threatened species and to ensure that actions authorized, funded, or implemented are not likely to jeopardize the continued existence of any threatened or endangered species, or result in the destruction of their critical habitats. Additionally, many birds are protected under the Migratory Bird Treaty Act of 1918 as well as the Bald and Golden Eagle Protection Act of 1940 and consultation with the USFWS for this project may include species that are not federally listed but deemed sensitive and worthy of evaluation in the areas of the proposed project.

This Biological Assessment evaluates the possible effects to endangered and threatened species known or that may occur at the Little Rock Air Force Base (LRAFB) in Arkansas where the Air Force proposes to implement installation development projects. The projects include a range of activities including demolition of aging facilities, new facility construction, facility upgrades, facility repair and renovation, community living/education upgrades, infrastructure improvement, recreational upgrades, and associated infrastructure.

PROPOSED ACTION

Project Name

The project name is the Installation Development Environmental Assessment (IDEA) for installation development projects at Little Rock Air Force Base (AFB), Arkansas (AR).

PROPOSED PROJECT AND PURPOSE

The purpose of the Proposed Action is to provide infrastructure and functionality improvements necessary to support the missions of the 19 AW and LRAFB tenants. The Proposed Action is needed to address deficiencies of function and capability in the facilities and infrastructure at LRAFB that result from obsolescence, deterioration, and evolving mission needs.

ACTION AREAS

The Proposed Action would include the implementation of ten installation development projects. These projects are identified below along with a description of each preferred proposed action.

- **Project A**- Repair Small Arms Range: remove the existing containment walls and install fencing in its place to improve natural ventilation and control range access, add lighting with dimming capacity, add a concrete surface to the range and a roof.
- **Project B**- Construct New Vehicle Maintenance Facility: will construct a new 34,207 square foot combined vehicle maintenance facility in the same location of the existing facility and eventual demolition of the remaining existing facility(ies) will occur after new construction is complete.
- **Project C1 and C2**- Construct New Child Development Center: will construct a new 54,082 sf building and infrastructure at one of two locations that were previously developed
- **Project D**- Construct New Combat Training Squadron Facility: will construct a new building near the existing building and then demolish the old building
- **Project E**- Construct Addition to Aerial Delivery Facility: will construct an addition to the existing building
- **Project F**- Construct New Munitions Maintenance Shop: will construct a 1,500-sf enclosure adjacent to the existing building and demolish another building near the munition's maintenance shop
- **Project G**- Improve Wilson Lake Spillway: remove encroaching trees on the dam face, replace the existing controlled discharge with a 10' x 5' concrete box culvert, construct a trapezoidal weir, and install a pedestrian bridge to connect the existing walkway over the weir.
- **Project H**- Demolish Building 670 and Tower: demolish the building, tower, and parking lot and replaced with a mowed grass mix
- **Project I**- Construct Sidewalks: construct approximately 2,225 linear feet of 4-foot-wide pedestrian sidewalks at various locations throughout the base.
- **Project J1 and J2**- Construct Dedicated Sidewalk from Vandenberg Gate: construct a 4-foot-wide sidewalk on either the north or south side

Figure 1 presents a map of the location of the proposed installation development projects. **Figures 2 -11** present a map of each proposed project.

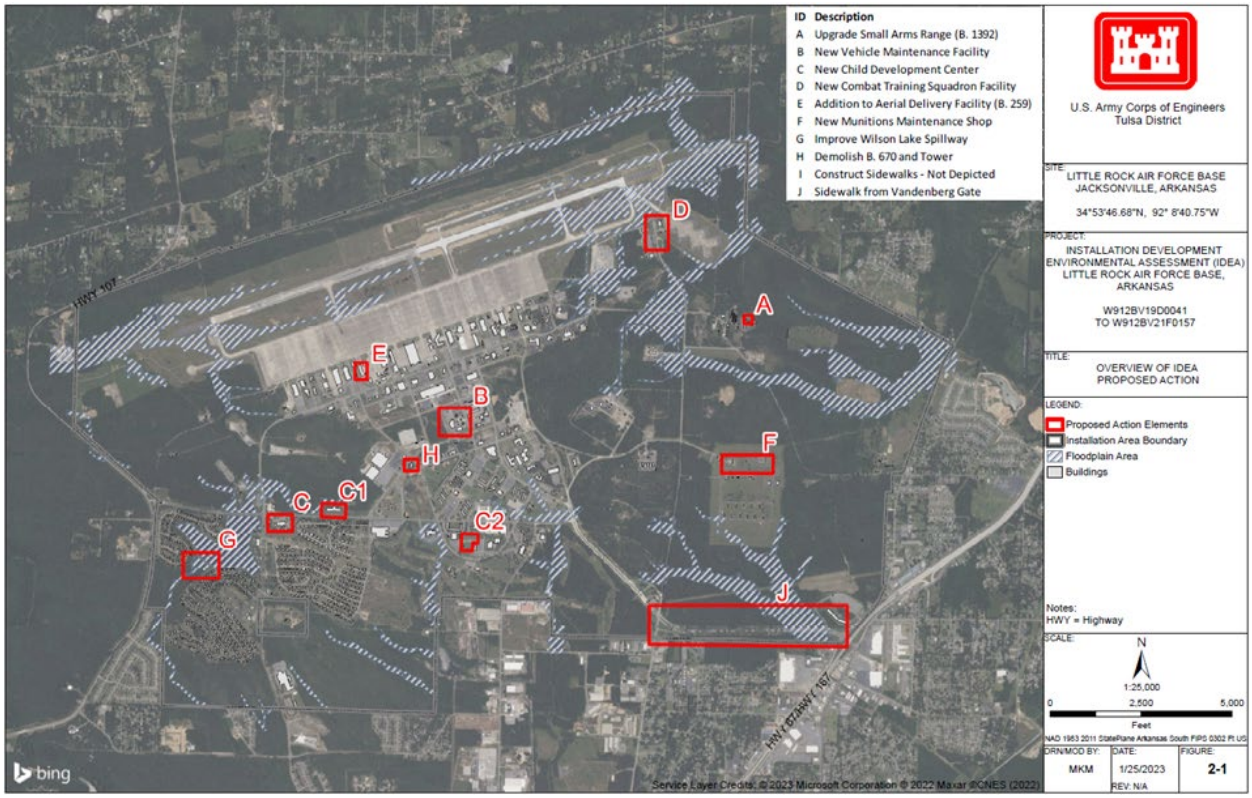

Figure 1
Proposed General Project Area Map
LRAFB Installation Development Projects

