ENVIRONMENTAL ASSESSMENT
FOR
IMPLEMENTATION OF MASTER PLANNING ACTIONS WITHIN THE EXPLOSIVE DISTRICT, MCALESTER ARMY AMMUNITION PLANT, OK

SEPTEMBER 2021

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DEPARTMENT OF DEFENSE
UNITED STATES ARMY
DRAFT FINDING OF NO SIGNIFICANT IMPACT
FOR THE ENVIRONMENTAL ASSESSMENT ADDRESSING
IMPLEMENTATION OF MASTER PLANNING ACTIONS WITHIN THE EXPLOSIVE DISTRICT, MCALESTER ARMY AMMUNITION PLANT, OK

1. Introduction. Pursuant to the Council on Environmental Quality (CEQ) regulations (Title 40 of the *Code of Federal Regulations* [CFR] parts 1500-1508) for implementing the procedural provisions of the National Environmental Policy Act (NEPA) (Title 42 of the *United States Code* 4321 *et seq.)* and 32 CFR part 651 *(Environmental Analysis of Army Actions),* McAlester Army Ammunition Plant (MCAAP), Oklahoma, conducted an Environmental Assessment (EA) of the potential environmental and socioeconomic effects associated with implementing real property master planning actions at MCAAP (the proposed action). Regulations in 32 CFR part 651 provide Army guidance and procedures for complying with NEPA and establish policy, procedures, and responsibilities for assessing environmental effects of proposed Army actions.

2. Proposed Action. Within the next approximately 5 years, the Army proposes to implement various real property master planning actions at MCAAP. These include implementation of installation-wide framework elements of and standards for future real property actions, as well as planned implementation of specific actions/projects as identified in the Area Development Plan (ADP) for the Explosive and Non-Explosive Districts. The ADP considered long-term mission requirements and fiscal constraints and identified projects for execution over the next 20 years. The proposed action focuses on the implementation of the short-term requirements as identified in the ADP, which consist of construction, repair and sustainment, and/or restoration and modernization projects. Because these projects are anticipated to be implemented in the near-term, they have been planned and/or designed to a level where sufficient information is available to analyze them in detail for potential environmental and socioeconomic impacts.

3. Alternatives Considered. MCAAP identified two alternatives: implementing the proposed action (which is the preferred alternative) and a no action alternative. CEQ regulations require analysis of a no action alternative. The proposed action is to implement a comprehensive approach to developing the Installation using planning strategies that reinforce capabilities to support MCAAP's mission, promote quality of life, and enhance sustainability and environmental viability on the Installation. Under the no action alternative, MCAAP would not implement the real property master planning actions within the next approximately 5 years, principally as identified in the ADP Preferred Alternative.

4. Factors Considered in the Finding of No Significant Impact. The EA, which is attached and incorporated by reference into this Draft Finding of No Significant Impact (FNSI), examines the potential effects of the proposed action and the no action alternative

on the following resource areas of environmental and socioeconomic concern: land use and recreation, coastal zone, aesthetics and visual resources, air quality, noise, geology and soils, water resources, biological resources, cultural resources, socioeconomics and environmental justice, transportation and traffic, utilities and service systems, and hazardous materials/hazardous waste/toxic substances/contaminated sites.

The Army would expect a combination of short-term minor adverse and long-term minor beneficial effects to result from implementing the proposed action. Potential impacts to the following resource areas are considered to be negligible or nonexistent: safety, noise, land use and recreation, coastal zone consistency, aesthetics and visual resources, socioeconomics and environmental justice. Short-term, minor, adverse effects on air quality, geology and soils, water resources, biological resources, cultural resources, transportation and traffic, utilities and service systems, and hazardous materials/hazardous waste/toxic substances/contaminated sites would be expected associated with repair, construction, and demolition activities under the proposed action. Implementing the proposed action would not result in any adverse cumulative environmental effects.

Elements of the proposed action are within jurisdictional wetlands and waters of the United States (U.S.). Construction of gravel road and rail spur will permanently impact 0.18 acre of jurisdictional wetlands and qualifies for coverage under NWP 14 – *Linear Transportation Projects*. Trenching associated with the new underground natural gas utility and water utility will temporarily impact 0.007 acre of jurisdictional stream and qualifies for coverage under NWP 58 – *Utility Line Activities for Water and Other Substances*. The Army has found that there is no practicable alternative to the proposed action located outside of jurisdictional wetlands and waters of the U.S. Furthermore, pursuant to Executive Order 11990, and as described above, the Army will take all practicable measures to minimize impacts associated with the proposed action to and within jurisdictional wetlands and waters of the U.S.

Public Availability. A Notice of Availability of this Draft FNSI, Draft FONPA, and EA was published in the *McAlester News Capital* on September 25, 2021. A copy of the EA, Draft FNSI, and Draft FONPA are available for review on the Internet at https://www.dvidshub.net/publication/1331/mcalester-army-ammunition-plant-environmental and are also available for public review at the McAlester Public Library (401 N. 2nd Street). Additionally, the EA, Draft FNSI, and Draft FONPA are available for review by contacting Ms. Traci McMurtrey at traci.c.mcmurtrey.civ@mail.mil or 918-420-7254. The deadline for receipt of comments is October 25, 2021.

5. Conclusions. Based on the environmental analysis in the EA, the Army has determined that implementing the proposed action would have no significant direct, indirect, or cumulative adverse effects on the quality of human life or the natural environment at MCAAP. Therefore, the Army will not be required to prepare an Environmental Impact Statement before implementing the proposed action. A final decision, however, will not be rendered until after the close of the public comment period for the EA and until after all timely submitted comments have been considered and appropriately addressed.

_____ _____

Michael F. Hammond
COL, LG
Commanding Officer
McAlester Army Ammunition Plant, Oklahoma

Date

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DEPARTMENT OF DEFENSE
UNITED STATES ARMY
DRAFT FINDING OF NO PRACTICABLE ALTERNATIVE
FOR THE ENVIRONMENTAL ASSESSMENT ADDRESSING
IMPLEMENTATION OF MASTER PLANNING ACTIONS WITHIN THE EXPLOSIVE DISTRICT,
MCALESTER ARMY AMMUNITION PLANT, OK

1. Introduction. The Department of the Army (Army) proposes to implement various real property master planning actions at McAlester Army Ammunition Plant (MCAAP), which consist of construction, demolition, repair, sustainment and/or renovation, and modernization projects. Pursuant to Executive Order (EO) 11988, *Floodplain Management*, and EO 11990, *Protection of Wetlands*, the Army must evaluate whether there is a practicable alternative to locating the proposed action in a floodplain or wetlands, respectively. The practicability of a given alternative is evaluated by determining whether it is available and capable of being done after considering pertinent factors, such as community welfare, environmental impact, statutory authority, legality, cost, technology, and engineering within the context of the project purpose. If the only practicable alternative requires siting in a floodplain and/or wetlands, the Army must design or modify its action to minimize harm to or within the floodplain and/or wetlands. Thereafter, the Army must prepare and circulate a notice containing an explanation of why the action is proposed to be in the floodplain and wetlands.

The Army has determined elements of this proposed action must be located within wetlands, but not within any floodplains on MCAAP. Therefore, this Draft Finding of No Practicable Alternative (FONPA) addresses EO 11990, *Protection of Wetlands*. The analysis and conclusions of the April 2021 Environmental Assessment for Implementation of Master Planning Actions within the Explosive District, MCAAP (EA) are hereby incorporated by reference.

2. Notice of Wetland Involvement. EO 11990 requires federal agencies to determine whether a proposed action would occur within wetlands. “Wetlands” are defined in the EO as “those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.” The Army has determined the proposed projects under the Preferred Alternative would directly impact jurisdictional wetlands and waters of the United States (U.S.).

Publication of the Notice of Availability (NOA) for the EA commences a 30-day public review period for the EA and associated Finding of No Significant Impact (FNSI). As stated in the notice, this 30-day public comment period also applies to comments on this Draft FONPA.