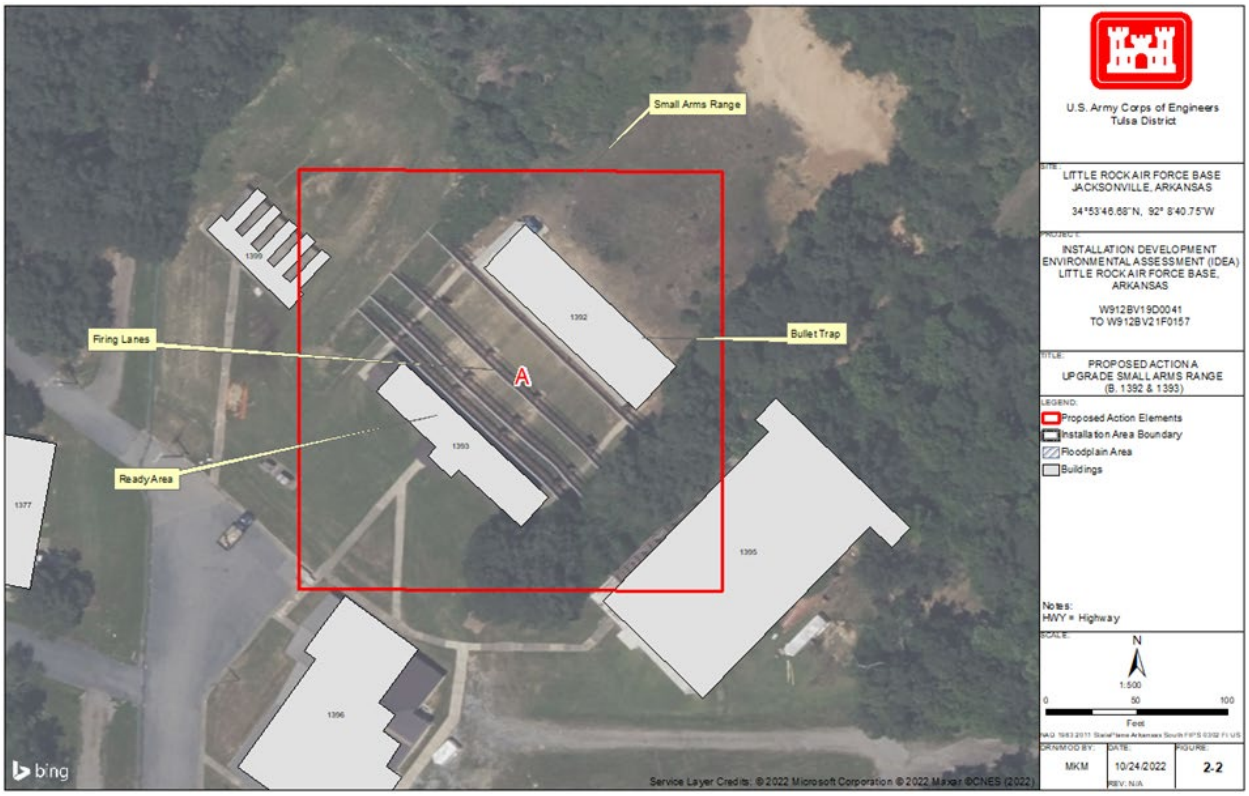

Figure 2
Proposed Project Area A Map
LRAFB Installation Development Projects

Figure 3
Proposed Project Area B Map
LRAFB Installation Development Projects

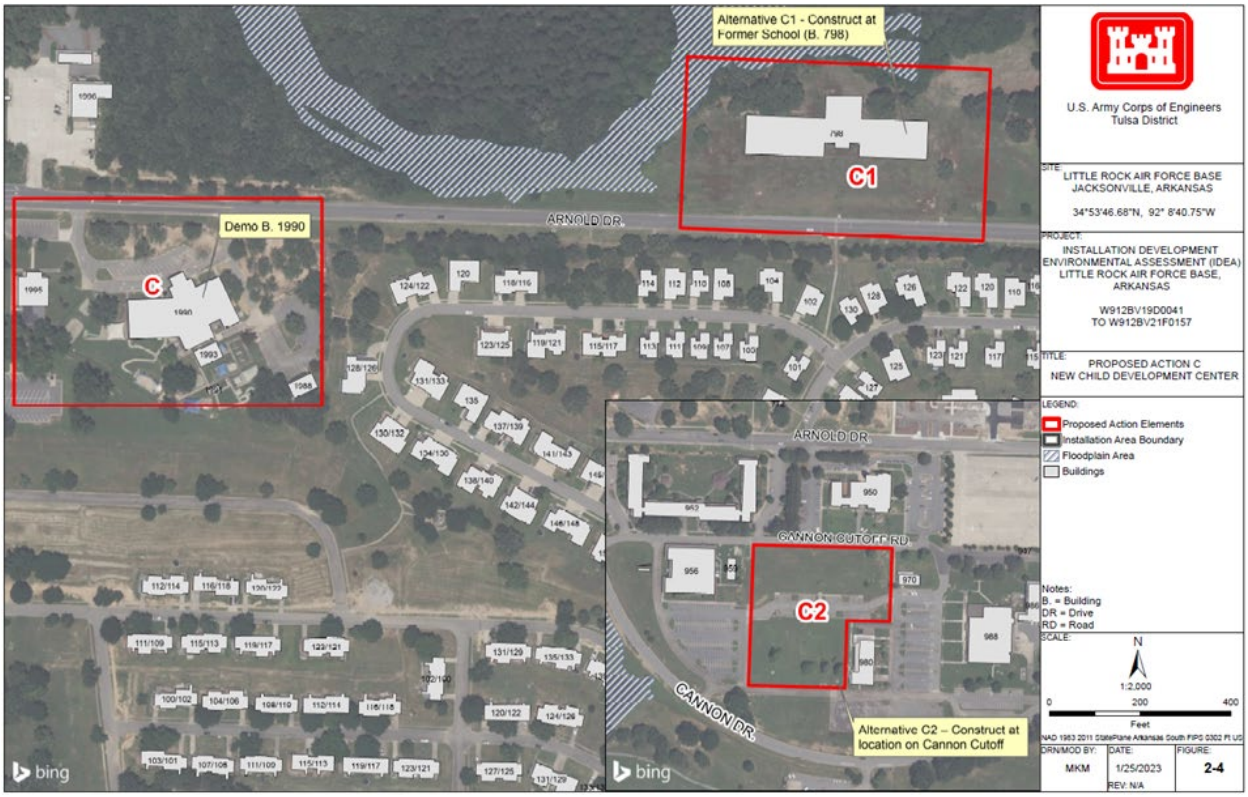

Figure 4
Proposed Project Area C Map
LRAFB Installation Development Projects

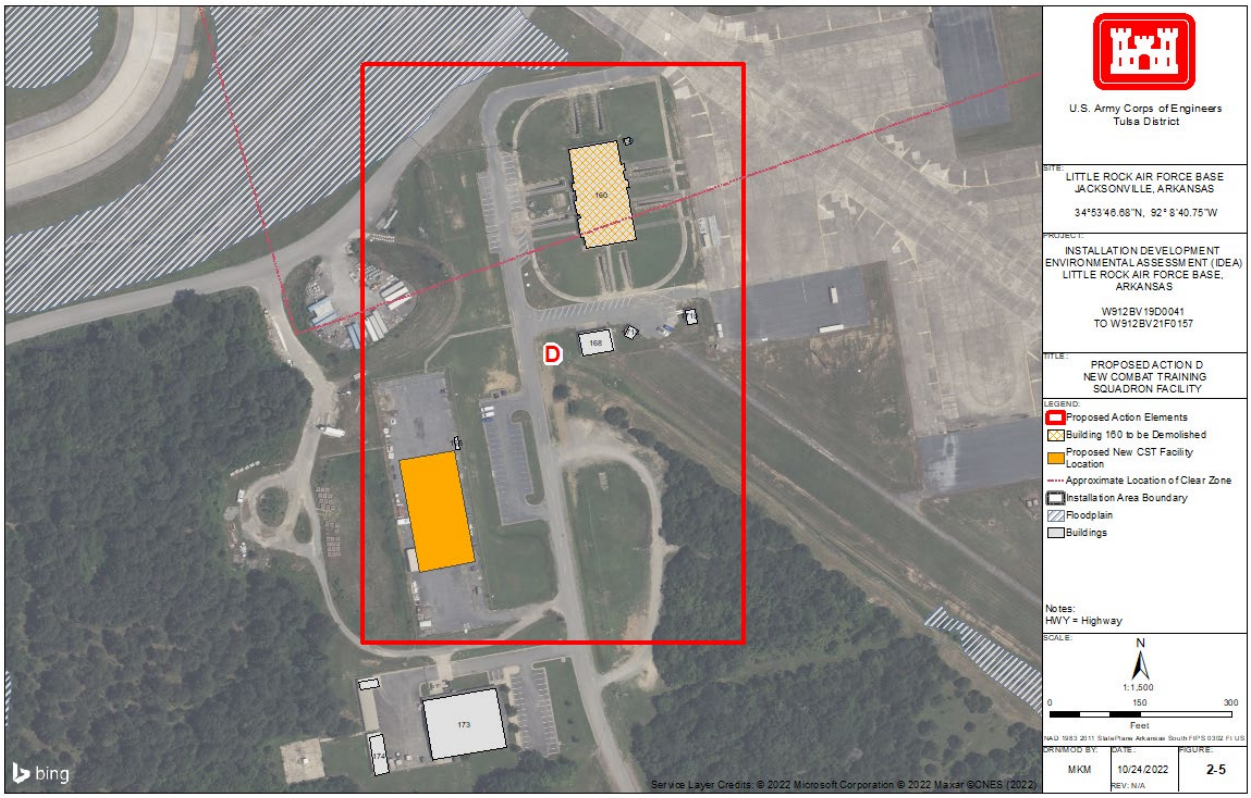

Figure 5
Proposed Project Area D Map
LRAFB Installation Development Projects

Figure 6
Proposed Project Area E Map
LRAFB Installation Development Projects

Figure 7
Proposed Project Area F Map
LRAFB Installation Development Projects

Figure 8
Proposed Project Area G Map
LRAFB Installation Development Projects

Figure 9
Proposed Project Area H Map
LRAFB Installation Development Projects

Figure 10
Proposed Project Area J Map
LRAFB Installation Development Projects

LISTED SPECIES

The official species list considered in this analysis include threatened and candidate for listing species that may occur within and directly around the proposed project area at LRAFB. This official list was obtained from the USFWS' (2022a) Information for Planning and Consultation (IPaC) database mapper for the project area under Project Code 2022-0053618 on June 13, 2022, through the Arkansas Ecological Services Field Office in Conway, Arkansas. The official species list is presented in **Appendix A**. These species include the following:

- Eastern black rail (*Laterallus jamaicensis* spp. *jamaicensis*) Threatened
- Piping plover (*Charadrius melodus*) Threatened
- Red knot (*Calidris canutus rufa*) Threatened
- Monarch butterfly (*Danaus plexippus*) Candidate for Listing

FEDERALLY SENSITIVE SPECIES

Information on federally listed species known to occur or with potential to occur on the LRAFB is provided in the INRMP (LRAFB 2019). In addition to the INRMP, the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) on-line database was accessed to determine if any federally listed species could occur on the base (USFWS 2022a). The official USFWS species list is provided in **Appendix A**. Of the four federally listed species identified as having the potential to occur on the base, only one, the monarch butterfly (*Danaus plexippus*), has been observed. These species are discussed below.

Eastern black rail (*Laterallus jamaicensis* ssp. *jamaicensis*). This species is listed as threatened. This species occurs in salt and freshwater marshes and in wet meadows. This species has not been observed at LRAFB and habitat for the species is minimal and aerially limited.

Piping plover (*Charadrius melodus*). This species is listed as threatened. This species occurs on wide, flat, open sandy beaches and lakeshores with very little grass or other vegetation. Nesting territories often include small creeks and wetlands. This species has not been historically observed on the base (AFCEC 2018).

Red knot (*Calidris canutus rufa*). This bird is listed as threatened. This species occupies larger wetlands and shorelines of waterbodies and large rivers. This species has not been observed at LRAFB and habitat for the species is minimal and aerially limited.