3. Description of the Proposed Action, Wetlands Impacts, and Minimization. The Army proposes to implement various real property master planning actions at MCAAP. These include implementation of installation-wide framework elements of and standards for future real property actions as well as planned implementation of specific actions/projects as identified in the MCAAP Area Development Plan and Area Development Execution Plan for the Explosive District. The proposed action focuses on the implementation of short-term requirements identified in the Area Development Plan and Area Development Execution Plan, which consist of construction, demolition, repair and sustainment, and/or renovation, and modernization projects.

Under the proposed action, MCAAP would implement a comprehensive approach to developing the installation using planning strategies that reinforce capabilities to support MCAAP's mission, promote quality of life, provide safe and efficient transportation networks, and enhance sustainability and environmental viability on the installation. The EA depicts locations and lists the projects identified in the master planning process that could occur in wetlands and are currently planned to be implemented in the approximately next 5 years. These projects and the potential impacts to wetlands are described below.

4. Assessment of Direct Impact to Wetlands. Under the proposed action, construction of a gravel road and rail spur and trenching associated with the new underground natural gas utility and water utility under Project 4 would result in permanent and temporary impacts to a potentially jurisdictional wetland and streams. The wetland is identified as forested/shrub and the streams are identified as intermittent in the National Wetlands Inventory database. Under Section 404(b) of the Clean Water Act, the U.S. Army Corps of Engineers can issue general permits to authorize activities that have only minimal individual and cumulative adverse environmental effects. A nationwide permit (NWP) is a general permit that authorizes activities across the country.

The Army has evaluated and determined that there would be no practicable alternatives for locating these projects outside the wetland and waters of the U.S. that would meet the project purpose. The Army sought ways to site projects entirely outside of the wetlands and waters of the U.S. while still addressing MCAAP's need to address real property deficiencies and suboptimal conditions. Due to factors such as lack of developable space on MCAAP, safety design requirements for rail travel, mission-critical need to update infrastructure deemed essential by the installation Master Plan, and the necessary avoidance of other critical resources such as cultural resources, it was determined that avoidance of wetlands was not feasible. The following impacts to wetlands would be expected for construction under Project 4:

- Construction of gravel road and rail spur would permanently impact 0.18 acre of jurisdictional wetlands and qualifies for coverage under NWP 14 – *Linear Transportation Projects*. Pre-construction notification would be required under NWP 14 and the district engineer will determine the appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal. This may include avoiding, minimizing, rectifying, reducing, or compensating for resource losses.

- Trenching associated with the new underground natural gas utility and water utility would temporarily impact 0.007 acre of jurisdictional stream and qualifies for coverage under NWP 58 – *Utility Line Activities for Water and Other Substances*. Because the impact would be less than 0.10 acre, the action can proceed under NWP 58 without the need for a pre-construction notification. Temporary fills would be removed and the stream would be restored/recontoured to pre-construction elevations following installation of the new underground utilities.

In summary, impacts to jurisdictional wetland and waters of the U.S. would be covered under NWP 14 and NWP 58. Permanent impacts would be mitigated as outlined and NWP 14 and temporary fills would be removed and the wetland or stream would be restored/recontoured to pre-construction elevations. Under the proposed action, design, construction, and maintenance activities would be implemented in accordance with permit requirements, stormwater pollution prevention plans, Best Management Practices, and include Low Impact Development measures as appropriate to reduce the potential for adverse impacts to jurisdictional wetlands and waters of the U.S.

5. Public Availability. A Notice of Availability of this Draft FNSI, Draft FONPA, and EA was published in the *McAlester News Capital* on September 25, 2021. A copy of the EA, Draft FNSI, and Draft FONPA are available for review on the Internet at https://www.dvidshub.net/publication/1331/mcalester-army-ammunition-plant-environmental and are also available for public review at the McAlester Public Library (401 N. 2nd Street). Additionally, the EA, Draft FNSI, and Draft FONPA are available for review by contacting Ms. Traci McMurtrey at traci.c.mcmurtrey.civ@mail.mil or 918-420-7254. The deadline for receipt of comments is October 25, 2021.

6. Finding. Following an evaluation of the impacts associated with the proposed action and the impacts of alternatives to implement the proposed action, I find there is no practicable alternative to the proposed action located outside of jurisdictional wetlands and waters of the U.S. Furthermore, pursuant to EO 11990, and as described above, the Army will take all practicable measures to minimize impacts associated with the proposed action to and within jurisdictional wetlands and waters of the U.S.

_____ _____

Michael F. Hammond
COL, LG
Commanding Officer

Date

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ENVIRONMENTAL ASSESSMENT
FOR
IMPLEMENTATION OF MASTER PLANNING ACTIONS WITHIN THE EXPLOSIVE DISTRICT, MCALESTER ARMY AMMUNITION PLANT, OK

Proponent: McAlester Army Ammunition Plant
NEPA Lead Agency: McAlester Army Ammunition Plant

APPROVAL
This Environmental Assessment meets the requirements of NEPA, 40 CFR 1500-1508 and 32 CFR 651.

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Date

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Michael F. Hammond
COL, LG
Commanding Officer

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EXECUTIVE SUMMARY

This Environmental Assessment (EA) evaluates the potential environmental and socioeconomic impacts associated with implementing real property master planning actions at McAlester Army Ammunition Plant (MCAAP) (the proposed action). Real property master planning is a continuous analytical process that involves evaluation of factors affecting the present and future physical development and operation of an installation. The Real Property Master Plan (RPMP) process provides 1) documentation of installation real property visions, development plans, planning standards, and capital investment strategies to enable clear communication between stakeholders; and 2) a framework for installation management review of allocation of limited resources that affect, or are affected by, the use of real property assets. The bulk of installation planning occurs in the form of Area Development Plans (ADPs), which are identifiable and connected areas of each installation.

This EA evaluates the implementation of real property master planning actions within the Explosive District at MCAAP planned to begin within the next approximately 5 years, which are principally from the ADP for the Explosive and Non-Explosive Districts. The EA evaluates one action alternative and a No Action Alternative in detail. This EA is prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [U.S.C.] § 4321 *et seq.*); Council on Environmental Quality (CEQ) NEPA regulations (40 Code of Federal Regulations [CFR] Parts 1500–1508); Army's NEPA regulations (32 CFR Part 651); and the Army's regulation implementing NEPA (32 CFR Part 651), and is consistent with Department of Defense (DoD) Unified Facilities Criteria (UFC) 2-100-01, *Installation Master Planning* (DoD 2018). As the internal draft EA was circulated for review prior to the September 14, 2020 effective date of CEQ's updated NEPA regulations, CEQ's pre-2020 version of its NEPA regulations apply. The Army is the lead agency for the proposed action; there are no cooperating agencies (per 40 CFR Section 1501.6) for this EA.

MCAAP is a government-owned, government-operated installation located southwest of McAlester, Oklahoma in Pittsburg County. The MCAAP produces, sustains, delivers, recovers, and demilitarizes conventional and missile ammunition to support Joint Forces worldwide. Its mission is to provide timely delivery of quality products and services to the Joint Forces and partners in support of our nation's security and defense interests. MCAAP is managed by the United States (U.S.) Army Joint Munitions Command (JMC), a Major Subordinate Command to Army Materiel Command (AMC).

Real property master planning for MCAAP, conducted consistent with UFC 2-100-01, currently consists of an Installation-wide Vision Plan (September 2015), an ADP for the Explosive and Non-Explosive Districts (April 2020), and an Area Development Execution Plan (ADEP) for the Explosive and Non-Explosive Districts (April 2020). The ADP identified deficiencies, shortcomings, and suboptimal conditions for facility size/capacity/quality and configurations.

Currently, MCAAP is conducting follow-on planning for the implementation of prioritized short-term development projects within the next approximately 5 years as identified in the ADEP.

MCAAP's Explosive District and Non-Explosive District together encompass 16,088 acres and include the bulk of mission-based operations at MCAAP. The Explosive District includes all ammunition production, maintenance, and disposal functions at MCAAP. The Explosive District has restricted access and is off-limits to those without special clearance. The Non-Explosive District includes support, supply, and Department of Public Works (DPW) functions, as well as administrative and tenant activities.

ES.1 Purpose and Need

The purpose of the proposed action is to manage MCAAP's real property assets in a thoughtful, deliberative, and sustainable manner consistent with DoD Instruction 4165.70, *Real Property Management*, and UFC 2-100-01 requirements and guidance. The proposed action is needed to address MCAAP's real property deficiencies and suboptimal conditions. Further, the proposed action is needed to provide safe, flexible, and efficient facilities to meet current and future installation mission requirements effectively and cost efficiently.

ES.2 Description of the Proposed Action and Alternatives

Within the next approximately 5 years, the Army proposes to implement various real property master planning actions at MCAAP. These include implementation of installation-wide framework elements of and standards for future real property actions, as well as planned implementation of specific actions/projects within the Explosive District as identified in the ADP for the MCAAP Explosive and Non-Explosive Districts. The ADP considered long-term mission requirements and fiscal constraints and identified projects for execution over the next 20 years. The proposed action focuses on the implementation of the short-term requirements as identified in the ADP, which consist of construction, repair and sustainment, and/or restoration and modernization projects. Because these projects are anticipated to be implemented in the near-term, they have been planned and/or designed to a level where sufficient information is available to analyze them in detail for potential environmental and socioeconomic impacts. The remainder of this section describes the alternatives analysis process and alternatives that will be evaluated in detail in this EA.

Aligning the master planning and NEPA development of alternatives processes is a means of both streamlining the planning process and exploring and evaluating alternatives in a comprehensive and multidisciplinary manner. Under the master planning process, the development of alternatives occurs at the district level, where the ADP process involves creating multiple options that allows planners, stakeholders, and installation leadership to ensure that the ADP best fulfills the development vision. In carry-over to the NEPA process, this scale and planning horizon fosters a broader level of analysis of environmental considerations and avoids

inefficiencies of case-by-case and overly narrowly focused analyses for individual master plan projects.

In the ADP planning process, alternatives are defined as options for long-range development of the district, including arrangement of functional areas, circulation, and utility systems. Each alternative is informed by the district vision, goals, and objectives established in the ADP process. As integrated into NEPA, this element of the alternatives evaluation process forms the foundation for the criteria to define a reasonable range of alternatives. The multidisciplinary, collaborative, stakeholder-driven ADP planning process screens the alternatives for the following core planning elements:

- **Mission Compatibility:** The alternative must appropriately address expansion, reduction, and changes in mission.
- **Short- and Long-Range Real Property Needs:** The alternative must provide both a path forward for a 20-year planning horizon while also anticipating and responding to current and short-range missions and requirements.
- **Cost Efficiency/Financial Stewardship:** Alternatives must be practical and feasible from a technical and economic standpoint and identify opportunities for reduced life-cycle costs of real estate assets and reduction in energy and water consumption, air emissions, and waste generation.

The Preferred Alternative that emerged from the MCAAP ADP planning process incorporates future program requirements known at the time. Although the Preferred Alternative evolves within the context of the Regulating Plan and Illustrative Plan as the implementation progresses, it is principally from the MCAAP ADP.

Preferred Alternative. Under the Preferred Alternative, MCAAP would implement a comprehensive approach to developing the installation using planning strategies that reinforce capabilities to support MCAAP's mission, promote quality of life, and enhance sustainability and environmental viability on the installation. **Table ES-1** summarizes the overarching Vision Plan, installation-wide Installation Planning Standards, and district level vision, goals, and objectives, and the manner in which they are evaluated in this EA. While no specific projects or actions are analyzed for these RPMP elements in this EA, the analysis of these framework planning elements provides a basis for analysis of the projects evaluated in detail in this EA, as well as subsequent, follow-on site-specific tiered NEPA analysis when planning details for out-year future projects become available.

Table ES-1. Framework RPMP Elements

RPMP Element	Description	Action to be Evaluated
Vision Plan	• installation-wide planning vision, planning goals, and planning objectives • installation-wide constraints and opportunities map or maps • developable area map (capacity analysis) • a framework plan (i.e., districts and networks)	Establishment of a framework and context for future real property actions/projects
Installation Planning Standards	• installation-wide standards for buildings, streets, and landscapes that address sustainability and energy efficiency requirements; promote visual order and architectural consistency; enhance the natural and man-made environment; and improve the functional aspects of the installation	Establishment of standards for future real property actions

Consistent with the framework planning summarized in **Table ES-1**, the MCAAP ADP for the Explosive and Non-Explosive Districts established the following ADP Vision: *MCAAP, as the premier installation, will continuously provide **safe, modern, flexible,** and **sustainable** real property to meet our nation's changing security and defense interests.*

The following goals and objectives were established to meet this vision:

- Safe Installation – Meeting and exceeding established regulatory requirements
- Modern Installation – Ensuring facilities meet current production needs and anticipate the needs of the future
- Efficient Installation – Using the most efficient and most cost-effective means to achieve the desired goal
- Sustainable Installation – Maintaining what we have today while accommodating future demands

Table ES-2 lists the projects identified in the master planning process, primarily in the MCAAP ADP for the Explosive and Non-Explosive Districts, which are planned to be implemented in the next approximately 5 years.

Table ES-2. Implementation Actions/Projects Evaluated in Detail in this EA

Project Number	EA Project Number and Description	Estimated Area of New Ground Disturbance (SF)*	Estimated New Impervious Surface (SF)	Proposed Implementation Year
Infrastructure and Security				
94732	Project #1 - Electric Distribution Upgrade – This project would include repair and upgrades of overhead electrical distribution lines from pole 3-30 to pole 7-8 near the Haywood Gate. Existing wood poles would be replaced with round steel poles in similar single and H-structure configurations.	0	0	2021
94737	Project #2 - Backup Generator for A-Line – This project would include the installation of a backup generator for the A-Line production line. This would also include a medium voltage switching station at the generator site. An approximately 15-foot by 25-foot by 1-foot thick concrete pad would also be constructed to hold the generator. In addition, a 1,000-gallon double walled aboveground fuel tank would be installed.	375	375	2025
94738	Project #3 - Backup Generator for B-Line – This project would include the installation of a backup generator for the B-Line production line. This would also include a medium voltage switching station at the generator site. An approximately 15-foot by 25-foot by 1-foot thick concrete pad would also be constructed to hold the generator. In addition, a 1,000-gallon double walled aboveground fuel tank would be installed.	375	375	2025
New Construction				
65443	Project #4 – Develop C-Line – This project would include the construction of a new Ammunition Reclamation Center, which would include a process control facility, a boiler building, and three main process facilities. Two buildings are targeted for demolition as part of this project.	350,000	214,200	2021
Building Renovation and Modernization				
NA	Project #5 - Multi-Purpose Load Facility – This project would include interior facility renovations along with a new roof. Interior renovations would include new windows, doors, electrical power panels and distribution, lighting, fire suppression systems, heating, potable water and sewer systems, and building envelope insulation. Foundation work on this building would be completed separately prior to renovations and the installation will do a REC prior to this work.	0	0	2021

Table ES-2. Implementation Actions/Projects Evaluated in Detail in this EA

Project Number	EA Project Number and Description	Estimated Area of New Ground Disturbance (SF)*	Estimated New Impervious Surface (SF)	Proposed Implementation Year
85229	Project #6 - Roof Repairs for Warehouses – This project would include the replacement of existing transite roofs for 11 buildings. Repair to roof trusses would also occur where need. Asbestos abatement would occur prior to replacement of roofs.	0	0	2021

Note: *Disturbance calculations do not include demolition of buildings, renovations, or new fencing.
Legend: REC = Record of Environmental Consideration; SF = square foot/feet; NA = Not Applicable.