Monarch butterfly (*Danaus plexippus*). This species is listed as a candidate for listing. This butterfly occurs in open areas with milkweeds (*Asclepias* sp.), including roadsides, gardens, grassy fields, and agricultural areas (Glassberg 2002). According to the INRMP (LRAFB 2019), milkweed has not been observed on the base during the extensive plant surveys, but the monarch butterfly has been commonly observed in mesic woodlands, xeric woodlands, mesic prairie, man-made habitat, and the Black Jack Drop Zone (LRAFB 2019) likely using other flowering plants for nectar. It is uncommon in the wetland areas on the base (LRAFB 2019).

Although they did not occur on the USFWS official species list for this project, according to the INRMP (LRAFB 2019), several sensitive species have been observed on the base and conservation measures have been identified in the INRMP for the protection of these species and their habitats. These species include the Rattlesnake-master borer moth (*Papaipema eryngii*) and interior least tern (*Sterna antillarum*).

Interior least tern. This species was previously listed as endangered by the USFWS but has been delisted. The State of Arkansas has designated the tern as a rare to uncommon species. This tern prefers nesting in bare or sparsely vegetated sand, shell, and gravel beaches, sandbars, islands, and salt flats associated with rivers and reservoirs. In the absence of natural nesting sites, terns may also utilize manmade sites. According to the AFCEC Environmental Assessment (2018), this species has been observed intermittently nesting on the gravel rooftops of Buildings 450 and 787 at the base. Projects B, E, and H occur in the interior least tern designated consultation area.

Rattlesnake-master borer moth. This species is no longer listed as a candidate for listing on the Endangered Species List. According to the INRMP (LRAFB 2018), this moth inhabits mesic prairies and associated wetlands with suitable populations of the host plant, rattlesnake master (*Eryngium yuccafolium*). Specifically, the moth has been observed northwest of the airfield at the base and several populations of the host plant have been identified as various locations on the base. None of the proposed projects within the Preferred Alternative occur within known moth habitat or within the known occupation areas.

VEGETATION COMMUNITIES OCCURRING AT THE PROPOSED PROJECT SITES

Vegetation. The Little Rock AFB is in the Arkansas Valley Section of the Southeastern Mixed Forest Province (AFCEC 2018). These regions are characterized by a mix of deciduous and evergreen forests. The Little Rock Air Force Base Integrated Natural Resources Management Plan (INRMP) (LRAFB 2019) has mapped the vegetation communities and forest stands across the base and details the general habitat characteristics of each as well as the specific species occurring within the communities. Several vegetation communities occur within the Alternative C1 (Action Alternative) project site. These communities include deciduous forest, evergreen forest, grassland, and wetland and are described below.

Deciduous forest. This vegetation community is dominated by deciduous trees, including bottomland hardwoods and oak woods, and/or dense shrubby growth with an open tree canopy. Post oak (*Quercus stellata*) and blackjack oak (*Quercus marilandica*) comprise the dominant plant community in the undeveloped areas across the facility. Associated species include cedar elm (*Ulmus crassifolia*), red oak (*Quercus falcata*), yaupon (*Ilex comitoria*), and deciduous holly (Ilex decidua). Eastern red cedar (*Juniperus virginiana*) is the most common invader into this vegetation community. This community occurs within or adjacent to Projects A and G. Deciduous forest occurring on bottomlands and in riparian areas, and the second most common deciduous vegetation community within the base, support hardwood trees including sweet gum (*Liquidambar styraciflua*) and willow oak (*Quercus phellos*). This complex community occurs within or adjacent to Project J.

Evergreen forest. This vegetation community is dominated by evergreen trees. The two dominant evergreens within this community include loblolly pine (*Pinus taeda*) and shortleaf pine (*Pinus echinata*). Other associated species within this community include post oak, blackjack oak, white oak (*Quercus alba*), and water oak (*Quercus nigra*). Common understory species include flowering dogwood (*Cornus florida*), yaupon, and American beautyberry (*Callicarpa americana*). This community occurs within or adjacent to Project J.

Urban land. This vegetation community occurs at areas within the base that are largely covered by pavement. If vegetation occurs, it usually is composed of turf and lawn grasses that are frequently mowed. These areas support selective landscaped species of shrubs and trees placed for beautification purposes. Areas that support this vegetation community include the main cantonment area, administrative facility, housing communities, industrial areas, recreational fields, and the golf course. This community type occurs in the High and medium intensity development area along with the developed open space areas. This community occurs within or adjacent to Projects B, C, D, E, F, H, I, and J.

Open field/grassland. This vegetation community occurs in less frequently mowed areas or deforested areas that have been left most unmaintained. This community is dominated by grasses and/or herbaceous plants and may contain open shrubby growth in pockets. Projects C and D occur in this community.

Impoundments. This community occurs at open water bodies such as lakes and ponds across the base. The Wilson Lake area is an open water reservoir with a spillway. The 2014 Periodic Inspection Report No. 2 (USACE 2014) of the Wilson Lake Dam (Project G) described the dam as an earthen embankment approximately 35-feet high and approximately 400-feet long with a crown width of 24-feet. This impoundment has a maximum pool volume of 623 acre-feet at the top of the dam. The U.S. Fish and Wildlife Service' (USFWS) Wetland Inventory Mapper shows Wilson Lake classified as a limnetic lacustrine system with an unconsolidated bottom that is permanently flooded at a diked/impounded area (L1UBHh) (USFWS 2022b).

ANALYSIS OF EFFECTS

No Action Alternative

Under the No Action Alternative, none of the proposed installation development projects would be implemented.

Direct and Indirect Effects

No direct or indirect effect to sensitive species would occur under this alternative as no impact to the vegetation communities and wildlife habitats within the proposed project area would be realized.

Cumulative Effects

No cumulative effects are expected from the No Action Alternative.

Proposed Action

LRAFB opened in 1955 and covers 6,128 acres near the eastern edge of the Ouachita Mountains in Pulaski County, approximately 15 miles north of the City of Little Rock in central Arkansas. Improved areas on the base include an airfield, buildings, paved surfaces, housing, etc. that cover approximately 35 percent of the base and unimproved areas, such as forests, shrubland, and wetlands, cover approximately 65 percent of the base. The immediate vicinity of the base is largely rural and dominated by agricultural, forests, and low-density residential areas.

Direct Effects

Implementation of the proposed actions would result in minor impacts to vegetation communities and wildlife, including sensitive species. Vegetation communities impacted by the proposed projects would lose small, aerially limited pockets of vegetation readily available across the base. At Project J, open space and mowed grass habitat will be gained by the demolition of Building 670, the tower, and the parking lot. All proposed projects occur in and around existing infrastructure and high intensity development areas. Project G at the Wilson Lake Dam and Spillway would result in the temporary loss of a larger pocket of deciduous forest from the dam face, but due to the steepness of the spillway, this pocket offers limited use by most wildlife. Additionally, the deciduous forest at the spillway will revegetate unless a frequent tree removal or grubbing program is established.

Wildlife could be temporarily disturbed and displaced due to the increased noise and human activity associated with the proposed projects. These effects would be short-term and would only affect wildlife in the immediate project areas. Wildlife may be impacted temporarily by an increase in light emittance at Project A, but the area of impact is quite limited and those species disturbed by additional light will learn to avoid these aerially limited areas.

Only one of the federally listed species provided by the USFWS, the monarch butterfly, may be affected by the proposed projects as the butterfly has been observed across the base. Areas where milkweed species occur should be avoided as monarchs lay their eggs on this host plant. Any previously undisturbed areas that will be impacted by the proposed projects should be surveyed for milkweed prior to disturbance.

The interior least tern could be affected by Projects B, E, and H that occur in the designated consultation area identified in the INRMP (LRAFB 2019). Projects involving demolition or exterior improvements or renovations to buildings, particularly activities on or near a gravel roof, should require a pre-construction survey unless the projects occur from September 1 to April 30. Additionally, a pre-construction survey should be conducted in Project Site G for the tern because the bird has been observed at Wilson Lake.

Most of the proposed projects would occur in previously developed areas and would have no potential to affect the known populations of rattlesnake-master borer moths on the base.

No critical habitat for federally protected species occurs in the Preferred Action Alternative project areas.

Indirect Effects

Indirect effects to sensitive species might occur under this alternative with the establishment of weedy species after surficial soil disturbance. However, the preparation and implementation of a weed abatement plan will control the establishment of weedy species within the proposed project areas. Due to increased light pollution, the congregation of species in areas away from the increased light emittance areas may cause increased pressure on vegetation and with other species of wildlife.

Cumulative Effects

No cumulative effects are expected from the implementation of the Preferred Action Alternatives. No significant increase in human activity and/or human occupation is expected.

DETERMINATION

Implementation of the Proposed Action Alternative projects will have *no effect* on the three threatened species discussed above due to a lack of suitable habitat within the project areas for any of these species. A determination of *may affect but not likely to adversely affect* has been made for the monarch butterfly since it has been observed on the base in and around the developed areas where most of the proposed activities will occur.

A variety of mitigation measures can be employed to avoid or minimize impacts to sensitive species and migratory birds if they happen to occur within or adjacent to the proposed project area. These mitigation measures are listed below.

Mitigative Measures

Mitigation measures can be employed to avoid or minimize impacts to sensitive species and migratory birds if they happen to occur within or adjacent to the proposed project area. Many of these mitigation measures were obtained from the USFWS' Nationwide Standard Conservation Measures List (USFWS 2022c). These mitigation measures are listed below.