No Action Alternative. Under the No Action Alternative, MCAAP would not implement the real property master planning actions within the next approximately 5 years, principally as identified as the Preferred Alternative. Without implementation of the proposed major construction, renovation, and modernization projects, facilities would continue to deteriorate, which would impede mission effectiveness. Continued implementation of ongoing real property master planning actions not compliant with UFC 2-100-01 would be suboptimal and lack comprehensive analysis for long-term sustainable installation development supporting mission requirements. The No Action Alternative would not satisfy the purpose of or need for the proposed action. This alternative is retained for evaluation in the EA to provide a comparative baseline against which to analyze the effects of the proposed action, as required under NEPA implementing regulations (40 CFR Part 1502.14[d] and 32 CFR Part 651.34[d]).

ES.3 Anticipated Environmental Consequences

The EA analysis addresses potential environmental effects to air quality, geology and soils, water resources, biological resources, cultural resources, transportation and traffic, utilities and service systems, and hazardous materials/hazardous waste/toxic substances/contaminated sites. While some potential for cumulative effects are addressed in Chapter 4.0 of the EA, no significant cumulative impacts were identified. The analysis presented in the EA concludes that all potential impacts are anticipated to be less than significant.

ES.4 Agency and Public Involvement

The Army has made this EA, along with a draft Finding of No Significant Impact (FNSI) and draft Finding of No Practicable Alternative (FONPA), available to the public for 30 days, and has published a notice of availability (NOA) of the EA in the *McAlester News Capital*. Interested parties will be able to review and access the documents on the Internet at https://www.dvidshub.net/publication/1331/mcalester-army-ammunition-plant-environmental. Copies are also available for public review at the McAlester Public Library (401 N. 2nd Street, McAlester, Oklahoma 74501). Comments submitted within the 30-day public review period will be made part of the Administrative Record and will be fully taken into account before a final

decision is made to either execute a final FNSI and proceed with implementing the proposed action or publish a Notice of Intent to prepare an Environmental Impact Statement (EIS).

ES.5 Intergovernmental Consultation

In accordance with 32 CFR Part 651.14(2), MCAAP is conducting National Historic Preservation Act (NHPA) Section 106 consultation with the Oklahoma State Historic Preservation Office (SHPO) regarding potential impacts to historic properties. An initial government-to-government consultation letter was sent in October 2020 to the five federally recognized American Indian Tribes with a possible affiliation to MCAAP. These tribes include the Choctaw Nation of Oklahoma, the Chickasaw Nation, the Caddo Indian Tribe, the Quapaw Tribe of Indians of Oklahoma, and the Wichita and Affiliated Tribes. **Appendix A** includes the results of the consultation that occurred in parallel with development of this EA.

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ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
ACM	Asbestos-Containing Material
ADP	Area Development Plan
ADEP	Area Development Execution Plan
AIRFA	American Indian Religious Freedom Act
AMC	Army Materiel Command
AMP	Asbestos Management Plan
APE	Area of Potential Effects
ARPA	Archaeological Resources Protection Act
AST	Aboveground Storage Tank
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practice
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CH_4	methane
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_{2e}	Carbon Dioxide Equivalent
CRM	Cultural Resources Manager
CWA	Clean Water Act
DERP	Defense Environmental Restoration Program
DoD	Department of Defense
DPW	Directorate of Public Works
EA	Environmental Assessment
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EO	Executive Order
EPCRA	Emergency Planning and Community Right-to-Know Act
EMO	Emergency Management Office
ESA	Endangered Species Act
ESQD	Explosives Safety Quantity Distance
FEMA	Federal Emergency Management Agency
FNSI	Finding of No Significant Impact
FONPA	Finding of No Practicable Alternative
GHG	Greenhouse Gas
GWP	Global Warming Potential
HAP	Hazardous Air Pollutant
HMCC	Hazardous Material Control Center
HVAC	heating, ventilation, and air conditioning
HWMP	Hazardous Waste Management Plan
IAP	Installation Action Plan
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
IRP	Installation Restoration Program
ISWMP	Integrated Solid Waste Management Plan
JMC	Joint Munitions Command

LBP	Lead-Based Paint
LF	Linear Foot/Feet
LID	Low Impact Development
LUC	Land Use Control
MCAAP	McAlester Army Ammunition Plant
MBTA	Migratory Bird Treaty Act
mgd	Million Gallons Per Day
MMRP	Military Munition Response Program
MSAT	Mobile Source Air Toxic
MSGP	Multi-Sector General Permit
MW	megawatts
N_2O	Nitrous Oxide
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOA	Notice of Availability
NO_x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWP	Nationwide Permit
O_3	ozone
OAC	Oklahoma Administrative Code
OB/OD	Open Burning/Open Detonation
ODEQ	Oklahoma Department of Environmental Quality
OPDES	Oklahoma Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated Biphenyl
$PM_{2.5}$	particulate matter with an aerodynamic diameter of 2.5 microns or less
PM_{10}	particulate matter with an aerodynamic diameter of 10 microns or less
POL	petroleum, oil, and lubricant
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
RDX	cyclo trimethylene trinitramine
REC	Record of Environmental Consideration
RPMP	Real Property Master Plan
SF	Square Feet / Foot
SHPO	State Historic Preservation Office(r)
SO_2	sulfur dioxide
SOP	Standard Operating Procedure
SPCC	Spill Prevention, Control, and Countermeasure
SWPPP	Stormwater Pollution Prevention Plan
TCP	Traditional Cultural Property
TNT	trinitrotoluene
TRI	Toxic Release Inventory
TSCA	Toxic Substances Control Act
U.S.	United States
U.S.C.	United States Code
UFC	Unified Facilities Criteria
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency

USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
VOC	Volatile Organic Compound
WWTP	Wastewater Treatment Plant

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1.0 INTRODUCTION

This Environmental Assessment (EA) evaluates the potential environmental and socioeconomic impacts associated with implementing real property master planning actions at McAlester Army Ammunition Plant (MCAAP) (the proposed action). Real property master planning is a continuous analytical process that involves evaluation of factors affecting the present and future physical development and operation of an installation. The Real Property Master Plan (RPMP) process provides 1) documentation of installation real property visions, development plans, planning standards, and capital investment strategies to enable clear communication between stakeholders; and 2) a framework for installation management review of allocation of limited resources that affect, or are affected by, the use of real property assets. The bulk of installation planning occurs in the form of Area Development Plans (ADPs), which are identifiable and connected areas of each installation.

This EA evaluates the implementation of real property master planning actions within the Explosive District at MCAAP planned to begin within the next approximately 5 years, which are principally from the ADP for the Explosive and Non-Explosive Districts. The EA evaluates one action alternative and a No Action Alternative in detail. This EA is prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [U.S.C.] § 4321 et seq.); Council on Environmental Quality (CEQ) NEPA regulations (40 Code of Federal Regulations [CFR] Parts 1500–1508); Army's NEPA regulations (32 CFR Part 651)); and the Army's regulation implementing NEPA (32 CFR Part 651), and is consistent with Department of Defense (DoD) Unified Facilities Criteria (UFC) 2-100-01, Installation Master Planning (DoD 2018). As the internal draft EA was circulated for review prior to the September 14, 2020 effective date of CEQ's updated NEPA regulations, CEQ's pre-2020 version of its NEPA regulations apply. The Army is the lead agency for the proposed action; there are no cooperating agencies (per 40 CFR Section 1501.6) for this EA.

1.1 INSTALLATION DESCRIPTION AND CURRENT SITUATION

MCAAP is a government-owned, government-operated installation located southwest of McAlester, Oklahoma in Pittsburg County. The MCAAP produces, sustains, delivers, recovers, and demilitarizes conventional and missile ammunition to support Joint Forces worldwide. Its mission is to provide timely delivery of quality products and services to the Joint Force and partners in support of our nation's security and defense interests. MCAAP is managed by the United States (U.S.) Army Joint Munitions Command (JMC), a Major Subordinate Command to Army Materiel Command (AMC).

Real property master planning for MCAAP, conducted consistent with UFC 2-100-01, currently consists of an Installation-wide Vision Plan (September 2015), an ADP for the Explosive and Non-Explosive Districts (April 2020), and an Area Development Execution Plan (ADEP) for the Explosive and Non-Explosive Districts (April 2020). The ADP identified deficiencies, shortcomings, and suboptimal conditions for facility size/capacity/quality and configurations.