- Conduct a Wetland Delineation within any riparian or wet area adjacent or connected to the Wilson Lake Dam for Project G and the swale near Project L.
- If Waters of the United States, including wetlands, will be impacted by the proposed projects, obtain a 404-Wetland Permit from the U.S. Army Corps of Engineers prior to construction.
- Projects involving demolition or exterior improvements or renovations to buildings, particularly activities on or near a gravel roof, should require a pre-construction survey unless the projects occur from September 1 to April 30. Additionally, a pre-construction survey should be conducted in Project Site G for the tern because the bird has been observed at Wilson Lake.
- Necessary vegetation clearing and grubbing activities should be scheduled to avoid and minimize impacts to breeding and nesting birds if they are present within the project

areas. Timing restrictions can be implemented by performing construction activities in late fall and during the winter months when birds are not nesting.

- Survey previously undisturbed areas prior to construction for milkweed species which is a host plant for the monarch butterfly to lay their eggs. If milkweed occurs, consult with the USFWS regarding the butterfly and adopt mitigation measures to avoid and/or minimized impacts to the butterfly and its habitat.
- Educate all employees, contractors, and/or site visitors of relevant rules and regulations that protect wildlife.
- Provide enclosed solid waste receptacles at the project site.
- Report any incidental take of a migratory bird to the local USFWS office.
- Minimize project creep by clearly delineating and maintaining project boundaries, including staging areas.
- Maximize use of disturbed land for project activities such as siting, lay-down areas, and construction.
- Implement standard dust control measures by methods such as watering bare soil to prevent wind erosion and dust issues.
- Prevent the introduction of invasion plants by preparing a weed abatement plan, use only native and local seed and plant stock when revegetating, consider creating vehicle wash stations prior to entering the construction site to prevent accidental introduction of non-native plants, and remove any invasive/exotic species that pose an attractive nuisance to migratory birds. The preparation and implementation of a weed abatement plan will control the establishment of weedy species within the proposed project area.
- Prevent an increase in lighting of native habitats during the bird and bat breeding season and limit construction activities as much as possible to daylight hours between dawn and dusk to avoid illumination of adjacent habitat areas. Bright white light, such as metal halide, halogen, fluorescent, mercury vapor, and incandescent lamps should not be used.
- Prevent the increase in noise above ambient levels during the breeding and nesting seasons (if birds or bats are observed) by installing temporary structural barriers such as sandbags or using baffle boxes or sound walls.
- Prevent the introduction of chemical contaminants into the environment by implementing a Hazardous Materials Plan, avoiding soil contamination by using drip pans underneath equipment and containments zones at construction sites and when refueling vehicles or equipment, limit all equipment maintenance, staging laydown, and dispensing of fuels or oils to designated upland areas.
- Minimize fire potential by using spark arrestors on power equipment and avoiding driving vehicles off road as well as developing vegetation management plans for reclamation that use a cover crop of low-growing, sparse, fire-resistant native species until other native vegetative species can establish.

PREPARERS

This Biological Assessment was completed by Darcy A. Tiglas, Tiglas Ecological Services, in January 2023.

REFERENCES AND SUPPORTING INFORMATION SOURCES

Air Force Civil Engineer Center (AFCEC). 2018. Final Environmental Assessment for Multiple Projects at Little Rock Air Force Base, Arkansas. August 2018. 408 pp.

Glassberg, Jeffrey. 2002. Butterflies of North America. Michael Friedman Publishing Group, Inc. 202 pp.

Little Rock Air Force Base (LRAFB). 2018. Conservation Plan for Rattlesnake-master Borer Moth, Little Rock Air Force Base, in consultation with the U.S. Fish and Wildlife Service, January 2018.

LRAFB. 2019. Integrated Natural Resource Management Plan (INRMP). Finalized in January of 2019. 251 pp.

U.S. Army Corps of Engineers. 2014. Final Wilson Lake Dam Periodic Inspection Report No. 2, Little Rock District, Southwestern Division. July 2014. 37 pp.

U.S. Fish and Wildlife Service. 2022a. Information for Planning and Consultation (IPaC) Database Mapper Website. https://www.ipac.ecosphere.fws.gov. Last accessed on June 13, 2022.

U.S. Fish and Wildlife Service. 2022b. National Wetland Inventory Mapper Website. https://www.fws.gov/wetlands/data/Mapper/html. Last accessed on June 20, 2022.

USFWS. 2022c. Nationwide Standard Conservation Measures. https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php. Last accessed on June 15, 2022.

Appendix A
Official USFWS Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arkansas Ecological Services Field Office
110 South Amity Suite 300
Conway, AR 72032-8975
Phone: (501) 513-4470 Fax: (501) 513-4480

In Reply Refer To:
Project Code: 2022-0053618
Project Name: Little Rock AFB Installation Development Project

June 13, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arkansas Ecological Services Field Office
110 South Amity Suite 300
Conway, AR 72032-8975
(501) 513-4470

Project Summary

Project Code: 2022-0053618
Event Code: None
Project Name: Little Rock AFB Installation Development Project
Project Type: Military Development
Project Description: Repair small arms range; construct new vehicle maintenance facility, child development center, combat training squadron facility, aerial delivery facility, and munitions maintenance shop; improve the Wilson Lake Spillway; repair concrete apron and taxiway; repair fitness center, demolish Building 670 and tower, and construct sidewalks

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@34.905638749999994,-92.1364731328549,14z

Counties: Pulaski County, Arkansas

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: Air Force
Name: Darcy Tiglas
Address: 5015 Swainsona Drive
City: Loveland
State: CO
Zip: 80537
Email tiglasd@aol.com
Phone: 9702222151

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APPENDIX D – NOISE ANALYSIS AND TECHNICAL REPORT

As part of the preparation of the Installation Development Environmental Assessment (IDEA) for Little Rock AFB, a detailed analysis of noise impacts from demolition and construction activities was conducted in accordance with 32 CFR 989, *Environmental Impact Analysis Process*, and Air Force Instruction (AFI) 32-1015, *Integrated Installation Planning* (which supersedes AFI 32-7070). This Appendix includes the technical details of the noise analysis for use in evaluating environmental impacts in the EA.

D.1 INTRODUCTION

Noise is defined as any sound that is undesired by the recipient and typically includes sounds not present in the natural environment, such as sounds emanating from aircraft; highways; and industrial, commercial, and residential sources. Noise generally interferes with normal activities or otherwise diminishes the quality of the natural environment. Noise may be intermittent or continuous, steady or impulsive, stationary or transient.

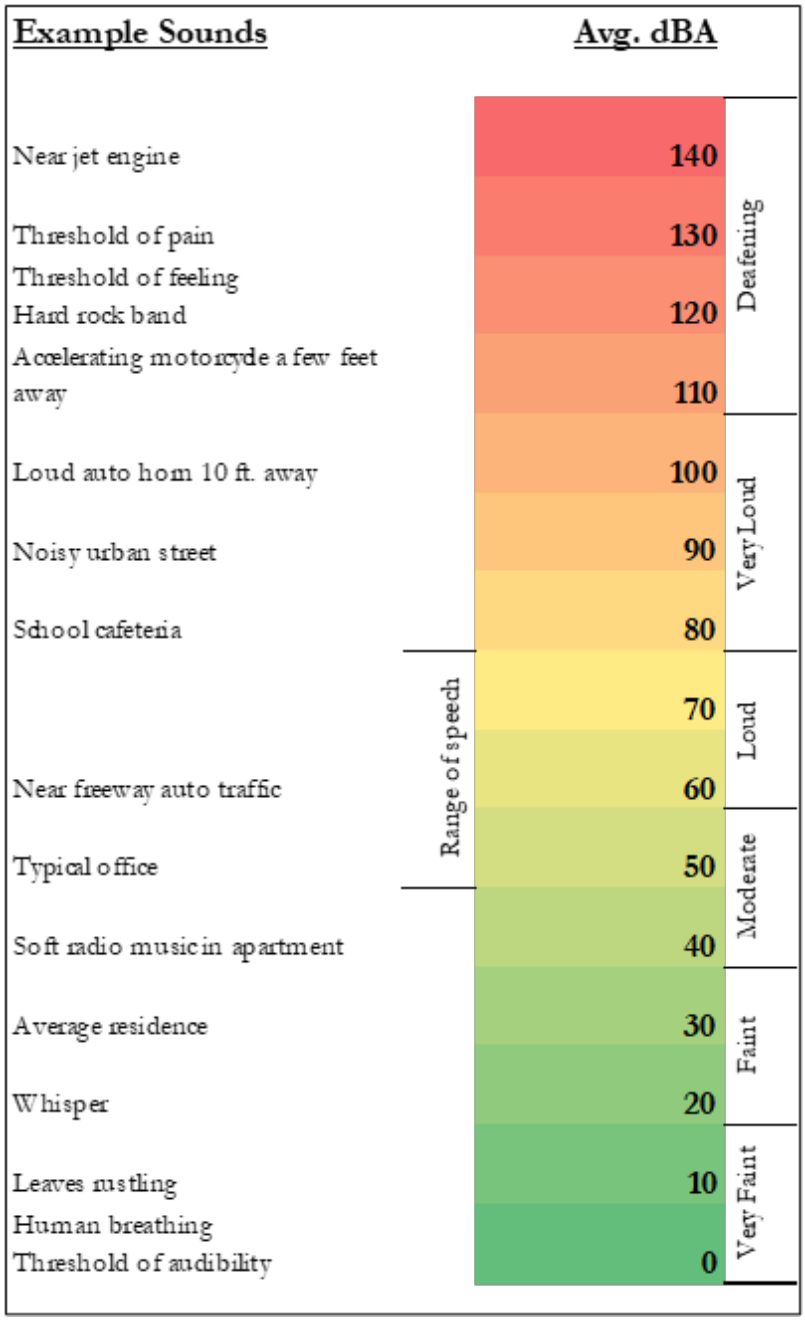
The standard measurement unit of sound is the decibel (dB), which represents the relationship between a measured sound pressure level and the minimum sound level a person with good hearing can detect reported on a logarithmic scale. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by three dB, and a halving of the energy would result in a three dB decrease, both of which are generally accepted as the smallest change that is easily detected by the human ear.

The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, sound can be characterized by several methods. The most common method is the "A-weighted" sound level (dBA), which gives greater weight to the frequencies audible to the human ear by filtering out noise frequencies not audible to the human ear. Human judgments of the relative loudness or annoyance of a sound correlate well with the dBA levels of those sounds. Therefore, the dBA scale is used for measurements and standards involving the human perception of noise. **Figure D-1** provides common sounds and the corresponding sound levels to demonstrate human perception of the correlation of noise with acoustical energy.

Noise levels vary continuously with time, and various descriptions of noise are used to account for this variance with time, including L_{eq} (which is the equivalent continuous sound level), L_{min} and L_{max} (which are the minimum and maximum sounds levels recorded during a monitoring period), and L_{dn} (which is the day-night average sound level).

The construction and operation of new facilities generates noise. Construction-related noise is associated with the operation of construction equipment and vehicles, both in transit to/from and at the project site. Equipment noise levels also vary as a function of the usage factor or percentage of time the equipment is employed. **Table D-1** provides a list of noise levels associated with typical construction equipment.

The Roadway Construction Noise Model (RCNM) is a national noise screening model developed by the Federal Highway Administration to predict construction noise levels and determine compliance with regulatory noise limits.



Source: HUD 2009.

Figure D-1. Common Sounds and Corresponding Sound Levels

Table D-1. Noise Levels Associated with Typical Construction Equipment

Equipment	Typical Noise Level 50 feet from source (dBA)	Typical Usage Factor (%)
Backhoe	80	40
Clam shovel (dropping)	93	20
Compactor (ground)	80	20
Compressor (air)	80	40
Concrete mixer truck	85	40
Concrete pump truck	82	20
Concrete saw	90	20
Crane	85	16
Dozer	85	40
Dump truck	84	40
Excavator	85	40
Flat bed truck	84	40
Front end loader	80	40
Generator	82	50
Grader	85	40
Jackhammer	85	20
Man lift	85	20
Pickup truck	55	40
Pneumatic tools	85	50
Pumps	77	50
Scraper	85	40
Tractor	84	40
Warning horn	85	5

Source: FHWA 2006.
Note: Typical construction equipment selected from Roadway Construction Noise Model default equipment list.

Ground-borne vibration is commonly associated with noise since vibration sources include many of the same sources (for example, construction equipment and vehicles) and may also interfere with normal activities or otherwise diminish the quality of the natural environment. Ground-borne vibration is not a common environmental problem, as it is unusual for vibration from sources such as road vehicles to be perceptible, even in locations close to major roads. Perceptible vibration sources for projects similar to that analyzed in this IDEA include construction-related equipment (for example, heavy earth-moving equipment and pile-driving equipment).

Ground-borne vibration is typically reported as the root mean square of the vibration velocity level in vibration decibels. The approximate threshold for human perception of vibration is 65 vibration decibels.

D.2 REGULATORY FRAMEWORK

D.2.1 Noise Control Act

The U.S. Environmental Protection Agency (USEPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. Upon its enactment, the office also implemented the Federal Noise Control Act of 1972, which established programs and guidelines to identify and address the effects of noise on public health and welfare and the environment. **Table D-2** summarizes recommended guidelines for noise levels considered safe for community exposure without the risk of adverse health or welfare effect (USEPA 1974). To prevent hearing loss over the lifetime of a receptor, the yearly average L_{eq} should not exceed 70 dBA, and the L_{dn} should not exceed 55 dBA in outdoor activity areas or 45 dBA indoors to prevent interference and annoyance.

Table D-2. Summary of EPA-Recommended Noise Level Standards

Effect	Level	Area
Hearing loss	$L_{eq(24)} \leq 70$ dB	All areas
Outdoor activity interference and annoyance	$L_{dn} \leq 55$ dB	Outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use
	$L_{eq(24)} \leq 55$ dB	Outdoor areas where people spend limited amounts of time, such as school yards and playgrounds
Indoor activity interference and annoyance	$L_{dn} \leq 45$ dB	Indoor residential areas
	$L_{eq(24)} \leq 45$ dB	Other indoor areas with human activities such as schools

Source: EPA 1974.

In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982, responsibilities for regulating noise control policies were transferred to state and local governments. However, noise control guidelines and regulations contained in the rulings by EPA in prior years are still upheld by designated federal agencies, allowing more individualized control for specific issues by designated federal, state, and local government agencies. The Noise Control Act is applicable to the project insofar as it establishes general guidelines for acceptable noise levels perceived by adjacent or onsite receptors.

D.2.2 Federal Transit Authority Ground-Borne Vibration Guidelines

The Federal Transit Authority (FTA) has established guidelines for maximum-acceptable vibration criteria for different land uses. Maximum acceptable vibration criteria based on the frequency of an event are applied to the different land uses to address the human response to ground-borne vibration (FTA 2006).

The Federal Transit Authority also established criteria addressing the potential for construction-caused vibration annoyance or interference. The primary concern related to construction vibration is the potential to cause structural damage to buildings by the operation of heavy-duty construction equipment. Situation-specific criteria address the level of vibration considered acceptable before it may result in damage to structures or different building types (FTA 2006).

D.2.3 Local Noise Control Ordinances

Local noise ordinances are codified in the Jacksonville, AR Code of Ordinances, Chapter 9.36, *Emission of Loud and Raucous Sounds*. Exterior noise standards are designated, with reduced noise standards designated between the hours of 10:00 PM and 7:00 AM (Jacksonville 2022). These noise standards range from 50 dBA to 75 dBA, depending on the noise zone and the time of day, with allowances for exceedances up to 20 dBA in excess of the noise standards.

D.3 CURRENT CONDITIONS

For Little Rock AFB in the vicinity of proposed IDEA projects, noise-sensitive land uses were identified. Noise-sensitive land uses include:

- Nearby residential areas
- Schools
- Hospitals
- Hotels/motels
- Churches/cemeteries
- Libraries
- Public Parks

Little Rock AFB is generally consistent with a suburban setting. Aircraft noise is generally the dominant noise source and is heaviest along the Little Rock AFB flightline to the north. Other noise sources in the area include mobile sources (such as personal and commercial vehicles) and stationary sources (such as heating, ventilation, and air conditioning units attached to buildings). Vehicle traffic and associated noise is heaviest along U.S. Highway 167, which borders Little Rock AFB to the southeast.

Noise-sensitive land uses in the vicinity of proposed IDEA projects were identified and mapped (see **Figure D-2**). **Table D-3** and **Table D-4** list the noise-sensitive receptors and their proximity to the proposed IDEA projects.