Currently, MCAAP is conducting follow-on planning for the implementation of prioritized short-term development projects within the next approximately 5 years as identified in the ADEP.

MCAAP's Explosive District and Non-Explosive District together encompass 16,088 acres and include the bulk of mission-based operations at MCAAP. The Explosive District includes all ammunition production, maintenance, and disposal functions at MCAAP. The Explosive District has restricted access and is off-limits to those without special clearance. The Non-Explosive District includes support, supply, and Department of Public Works (DPW) functions, as well as administrative and tenant activities.

1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the proposed action is to manage MCAAP's real property assets in a thoughtful, deliberative, and sustainable manner consistent with DoD Instruction 4165.70, *Real Property Management*, and UFC 2-100-01 requirements and guidance. The proposed action is needed to address MCAAP's real property deficiencies and suboptimal conditions. Further, the proposed action is needed to provide safe, flexible, and efficient facilities to meet current and future installation mission requirements effectively and cost efficiently.

1.3 SCOPE OF ENVIRONMENTAL ANALYSIS

This EA identifies, documents, and evaluates the potential environmental, cultural, and socioeconomic effects of implementing RPMP/ADP actions within the next approximately 5 years. The 5-year short-term real property planning needs are combined with the long-term perspective of the 20-year planning horizon. The EA includes an evaluation of the short- and long-term direct, indirect, and cumulative effects of implementing these actions and informs decision-makers and the public of the potential environmental consequences along with associated mitigation. Sufficient details are not available to fully analyze the effects of mid- and long-term projects (i.e., generally beyond the 5-year planning horizon context for the real property planning vision), but the projects are included to provide context for the real property planning vision and capacity for future development. MCAAP will conduct additional NEPA analysis (either a Record of Environmental Condition [REC], EA, or Environmental Impact Statement [EIS]) for such actions at the appropriate time. These analyses may be tiered from this EA in accordance with 40 CFR Part 1502.20 and 32 CFR Part 651.14(c) (see **Appendix A** for a template REC for tiering from this EA).

This document is intended to communicate new environmental information and update the coordination between federal and state regulatory agencies. Findings from previously completed NEPA documents are still valid and are not reiterated in this EA. The following report is incorporated by reference and in accordance with NEPA: *Final Programmatic Environmental Assessment for the U.S. Army Materiel Command Building Demolition Program* (AMC 2014) per 40 CFR Part 1502.21 and consistent with 32 CFR Part 651.12(a)(3). Additional tiered, site-

specific analysis of building demolition identified for master planning actions is incorporated into this EA, as appropriate.

Resource areas evaluated in this EA include air quality, geology and soils, water resources, biological resources, cultural resources, transportation and traffic, utilities and service systems, and hazardous materials/hazardous waste/toxic substances/contaminated sites.

1.4 DECISION TO BE MADE

The decision to be made by the Commanding Officer of MCAAP is to approve or disapprove the proposed action in consideration of potential socioeconomic and environmental consequences, and actions that protect, restore, and enhance the environment. This EA is intended to assist in that decision-making by providing sufficient evidence and analysis for determining whether a Finding of No Significant Impact (FNSI) or EIS should be prepared. If the potential adverse environmental impacts associated with the selected alternative would potentially remain significant even after all reasonable mitigation measures have been implemented, an EIS would be warranted. If the Army moves forward with the action, the start of an EIS process would be marked with the formal publishing of a Notice of Intent to prepare an EIS in the Federal Register.

1.5 REGULATORY FRAMEWORK

In accordance with 32 CFR Part 651.14(2), the Army considered applicable federal, state, and local regulations during analysis of the proposed action's effects to individual environmental and social resources. The following were determined to be applicable to the proposed action and, therefore, analyzed within this EA.

- American Indian Religious Freedom Act (AIRFA) (42 U.S.C. § 21 *et seq.*)
- Archaeological Resources Protection Act (ARPA) (16 U.S.C. § 470aa *et seq*.)
- Bald and Golden Eagle Protection Act (16 U.S.C. § 668-668d)
- Clean Air Act (CAA) (42 U.S.C. § 7401)
- Clean Water Act (CWA) (33 U.S.C. § 1251)
- Coastal Zone Management Act (16 U.S.C. § 1451 *et seq.*)
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 U.S.C. § 9601 *et seq.*)
- Emergency Planning and Community Right-to-Know Act (EPCRA) (42 U.S.C. § 11001-11050)
- Endangered Species Act (ESA) (16 U.S.C. §§ 1531–1543)
- Migratory Bird Treaty Act (MBTA), as amended (16 U.S.C. §§ 703-712)
- National Historic Preservation Act of 1966 (NHPA) (54 U.S.C. § 306108 *et seq*., as amended)

- Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. ch. 32 § 3001 *et seq.*)
- NEPA (42 U.S.C. §§ 4321-4347)
- Resource Conservation and Recovery Act (RCRA) (42 U.S.C. § 6901)
- Safe Drinking Water Act (42 U.S.C. § 300f *et seq.*)
- CEQ *Regulations for Implementing the Procedural Provisions of NEPA* (40 CFR Parts 1500-1508)
- National Pollutant Discharge Elimination System (NPDES) (40 CFR Part 122)
- Toxic Substances Control Act (TSCA) (15 U.S.C. § 2601-2629)
- Executive Order (EO) 11988, Floodplain Management
- EO 11990, Protection of Wetlands
- EO 12088, Federal Compliance with Pollution Control Standards
- EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
- EO 13045, Protection of Children from Environmental Health Risks and Safety Risks
- EO 13175, Consultation and Coordination with Indian Tribal Governments
- EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds
- EO 13990, Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis

1.6 PUBLIC AND AGENCY INVOLVEMENT

The Army invites and strongly encourages public participation in the NEPA process. Consideration of the views and information of all interested parties promotes open communication and enables better decision-making. The Army specifically urges all agencies, organizations, and members of the public with a potential interest in the proposed action—including minority, low-income, disadvantaged, and Native American groups—to participate in the decision-making process.

In accordance with 32 CFR Part 651.14(2), MCAAP is conducting NHPA Section 106 consultation with the Oklahoma State Historic Preservation Office (SHPO) and the Oklahoma Archaeological Survey regarding potential impacts to historic properties. An initial government-to-government consultation letter was sent in July 2021 to federally recognized American Indian Tribes with a possible affiliation to MCAAP. **Appendix B** includes the results of the consultation that occurred in parallel with development of this EA.

Regulations in 32 CFR Part 651 guide opportunities for public participation with respect to this EA and decision-making on the proposed action. The Army will make this EA, along with a draft FNSI and FONPA, available to the public for 30 days, and will publish a notice of availability (NOA) of the EA in the *McAlester News Capital*. Interested parties will be able to review the documents at the McAlester Public Library (401 N. 2nd St., McAlester, Oklahoma 74501) and by

accessing the documents on the Internet https://www.dvidshub.net/publication/1331/mcalester-army-ammunition-plant-environmental. Comments submitted within the 30-day public review period will be made part of the Administrative Record and will be fully taken into account before a final decision is made to either execute a final FNSI and proceed with implementing the proposed action or publish a Notice of Intent to prepare an EIS.

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2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

Within the next approximately 5 years, the Army proposes to implement various real property master planning actions at MCAAP. These include implementation of installation-wide framework elements of and standards for future real property actions, as well as planned implementation of specific actions/projects within the Explosive District as identified in the ADP for the MCAAP Explosive and Non-Explosive Districts. The ADP considered long-term mission requirements and fiscal constraints and identified projects for execution over the next 20 years. The proposed action focuses on the implementation of the short-term requirements as identified in the ADP, which consist of construction, repair and sustainment, and/or restoration and modernization projects. Because these projects are anticipated to be implemented in the near-term, they have been planned and/or designed to a level where sufficient information is available to analyze them in detail for potential environmental and socioeconomic impacts. The remainder of this section describes the alternatives analysis process and alternatives that will be evaluated in detail in this EA.

2.2 ALIGNMENT OF MASTER PLANNING AND NEPA ALTERNATIVES ANALYSIS

This section summarizes the alternatives development process and screening criteria, alternatives evaluated, and alternatives eliminated from further analysis. NEPA's implementing regulations require that all reasonable alternatives be rigorously explored and objectively evaluated. In addition, alternatives that are eliminated from detailed analysis must be identified and reasons provided for eliminating them. Developing alternatives is also a critical component of the master planning process. UFC 2-100-01 and 32 CFR Part 651 both include guidance for incorporating the alternatives development process from the master planning process into the NEPA process.

Aligning the master planning and NEPA development of alternatives processes is a means of both streamlining the planning process and exploring and evaluating alternatives in a comprehensive and multidisciplinary manner. Under the master planning process, the development of alternatives occurs at the district level, where the ADP process involves creating multiple options that allows planners, stakeholders, and installation leadership to ensure that the ADP best fulfills the development vision. In carry-over to the NEPA process, this scale and planning horizon fosters a broader level of analysis of environmental considerations and avoids inefficiencies of case-by-case and overly narrowly focused analyses for individual master plan projects.

In the ADP planning process, alternatives are defined as options for long-range development of the district, including arrangement of functional areas, circulation, and utility systems. Each

alternative is informed by the district vision, goals, and objectives established in the ADP process. As integrated into NEPA, this element of the alternatives evaluation process forms the foundation for the criteria to define a reasonable range of alternatives. The multidisciplinary, collaborative, stakeholder-driven ADP planning process screens the alternatives for the following core planning elements:

- **Mission Compatibility:** The alternative must appropriately address expansion, reduction, and changes in mission.
- **Short- and Long-Range Real Property Needs:** The alternative must provide both a path forward for a 20-year planning horizon while also anticipating and responding to current and short-range missions and requirements.
- **Cost Efficiency/Financial Stewardship:** Alternatives must be practical and feasible from a technical and economic standpoint and identify opportunities for reduced life-cycle costs of real estate assets and reduction in energy and water consumption, air emissions, and waste generation.

The Preferred Alternative that emerged from the MCAAP ADP planning process incorporates future program requirements known at the time. Although the Preferred Alternative evolves within the context of the Regulating Plan and Illustrative Plan as the implementation progresses, it is principally from the MCAAP ADP.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED EVALUATION

The ADP process for the MCAAP Explosive and Non-Explosive Districts developed two alternatives or courses of action for future development of the areas to meet the district vision, goals, and objectives. These alternatives are summarized as follows:

- ADP Alternative 1: Develop flexible spaces to adapt to the ever-changing future workload.
- ADP Alternative 2: Update and improve installation infrastructure to support all functions across the installation.

During the ADP process, these alternatives were analyzed and screened per the factors presented in **Section 2.2**. Areas of weakness in the ADP alternatives were identified and the best ideas and common themes of each of the alternatives were combined and refined into a Preferred Alternative. Therefore, consistent with the guidance identified in UFC 2-100-01 Sections 3-6.1.3-4 and 32 CFR Part 651.14(a)(3), through the aligned and streamlined ADP and NEPA alternatives development process, there is no viable alternative supportive of the purpose and need for the proposed action beyond the Preferred Alternative.

2.4 ALTERNATIVES CARRIED FORWARD FOR DETAILED EVALUATION

2.4.1 Preferred Alternative

Under the Preferred Alternative, MCAAP would implement a comprehensive approach to developing the installation using planning strategies that reinforce capabilities to support

MCAAP's mission, promote quality of life, and enhance sustainability and environmental viability on the installation. **Table 2.4-1** summarizes the overarching Vision Plan, installation-wide Installation Planning Standards, and district level vision, goals, and objectives, and the manner in which they are evaluated in this EA. While no specific projects or actions are analyzed for these RPMP elements in this EA, the analysis of these framework planning elements provides a basis for analysis of the projects evaluated in detail in this EA, as well as subsequent, follow-on site-specific tiered NEPA analysis when planning details for out-year future projects become available.

Table 2.4-1. Framework RPMP Elements

RPMP Element	Description	Action to be Evaluated
Vision Plan	• installation-wide planning vision, planning goals, and planning objectives • installation-wide constraints and opportunities map or maps • developable area map (capacity analysis) • a framework plan (i.e., districts and networks)	Establishment of a framework and context for future real property actions/projects
Installation Planning Standards	• installation-wide standards for buildings, streets, and landscapes that address sustainability and energy efficiency requirements; promote visual order and architectural consistency; enhance the natural and man-made environment; and improve the functional aspects of the installation	Establishment of standards for future real property actions

Consistent with the framework planning summarized in **Table 2.4-1**, he MCAAP ADP for the Explosive and Non-Explosive Districts established the following ADP Vision: *MCAAP, as the premier installation, will continuously provide **safe, modern, flexible,** and **sustainable** real property to meet our nation's changing security and defense interests.*

The following goals and objectives were established to meet this vision:

- Safe Installation – Meeting and exceeding established regulatory requirements
- Modern Installation – Ensuring facilities meet current production needs and anticipate the needs of the future
- Efficient Installation – Using the most efficient and most cost-effective means to achieve the desired goal
- Sustainable Installation – Maintaining what we have today while accommodating future demands

Table 2.4-2 lists the projects identified in the master planning process, primarily in the MCAAP ADP for the Explosive and Non-Explosive Districts, which are planned to be implemented in the next approximately 5 years.

Table 2.4-2. Implementation Actions/Projects Evaluated in Detail in this EA

Project Number	EA Project Number and Description	Estimated Area of New Ground Disturbance (SF)*	Estimated New Impervious Surface (SF)	Proposed Implementation Year
Infrastructure and Security				
94732	Project #1 - Electric Distribution Upgrade – This project would include repair and upgrades of overhead electrical distribution lines from pole 3-30 to pole 7-8 near the Haywood Gate. Existing wood poles would be replaced with round steel poles in similar single and H-structure configurations.	0	0	2021
94737	Project #2 - Backup Generator for A-Line – This project would include the installation of a backup generator for the A-Line production line. This would also include a medium voltage switching station at the generator site. An approximately 15-foot by 25-foot by 1-foot thick concrete pad would also be constructed to hold the generator. In addition, a 1,000-gallon double walled aboveground fuel tank would be installed.	375	375	2025
94738	Project #3 - Backup Generator for B-Line – This project would include the installation of a backup generator for the B-Line production line. This would also include a medium voltage switching station at the generator site. An approximately 15-foot by 25-foot by 1-foot thick concrete pad would also be constructed to hold the generator. In addition, a 1,000-gallon double walled aboveground fuel tank would be installed.	375	375	2025
New Construction				
65443	Project #4 – Develop C-Line – This project would include the construction of a new Ammunition Reclamation Center, which would include a process control facility, a boiler building, and three main process facilities. Two buildings are targeted for demolition as part of this project.	350,000	214,200	2021
Building Renovation and Modernization				
NA	Project #5 - Multi-Purpose Load Facility – This project would include facility interior renovations along with a new roof. Interior renovations would include new windows, doors, electrical power panels and distribution, lighting, fire suppression systems, heating, potable water and sewer systems, and building envelope insulation. Foundation work on this building would be completed separately prior to renovations and the installation will do a REC prior to this work.	0	0	2021

Table 2.4-2. Implementation Actions/Projects Evaluated in Detail in this EA

Project Number	EA Project Number and Description	Estimated Area of New Ground Disturbance (SF)*	Estimated New Impervious Surface (SF)	Proposed Implementation Year
85229	Project #6 - Roof Repairs for Warehouses – This project would include the replacement of existing transite roofs for 11 buildings. Repair to roof trusses would also occur where need. Asbestos abatement would occur prior to replacement of roofs.	0	0	2021

Note: *Disturbance calculations do not include demolition of buildings, renovations, or new fencing.
Legend: REC = Record of Environmental Consideration; SF = square foot/feet; NA = Not Applicable.