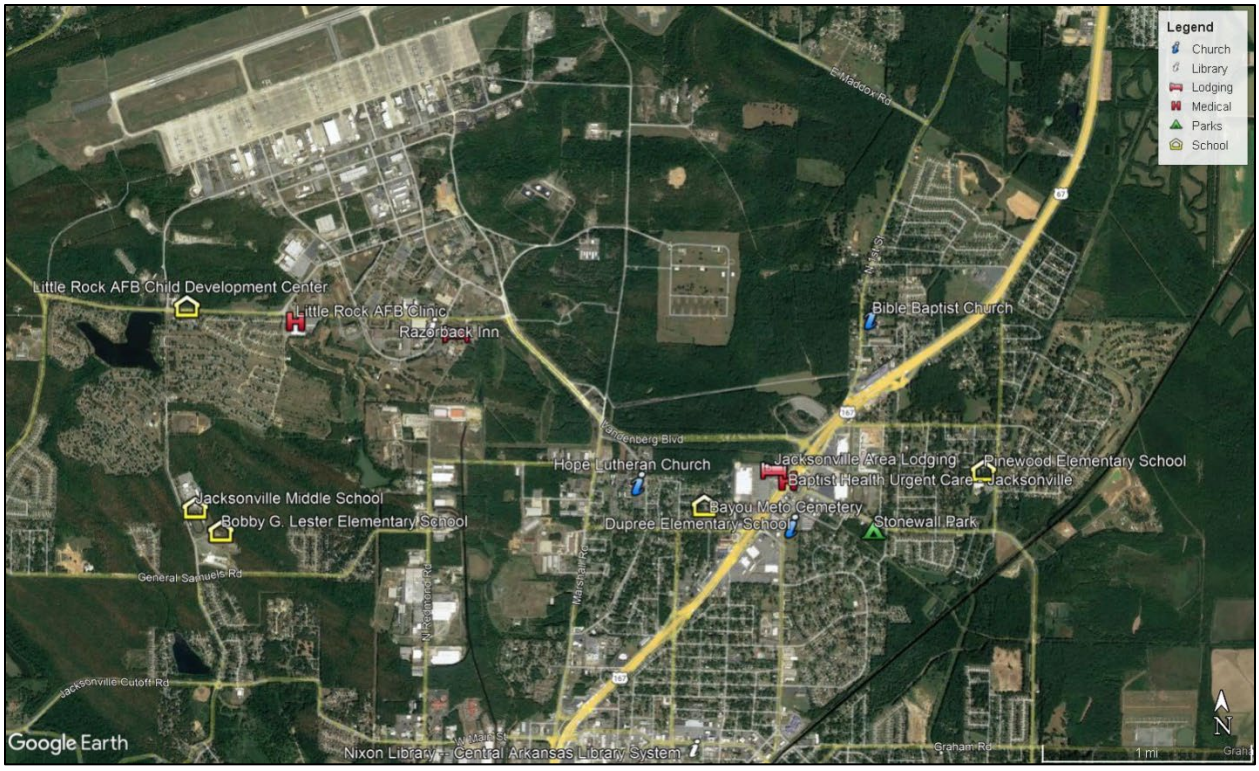


Figure D-2. Little Rock AFB IDEA Project Area Noise-Sensitive Receptors

Table D-3. Noise-Sensitive Receptors in the Little Rock AFB Area

Receptors within 0.5 miles of IDEA projects: • Little Rock Child Development Center (Project C, Project G) • Little Rock AFB Clinic (Project C, Project H) • Nearby Residential Areas (Project C, Project G, Project J) • Dupree Elementary School (Project J) • Jacksonville Area Lodging (Project J) • Baptist Health Urgent Care (Project J) • Bayou Meto Cemetery (Project J)	Receptors within 1 mile of IDEA projects: • Jacksonville Middle School (Project G) • Bobby G. Lester Elementary School (Project G) • Hope Lutheran Church (Project J) • Bible Baptist Church (Project J) • Stonewall Park (Project J) • Pinewood Elementary School (Project J) • plus receptors within 0.5 miles
Receptors within 1.5 miles of IDEA projects: • all receptors within 1.0 miles	Receptors within 2 miles of IDEA projects: • Nixon Library (project J) • plus receptors within 1.5 miles

Table D-4. Project Proximity to Nearest Receptor

Project	Nearest Receptor	Distance
A; Repair Small Arms Range	Bible Baptist Church	1.4 mi
B: Construct New Vehicle Maintenance Facility	Little Rock AFB Library	0.6 mi
C: Construct New Child Development Center	C1 Location: Little Rock AFB Clinic C2 Location: Little Rock AFB Library	1,200 ft 1,000 ft
D: Construct New Combat Training Squadron Facility	Little Rock AFB Library	1.7 mi
E: Construct Addition to Aerial Delivery Facility	Little Rock AFB Clinic	0.8 mi
F: Construct New Munitions Maintenance Shop	Bible Baptist Church	0.9 mi
G: Improve Wilson Lake Spillway	Nearest Residential Area Little Rock AFB Child Development Center	500 ft 0.5 mi
H: Demolish Building 670 and Tower	Little Rock AFB Clinic	2,000 ft
I: Construct Sidewalks	TBD	varies
J: Construct Sidewalk Along Vandenburg Boulevard	Jacksonville Area Lodging / Hope Lutheran Church	1,000 ft

Locations on Little Rock AFB near the flightline may be affected by aircraft noise. These areas may experience aircraft noise levels in excess of 65 dBA, albeit for short periods of time. **Figure D-3** shows these higher noise zone areas (Little Rock AFB 2011). Baseline sound levels were measured at representative locations at Little Rock AFB that are not typically affected by aircraft noise. Sound levels were measured using an Extech Instruments Model 407736 digital sound level meter, which meets American National Standards Institute S1.4-1983 and International Electrotechnical Commission 60651 Type II standards. The meter's internal calibration feature was checked prior to obtaining measurements at each location, and the meter was operated on the A-weighting scale with slow response using a porous windscreen.

- Project G area, on Dam Spillway = 42 dbA (November 16, 2021, 10:58 AM)
- Project G area, near stream = 55 dbA (November 16, 2021, 10:56 AM)
- Project I, near Building 670 = 49-54 dbA (November 16, 2021, 8:37 AM)

D.4 NOISE ANALYSIS

To assess the potential short-term noise impacts from demolition and construction, sensitive receptors and their relative levels of exposure were identified. Construction noise generated by the proposed project was predicted using the Roadway Construction Noise Model (FHWA 2006). Noise levels of specific construction equipment and resultant noise levels at representative locations were calculated.

Ground-borne vibration impacts from construction activities were assessed based on existing documentation (such as for vibration levels produced by specific construction equipment operations) and the distance of sensitive receptors from the given source. Vibration levels were predicted, and impacts were evaluated against the established thresholds.

Two primary groups of noise-generating activities were identified: demolition/construction and renovation. For each activity group, noise levels were predicted using the Roadway Construction Noise Model (FHWA

2006). Default values for equipment specification sound levels and usage factors were used in modeling predicted noise levels. It was assumed that all equipment is in use simultaneously (conservative assumption overestimating predicted noise levels) and the construction site is surrounded by a noise barrier with some gaps (providing an estimated noise shielding of 5 dBA). Outdoor noise levels were predicted at distances from the source equipment of 100 feet and 500 feet. **Figures D-4 through D-9** provide the model results.

For the demolition/construction activities group, the following pieces of equipment were assumed to potentially be in use:

- Backhoe
- Compactor (ground)
- Compressor (air)
- Concrete mixer truck
- Concrete pump truck
- Concrete saw
- Crane
- Dozer
- Dump truck
- Excavator
- Flat bed truck
- Front end loader
- Generator
- Grader
- Man lift
- Pickup truck
- Pneumatic tools
- Pumps
- Scraper
- Warning horn

The resulting predicted equivalent continuous noise level (L_{eq}) for the demolition/construction activities group at a distance of 100 feet is 80.2 dBA and at a distance of 500 feet is 67.4 dBA.

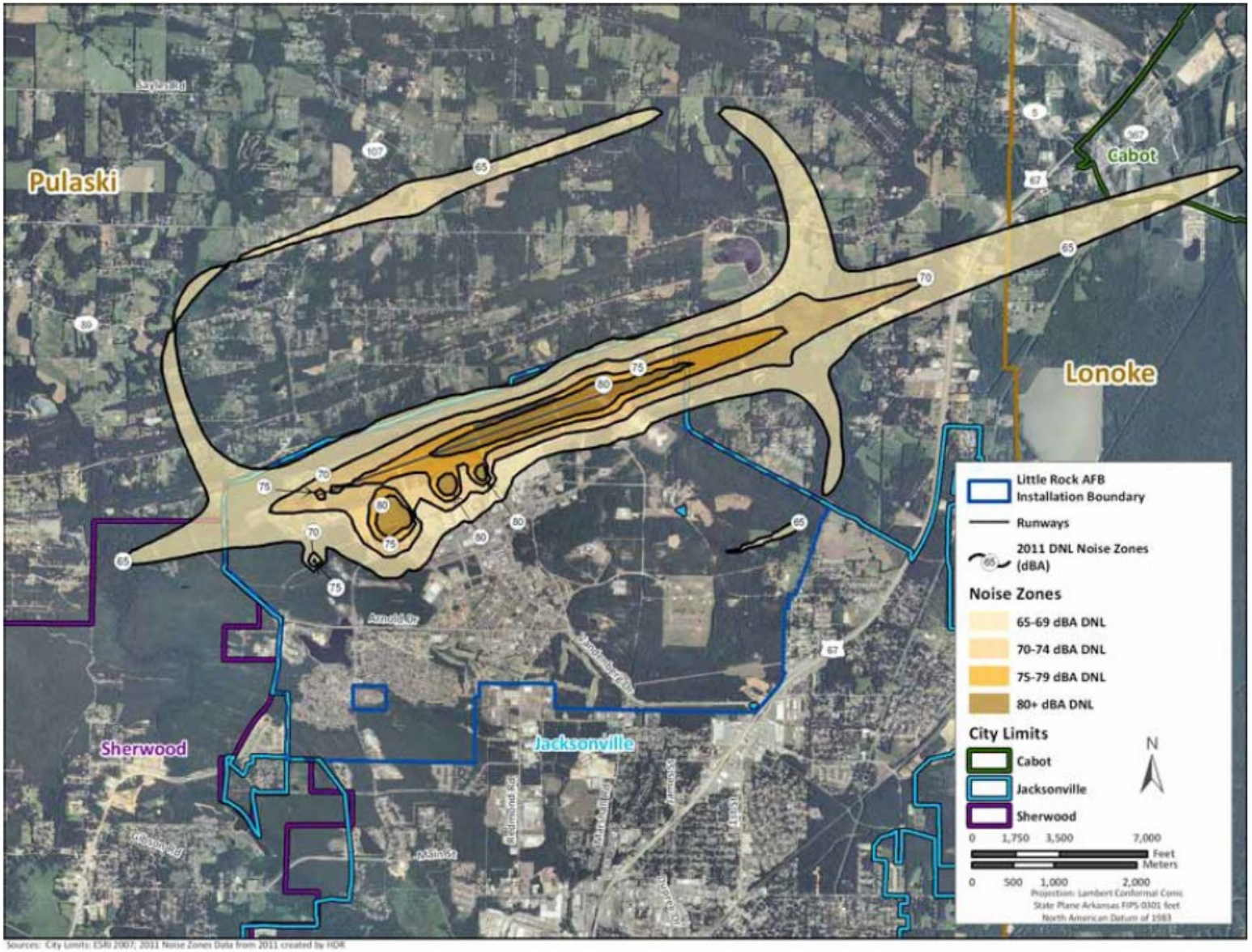


Figure D-3. Noise Zones at Little Rock AFB

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/25/2023
Case Description: Little Rock AFB IDEA - Demolition Activities