For each of these projects, planning has matured to a level where enough detail is available to conduct a "hard look" at potential environmental impacts as required by NEPA and its implementing regulations. Any additional project actions related to the C-Line where sufficient details are not available at present may require additional NEPA analysis. These analyses may be tiered from this EA in accordance with 40 CFR Part 1502.20 and 32 CFR Part 651.14(c) (see **Appendix A** for a template REC for tiering from this EA).

Project #4 – Develop C-Line

The reclamation and demilitarization of munitions at MCAAP are currently conducted in World War II-era facilities created to produce bombs using technology that is over 70 years old. The configuration of these facilities restricts the ability to retrofit automated controls and install new equipment to handle different types of modern munitions. MCAAP proposes to construct a new Ammunition Reclamation Center, which would include four demilitarization process facilities, unattended process control rooms, and rail access. The project site totals approximately 22 acres of currently undeveloped, but previously disturbed land. The area is currently leased for farming activities and is non-native grassland, with the exception of trees on the western edge of the site.

The proposed construction consists of six new buildings. The four primary buildings are the Control/Employee Building and three Process Buildings arranged in a linear pattern and each separated by large earthen blast barriers. The Secretary of Defense has established basic explosives safety standards and minimum Explosives Safety Quantity Distance (ESQD) criteria which are to be observed by DoD components in the performance of operations involving ammunition and explosives. ESQD standards require that ammunition and explosives be handled, stored, or under the supervision of the military services, and be maintained at certain minimum distances from inhabited buildings, passenger railroads, public highways, ships, and other facilities and property. The Defense Explosives Safety Regulation 6055.09 Edition 1, (the Under Secretary of Defense for Acquisition and Sustainment regulation published by the DoD Explosives Safety Board) establishes the safety standards required to manage explosives-

related risk associated with DoD operations and installations by providing protection criteria to minimize serious injury, loss of life, and damage to property. The site plan spacing and blast barriers would be in accordance with all DoD explosive safety siting criteria.

A standalone Central Boiler Building would be provided on site along with a Fire Pump House with two Fire Water Storage Tanks. A brief description and approximate square footage of each of the proposed facilities is as follows:

- Control Building: 7,000 square feet (SF) – provides a facility for employees working in the Process Buildings a place for decontamination, which includes the removal of contaminated clothing, showering, and dressing. The facility would also include a break area, toilets, and locker rooms.
- Three Process Buildings: at 10,000 SF each, would provide functional and utilitarian facilities for demilitarization (demolition) processes such as wash out, machine out, and melt out.
- Boiler Building: 3,000 SF, would provide a utilitarian support facility to house the boilers and air compressors for the Control Building and Process Buildings and other buildings on the site. The boiler would be approximately 500 horsepower, dual fuel (natural gas and fuel oil). A 10,000-gallon aboveground fuel storage tank would be installed adjacent to the boiler building at an approximately 3,000 SF site.
- Fire Pump House: 700 SF, would provide fire protection infrastructure and fire pumps for the two adjacent water storage tanks.

Two buildings which are in another area of the installation, are targeted for demolition as part of this project.

The earthen blast barrier revetments would be provided on the west side of each Process Building to mitigate explosion damage. Final design may consist of earthen barrier or cantilevered retaining wall, but it is currently anticipated that the barricade would have three walls. The wall parallel to the building would be 31 feet tall, and the side walls would be tapered down to meet grades. The back side of the wall would be backfilled with an approved soil material and sloped at two horizontal to one vertical from the top to the bottom. A waterproofing membrane would cover the earthen side of the wall to better stabilize the slope and reduce maintenance.

Pink water is an existing industrial wastewater stream at MCAAP associated with trinitrotoluene (TNT) and is produced from equipment washing processes after demilitarization operations. The proposed facilities and operations would be designed in accordance with applicable standards and the existing Oklahoma Industrial NPDES permit would be updated to address the new/modernized operations and associated pink water discharges. In accordance with applicable standards, industrial waste (pink water) from the three Process Buildings would be contained in a pit outside each building and conveyed to the MCAAP pink water treatment facility. The conveyance from the Process Building to the pit would be contained and the pits

would be covered to minimize stormwater infiltration and the pit and trench would be waterproofed per requirements to protect groundwater infiltration.

Additionally, the water from the decontamination changing room in the Control/Employee Building would be connected to an underground interior pink water storage tank. This water would be processed through an activated carbon filter (cartridge system) until it is acceptable (e.g., pH > 7) to discharge into the sanitary sewer system. Untreated industrial waste would not be discharged into the sanitary sewer system.

All utilities would need to be connected to the site from the B-Line area. This includes roughly 14,000 linear feet (LF) of 8-inch water line, 3,882 LF of forced 2-inch main sewer line and lift station, about 2,700 LF of fire water piping with hydrant assembly, and 3,500 LF of three-phase concrete encased conduit electrical line. Additionally, approximately 7,500 LF of 3-inch natural gas line, would be needed at the site to feed the new boiler system. For steam, about 2,700 LF of steam line would be required to connect the boiler to the other C-Line buildings. A 2-inch condensate line would also be needed between the facilities.

New roadways would be constructed and would connect from Road E to each facility. In addition, rail and truck access would be provided along the south side of the demilitarization facilities. Concrete access road along railroad line would provide access for both. A rail spur of approximately 6,364 LF would be needed to connect the new C-Line to the existing B-Line complex to the north.

2.4.2 No Action Alternative

Under the No Action Alternative, MCAAP would not implement the real property master planning actions within the next approximately 5 years, principally as identified as the Preferred Alternative. Without the implementation of the proposed major construction, renovation, and modernization projects, facilities would continue to deteriorate, which would impede mission effectiveness. Continued implementation of ongoing real property master planning actions not compliant with UFC 2-100-01 would be suboptimal and lack comprehensive analysis for long-term sustainable installation development supporting mission requirements. The No Action Alternative would not satisfy the purpose of or need for the proposed action. This alternative is retained for evaluation in the EA to provide a comparative baseline against which to analyze the effects of the proposed action, as required under NEPA implementing regulations (40 CFR Part 1502.14[d] and 32 CFR Part 651.34[d]).

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3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

NEPA and associated regulations, promulgated in 40 CFR Parts 1500–1508 and 32 CFR Part 651, require that an EA address the general conditions and nature of the affected environment and establish the environmental setting against which environmental effects are evaluated in. This chapter presents relevant general baseline conditions, focusing on specific aspects of the environment that may be impacted by the alternatives. All potentially relevant environmental resource areas were initially considered for analysis in this EA. In compliance with NEPA, the CEQ, and Army guidelines, evaluation is limited to resource areas that are potentially affected by the proposed action and alternatives. Secondly, this chapter presents an analysis of the potential direct and indirect effects of each alternative on the affected environment.

The Army signed a FNSI for the Final Programmatic EA for the U.S. Army Materiel Command Building Demolition Program to remove unneeded or unused facilities at AMC installations across the continental U.S. (AMC 2014). The Final Programmatic EA and FNSI (AMC 2014) are incorporated by reference per 40 CFR Part 1502.21 and consistent with 32 CFR Part 651.12(a)(3) and are available at: https://www.dvidshub.net/publication/1331/mcalester-army-ammunition-plant-environmental. For proposed demolition activities that are part of MCAAP master plan implementation actions, this EA provides tiered, site-specific analysis of building demolition identified for master planning actions for applicable resource areas.

The potential impacts to the following resource areas are considered to be negligible or nonexistent so they were not analyzed in detail in this EA: safety, noise, land use and recreation, coastal zone consistency, aesthetics and visual resources, and socioeconomics and environmental justice.

3.1 AIR QUALITY

As part of the CAA, the U.S. Environmental Protection Agency (USEPA) has established National Ambient Air Quality Standards (NAAQS) for major pollutants of concern, called “criteria pollutants.” These criteria pollutants include carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide, ozone (O_3), particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}), particulate matter with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$), and lead. The NAAQS represent maximum levels of background pollution that are considered safe, with an adequate margin of safety to protect the public health and welfare. Based on measured ambient criteria pollutant data, the USEPA designates areas in the U.S. as having air quality better than (attainment) or worse than (nonattainment) the NAAQS. The State of Oklahoma has adopted the federal NAAQS, with the exception that they do not formally recognize the secondary federal 24-hour standards for $PM_{2.5}$ and PM_{10}.