		Baselines (dBA)			---- Receptor #1 ----			
Description	Land Use	Daytime	Evening	Night				
Little Rock AFB @ 100 ft	Residential	55	45	45				

			Equipment				
	Impact		Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding	
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)	
Backhoe	No	40	80		100	5	
Compressor (air)	No	40	80		100	5	
Dozer	No	40	85		100	5	
Dump Truck	No	40	84		100	5	
Excavator	No	40	85		100	5	
Flat Bed Truck	No	40	84		100	5	
Front End Loader	No	40	80		100	5	
Generator	No	50	82		100	5	
Grader	No	40	85		100	5	
Jackhammer	Yes	20	85		100	5	
Man Lift	No	20	85		100	5	
Pickup Truck	No	40	55		100	5	
Pneumatic Tools	No	50	85		100	5	
Pumps	No	50	77		100	5	
Scraper	No	40	85		100	5	
Tractor	No	40	84		100	5	
Warning Horn	No	5	85		100	5	

			Results					
	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	69	65	90	90	N/A	N/A	N/A	N/A
Compressor (air)	69	65	90	90	N/A	N/A	N/A	N/A
Dozer	74	70	90	90	N/A	N/A	N/A	N/A
Dump Truck	73	69	90	90	N/A	N/A	N/A	N/A
Excavator	74	70	90	90	N/A	N/A	N/A	N/A
Flat Bed Truck	73	69	90	90	N/A	N/A	N/A	N/A
Front End Loader	69	65	90	90	N/A	N/A	N/A	N/A
Generator	71	68	90	90	N/A	N/A	N/A	N/A
Grader	74	70	90	90	N/A	N/A	N/A	N/A
Jackhammer	74	67	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	74	67	90	90	N/A	N/A	N/A	N/A
Pickup Truck	44	40	90	90	N/A	N/A	N/A	N/A
Pneumatic Tools	74	71	90	90	N/A	N/A	N/A	N/A
Pumps	66	63	90	90	N/A	N/A	N/A	N/A
Scraper	74	70	90	90	N/A	N/A	N/A	N/A
Tractor	73	69	90	90	N/A	N/A	N/A	N/A
Warning Horn	74	61	90	90	N/A	N/A	N/A	N/A
Total	74	80.2	90	90	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Figure D-4. Noise Modeling Results – Demolition Activities at 100 feet

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/25/2023
Case Description: Little Rock AFB IDEA - Demolition Activities

		Baselines (dBA)			---- Receptor #2 ----
Description	Land Use	Daytime	Evening	Night	
Little Rock AFB @ 500 ft	Residential	55	45	45	

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40	80		500	5
Compressor (air)	No	40	80		500	5
Dozer	No	40	85		500	5
Dump Truck	No	40	84		500	5
Excavator	No	40	85		500	5
Flat Bed Truck	No	40	84		500	5
Front End Loader	No	40	80		500	5
Generator	No	50	82		500	5
Grader	No	40	85		500	5
Jackhammer	Yes	20	85		500	5
Man Lift	No	20	85		500	5
Pickup Truck	No	40	55		500	5
Pneumatic Tools	No	50	85		500	5
Pumps	No	50	77		500	5
Scraper	No	40	85		500	5
Tractor	No	40	84		500	5
Warning Horn	No	5	85		500	5

	Calculated (dBA)		Results Noise Limits (dBA) Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	55	51	90	90	N/A	N/A	N/A	N/A
Compressor (air)	55	51	90	90	N/A	N/A	N/A	N/A
Dozer	60	56	90	90	N/A	N/A	N/A	N/A
Dump Truck	59	55	90	90	N/A	N/A	N/A	N/A
Excavator	60	56	90	90	N/A	N/A	N/A	N/A
Flat Bed Truck	59	55	90	90	N/A	N/A	N/A	N/A
Front End Loader	55	51	90	90	N/A	N/A	N/A	N/A
Generator	57	54	90	90	N/A	N/A	N/A	N/A
Grader	60	56	90	90	N/A	N/A	N/A	N/A
Jackhammer	60	53	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	60	53	90	90	N/A	N/A	N/A	N/A
Pickup Truck	30	26	90	90	N/A	N/A	N/A	N/A
Pneumatic Tools	60	57	90	90	N/A	N/A	N/A	N/A
Pumps	52	49	90	90	N/A	N/A	N/A	N/A
Scraper	60	56	90	90	N/A	N/A	N/A	N/A
Tractor	59	55	90	90	N/A	N/A	N/A	N/A
Warning Horn	60	47	90	90	N/A	N/A	N/A	N/A
Total	68	67.4	90	90	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Figure D-5. Noise Modeling Results – Demolition Activities at 500 feet

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/8/2022
Case Description: Little Rock AFB IDEA - Construction Activities

		Baselines (dBA)			---- Receptor #1 ----			
Description	Land Use	Daytime	Evening	Night				
Little Rock AFB @ 100 ft	Residential	55	45	45				

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40	80		100	5
Compactor (ground)	No	20	80		100	5
Compressor (air)	No	40	80		100	5
Concrete Mixer Truck	No	40	85		100	5
Concrete Pump Truck	No	20	82		100	5
Concrete Saw	No	20	90		100	5
Crane	No	16	85		100	5
Dozer	No	40	85		100	5
Dump Truck	No	40	84		100	5
Excavator	No	40	85		100	5
Flat Bed Truck	No	40	84		100	5
Front End Loader	No	40	80		100	5
Generator	No	50	82		100	5
Grader	No	40	85		100	5
Man Lift	No	20	85		100	5
Pickup Truck	No	40	55		100	5
Pneumatic Tools	No	50	85		100	5
Pumps	No	50	77		100	5
Scraper	No	40	85		100	5
Warning Horn	No	5	85		100	5

		Results							
		Calculated (dBA)		Noise Limits (dBA)					
				Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe		69	65	90		90 N/A	N/A	N/A	N/A
Compactor (ground)		69	62	90		90 N/A	N/A	N/A	N/A
Compressor (air)		69	65	90		90 N/A	N/A	N/A	N/A
Concrete Mixer Truck		74	70	90		90 N/A	N/A	N/A	N/A
Concrete Pump Truck		71	64	90		90 N/A	N/A	N/A	N/A
Concrete Saw		79	72	90		90 N/A	N/A	N/A	N/A
Crane		74	66	90		90 N/A	N/A	N/A	N/A
Dozer		74	70	90		90 N/A	N/A	N/A	N/A
Dump Truck		73	69	90		90 N/A	N/A	N/A	N/A
Excavator		74	70	90		90 N/A	N/A	N/A	N/A
Flat Bed Truck		73	69	90		90 N/A	N/A	N/A	N/A
Front End Loader		69	65	90		90 N/A	N/A	N/A	N/A
Generator		71	68	90		90 N/A	N/A	N/A	N/A
Grader		74	70	90		90 N/A	N/A	N/A	N/A
Man Lift		74	67	90		90 N/A	N/A	N/A	N/A
Pickup Truck		44	40	90		90 N/A	N/A	N/A	N/A
Pneumatic Tools		74	71	90		90 N/A	N/A	N/A	N/A
Pumps		66	63	90		90 N/A	N/A	N/A	N/A
Scraper		74	70	90		90 N/A	N/A	N/A	N/A
Warning Horn		74	61	90		90 N/A	N/A	N/A	N/A
	Total	79	81	90		90 N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Figure D-6. Noise Modeling Results – Construction Activities at 100 feet

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/8/2022
Case Description: Little Rock AFB IDEA - Construction Activities

		Baselines (dBA)			---- Receptor #2 ----			
Description	Land Use	Daytime	Evening	Night				
Little Rock AFB @ 500 ft	Residential	55	45	45				

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40	80		500	5
Compactor (ground)	No	20	80		500	5
Compressor (air)	No	40	80		500	5
Concrete Mixer Truck	No	40	85		500	5
Concrete Pump Truck	No	20	82		500	5
Concrete Saw	No	20	90		500	5
Crane	No	16	85		500	5
Dozer	No	40	85		500	5
Dump Truck	No	40	84		500	5
Excavator	No	40	85		500	5
Flat Bed Truck	No	40	84		500	5
Front End Loader	No	40	80		500	5
Generator	No	50	82		500	5
Grader	No	40	85		500	5
Man Lift	No	20	85		500	5
Pickup Truck	No	40	55		500	5
Pneumatic Tools	No	50	85		500	5
Pumps	No	50	77		500	5
Scraper	No	40	85		500	5
Warning Horn	No	5	85		500	5

	Calculated (dBA)		Results Noise Limits (dBA) Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	55	51	90		90 N/A	N/A	N/A	N/A
Compactor (ground)	55	48	90		90 N/A	N/A	N/A	N/A
Compressor (air)	55	51	90		90 N/A	N/A	N/A	N/A
Concrete Mixer Truck	60	56	90		90 N/A	N/A	N/A	N/A
Concrete Pump Truck	57	50	90		90 N/A	N/A	N/A	N/A
Concrete Saw	65	58	90		90 N/A	N/A	N/A	N/A
Crane	60	52	90		90 N/A	N/A	N/A	N/A
Dozer	60	56	90		90 N/A	N/A	N/A	N/A
Dump Truck	59	55	90		90 N/A	N/A	N/A	N/A
Excavator	60	56	90		90 N/A	N/A	N/A	N/A
Flat Bed Truck	59	55	90		90 N/A	N/A	N/A	N/A
Front End Loader	55	51	90		90 N/A	N/A	N/A	N/A
Generator	57	54	90		90 N/A	N/A	N/A	N/A
Grader	60	56	90		90 N/A	N/A	N/A	N/A
Man Lift	60	53	90		90 N/A	N/A	N/A	N/A
Pickup Truck	30	26	90		90 N/A	N/A	N/A	N/A
Pneumatic Tools	60	57	90		90 N/A	N/A	N/A	N/A
Pumps	52	49	90		90 N/A	N/A	N/A	N/A
Scraper	60	56	90		90 N/A	N/A	N/A	N/A
Warning Horn	60	47	90		90 N/A	N/A	N/A	N/A
Total	65	67	90		90 N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Figure D-7. Noise Modeling Results – Construction Activities at 500 feet

For the renovation activities group, the following pieces of equipment were assumed to potentially be in use:

- Backhoe
- Compactor (ground)
- Compressor (air)
- Crane
- Dump truck
- Flat bed truck
- Front end loader
- Generator
- Man lift
- Pickup truck
- Pneumatic tools
- Pumps
- Warning horn

The resulting predicted L_{eq} for the renovation activities group at a distance of 100 feet is 77.6 dBA and at a distance of 500 feet is 63.7 dBA.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/8/2022
Case Description: Little Rock AFB IDEA - Renovation Activities

		Baselines (dBA)			---- Receptor #1 ----			
Description	Land Use	Daytime	Evening	Night				
Little Rock AFB @ 100 ft	Residential	55	45	45				

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40	80		100	5
Compactor (ground)	No	20	80		100	5
Compressor (air)	No	40	80		100	5
Crane	No	16	85		100	5
Dump Truck	No	40	84		100	5
Flat Bed Truck	No	40	84		100	5
Front End Loader	No	40	80		100	5
Generator	No	50	82		100	5
Man Lift	No	20	85		100	5
Pickup Truck	No	40	55		100	5
Pneumatic Tools	No	50	85		100	5
Pumps	No	50	77		100	5
Warning Horn	No	5	85		100	5

	Results							
	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	69	65	90	90	N/A	N/A	N/A	N/A
Compactor (ground)	69	62	90	90	N/A	N/A	N/A	N/A
Compressor (air)	69	65	90	90	N/A	N/A	N/A	N/A
Crane	74	66	90	90	N/A	N/A	N/A	N/A
Dump Truck	73	69	90	90	N/A	N/A	N/A	N/A
Flat Bed Truck	73	69	90	90	N/A	N/A	N/A	N/A
Front End Loader	69	65	90	90	N/A	N/A	N/A	N/A
Generator	71	68	90	90	N/A	N/A	N/A	N/A
Man Lift	74	67	90	90	N/A	N/A	N/A	N/A
Pickup Truck	44	40	90	90	N/A	N/A	N/A	N/A
Pneumatic Tools	74	71	90	90	N/A	N/A	N/A	N/A
Pumps	66	63	90	90	N/A	N/A	N/A	N/A
Warning Horn	74	61	90	90	N/A	N/A	N/A	N/A
Total	74	77.6	90	90	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Figure D-8. Noise Modeling Results – Renovation Activities at 100 feet

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/8/2022
Case Description: Little Rock AFB IDEA - Renovation Activities

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Little Rock AFB @ 500 ft	Residential	55	45	45

---- Receptor #2 ----

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40	80		500	5
Compactor (ground)	No	20	80		500	5
Compressor (air)	No	40	80		500	5
Crane	No	16	85		500	5
Dump Truck	No	40	84		500	5
Flat Bed Truck	No	40	84		500	5
Front End Loader	No	40	80		500	5
Generator	No	50	82		500	5
Man Lift	No	20	85		500	5
Pickup Truck	No	40	55		500	5
Pneumatic Tools	No	50	85		500	5
Pumps	No	50	77		500	5
Warning Horn	No	5	85		500	5

Results

	Calculated (dBA)		Noise Limits (dBA)					
			Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	55	51	90	90	N/A	N/A	N/A	N/A
Compactor (ground)	55	48	90	90	N/A	N/A	N/A	N/A
Compressor (air)	55	51	90	90	N/A	N/A	N/A	N/A
Crane	60	52	90	90	N/A	N/A	N/A	N/A
Dump Truck	59	55	90	90	N/A	N/A	N/A	N/A
Flat Bed Truck	59	55	90	90	N/A	N/A	N/A	N/A
Front End Loader	55	51	90	90	N/A	N/A	N/A	N/A
Generator	57	54	90	90	N/A	N/A	N/A	N/A
Man Lift	60	53	90	90	N/A	N/A	N/A	N/A
Pickup Truck	30	26	90	90	N/A	N/A	N/A	N/A
Pneumatic Tools	60	57	90	90	N/A	N/A	N/A	N/A
Pumps	52	49	90	90	N/A	N/A	N/A	N/A
Warning Horn	60	47	90	90	N/A	N/A	N/A	N/A
Total	60	63.7	90	90	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Figure D-9. Noise Modeling Results – Renovation Activities at 500 feet

At distances from the noise-generating activities of greater than 2,000 feet (0.38 miles), predicted noise levels are not significantly above measured background sound levels and would not likely have an adverse impact on receptors.

D.5 CONCLUSIONS

An alternative would be considered to result in an adverse impact related to noise if it would result in either of the following:

- the exposure of receptors to construction noise levels in excess of USEPA standards, as stated in Table 3.7-2 in Section 3.7
- exposure of persons or structures to excessive ground-borne vibration

D.5.1 Proposed Action

Under the Proposed Action, demolition/construction activities and renovation activities associated with installation development activities would occur. These activities would be accompanied by a conservatively predicted short-term noise level increase to approximately 81.4 dBA at 100 feet from the source and 67.4 dBA at 500 feet from the source (comparable to traffic sound levels from a nearby freeway). The increase in noise levels in the vicinity of the construction activities would be short-term but noticeable. As the distance from the source is increased, the noise levels attributable to the demolition/construction activities continue to decrease as they approach existing background sound levels.

Renovation activities would be accompanied by a conservatively predicted short-term noise level increase to approximately 77.6 dBA at 100 feet from the source and 63.7 dBA at 500 feet from the source (comparable to traffic sound levels from a nearby freeway).

The perceived impacts from the increase in noise levels would depend on the receptor and site-specific conditions (including sound shielding). The predicted increases in noise levels would be consistent with typical urban construction projects, activities could be scheduled for normal daytime business hours, and proper equipment maintenance and noise shielding would minimize noise level increases from construction activities. Sound levels, in the immediate vicinity of the construction activities averaged over an entire day may approach the USEPA-recommended noise level standards.

Demolition/construction activities would include vibration-producing activities (such as excavation, grading, basement excavation, and clearing). Depending on the specific demolition/construction equipment used and operations involved, short-term increases in ground vibration may result. The increase in vibration levels in the vicinity of the construction activities would be short-term but noticeable. Activities would be limited to daytime hours and would be anticipated to be a minor disturbance to neighboring receptors.

Demolition/construction-related noise impacts would be adverse, short-term, and potentially moderate in magnitude (approaching USEPA threshold levels), depending on the receptor type and proximity to the project location. Demolition/construction-related vibration impacts would also be adverse, short-term, and potentially moderate in magnitude, depending on the receptor type and proximity to the project location. Mitigation, minimization, monitoring, and best practices to control noise and vibration impacts are listed below.

Routine operations on Little Rock AFB would not significantly increase sound levels from existing background levels. New facilities could be designed to position and incorporate sound shielding for stationary noise-generating equipment (such as refrigeration units). Traffic-related noise levels may increase in the vicinity of the proposed new facilities but would not be expected to increase disproportionately from current levels typical of suburban settings. Routine operation would not be expected to increase vibration levels.

Operation-related noise impacts would be minor. Operation-related vibration impacts would not be expected.

D.5.2 No Action Alternative

Under the No Action Alternative, Little Rock AFB installation development activities would not occur. No significant changes to noise levels from current conditions would be realized.

D.5.3 Avoidance Measures

Demolition/construction- and operation-related noise impacts would be minimized through implementation of the following:

- Limit outdoor construction activities using heavy equipment to daylight hours.
- Properly maintain and muffle equipment.
- Monitor area noise levels at least once every five days during high noise generating activities.
- Maintain sound shielding around the project site during high noise generating activities.
- Minimize equipment idling and shut down construction equipment when not in use.
- Design new facilities and renovated facilities to utilize berms, tree lines, and vegetative buffers for additional sound shielding of operational activities.

D.6 ACRONYMS

AFI	Air Force Instruction	IDEA	Installation Development EA
dB	decibels	L_{dn}	Day-Night Average Sound Level
dBA	A-weighted decibels	L_{eq}	Equivalent Continuous Sound Level
EA	Environmental Assessment	L_{max}	Maximum Sound Level
FHWA	Federal Highway Administration	L_{min}	Minimum Sound Level
FTA	Federal Transit Authority	RCNM	Roadway Construction Noise Model
HUD	Housing and Urban Development	USEPA	U.S. Environmental Protection Agency

D.7 REFERENCES

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