The CAA also established a national goal of preventing degradation or impairment in federally designated Class I areas. Class I areas are defined as those areas where any appreciable degradation in air quality or associated visibility impairment is considered significant. The closest Class I area is Caney Creek Wilderness in Arkansas, which lies approximately 108 miles east of the installation.

3.1.1 Affected Environment

Major stationary sources in attainment areas are regulated under the Prevention of Significant Deterioration (PSD) Program for criteria pollutant emissions. There are stationary sources that are proposed, including a new heat plant, standby generators, and possibly some industrial stationary sources association with Ammunition Reclamation Center activities. These would need to be evaluated for permitting and inclusion in MCAAP's existing air permits.

Emissions for MCAAP operations in 2019 are presented in **Table 3.1-1.**

Table 3.1-1. 2019 MCAAP Operating Emissions

Pollutant	Annual Emissions in Tons per Year
VOCs	53
CO	129
NO_x	30
SO_2	4
PM_{10}	309
$PM_{2.5}$	1

Legend: CO = carbon monoxide; NO_x: Nitrogen Oxides; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 microns or less; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; SO_2 = sulfur dioxide; VOC: Volatile Organic Compound.
***Source*:** MCAAP 2020.

In addition to criteria pollutants, the USEPA has defined 187 substances as hazardous air pollutants (HAPs). HAPs emitted from mobile sources are called Mobile Source Air Toxics (MSATs). MSATs are compounds emitted from highway vehicles and non-road equipment that are known or suspected to cause cancer or other serious health and environmental effects. The primary control methodologies for these pollutants for mobile sources involves reducing their content in fuel and altering the engine operating characteristics to reduce the volume of pollutant generated during combustion. MSATs would be the primary HAPs emitted by mobile sources during construction. The equipment used during construction would likely vary in age and have a range of pollution reduction effectiveness. Construction equipment, however, would be operated intermittently, for the duration of construction, and would produce negligible ambient HAPs in a localized area. Therefore, MSAT emissions are not considered further in this analysis.

Federal actions are required to conform with the approved State Implementation Plan for those areas of the U.S. designated as nonattainment or maintenance areas for any criteria air

pollutant under the CAA (40 CFR § 93). The entire state of Oklahoma is designated attainment for all criteria pollutants.

Greenhouse gases (GHGs) are also regulated under the federal CAA. The USEPA defines the following compounds as the main GHGs emitted into our atmosphere: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. GHGs have varying global warming potential (GWP). The reference gas for GWP is CO_2; therefore, CO_2 has a GWP of 1. Other GHGs that have GWPs include CH_4, which has a GWP of 25, and N_2O, which has a GWP of 298. Carbon dioxide equivalent (CO_2e) emissions are defined as the amount of CO_2 that would have the same GWP, when measured over a specified timescale (generally, 100 years). CO_2e emissions are calculated by multiplying the mass emissions by the GWP and are reported in metric tons.

The potential effects of proposed GHG emissions are by nature global and result in cumulative impacts because most individual sources of GHG emissions are not large enough to have any noticeable effect on climate change. Therefore, the impact of proposed GHG emissions to climate change is discussed in the context of cumulative impacts (see **Section 4.2.3.1**).

3.1.2 Environmental Consequences

Air quality impacts within the affected environment were reviewed relative to federal, state, and local air pollution standards and regulations. Since Pittsburg County, where MCAAP is located, is in attainment for all criteria pollutants and has no designated maintenance areas, the General Conformity Rule does not apply. For the purposes of this analysis, 100 tons per year per pollutant was used as an indicator to trigger further evaluation of potential air quality impacts. Indicators do not trigger a regulatory requirement; however, they provide an indication or a warning that the action is potentially approaching a threshold that would trigger a regulatory requirement. Used in this way, indicators provide relevant evidence of the potential impacts to air quality. The 100 tons per year per pollutant indicator is based on the *de minimis* thresholds that apply under the General Conformity Regulations. No similar regulatory indicator is available for mobile source emissions, which are the primary sources for construction activities under this proposal. Lacking any regulatory mobile source emissions thresholds, the 100 ton per year per pollutant indicator was used to equitably assess mobile source emissions from construction activities at the installation.

3.1.2.1 Preferred Alternative

The Preferred Alternative includes a variety of construction, demolition, and renovation activities that are proposed to potentially occur between March 2021 and August 2022. In addition, there could be new stationary sources anticipated, primarily hot water and/or heat sources for new buildings. The planned use of these and any other new stationary sources associated with the Preferred Alternative would need to be evaluated as part of the pre-operational planning process for inclusion in the installation air permit.

The estimated emissions from the various projects anticipated to occur during the construction period are included in **Table 3.1-2**. Air Quality Calculations can be found in **Appendix C**.

Table 3.1-2. Construction/Demolition Emission Estimates for 2020-2026

Year	VOC	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$	CO_2
2021	0.31	1.48	5.55	0.05	19.40	2.18	510
2022	0.22	1.08	4.04	0.03	14.11	1.58	371
Comparative Threshold	100	100	100	100	100	100	NA
Exceedance?	No	No	No	No	No	No	NA

***Legend*:** CO = carbon monoxide; CO_2 = carbon dioxide; NO_x = Nitrogen Oxides; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 microns or less; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; SO_2 = sulfur dioxide; VOC = Volatile Organic Compound.

Criteria pollutant emissions associated with the Preferred Alternative are low, representing a fraction of the ongoing operational emissions at the installation. None of the emission estimates exceed the Comparative Threshold. In addition, these emissions would be temporary, ceasing upon completion of the construction activity. Based on the available information, these emissions would not have a significant impact on air quality in the region.

Two backup generators would be installed as part of the proposed action, one at B-Line and the other at A-Line. These generators will require evaluation to determine if they require inclusion in the installation's air permit.

3.1.2.2 No Action Alternative

Under the No Action Alternative, MCAAP would not implement the real property master planning actions and air emissions at the installation would not include the construction activities. It is therefore assumed that emissions would stay at the same level as exists today and would be primarily associated with operations at the installation.

3.2 TOPOGRAPHY, GEOLOGY AND SOILS

Geological resources (also referred to as simply "geology and soils") consist of the topography, soils, geology, and geologic hazards of a given area. Topography is the elevation, slope, aspect, and surface features found within a given area. Long-term geological, seismic, erosional, and depositional processes influence the topographic relief of an area. Soil refers to the unconsolidated earthen materials overlaying bedrock or other parent material. The soil structure, elasticity, strength, shrink-swell potential, liquefaction potential, and erodibility can all determine the ability of the ground to support structures and facilities. The geology of an area includes surface and bedrock materials, its orientation and faulting, and may contain valuable geologic resources such as mineral deposits, petroleum reserves, and fossils. Geologic hazards include the seismicity (the relative frequency of earthquakes), and existence or potential for landslides, sinkholes, mine collapse, and subterranean gases (CO or CH_4) in a given area.

3.2.1 Affected Environment

3.2.1.1 Topography

MCAAP is located on the boundary between the Interior Plain and Ouachita Mountain physiographic provinces, in the sub-province referred to as the McAlester-Marginal Hill Belt (MCAAP 2012). In addition, the USEPA ecoregion classification system characterizes MCAAP as in the Arkansas Valley Level III Ecoregion, close to the ecological divide between the Eastern Temperate Forests to the east and the Great Plains to the west. The Arkansas Valley separates the Ozark Plateau from the Ouachita Mountains and the terrain is transitional and diverse, characterized by plains, hills, floodplains, terraces, and scattered mountains. The topography of MCAAP is predominantly level to gentle sloping with rolling sandstone hills. The mean elevation of MCAAP is 717 feet above mean sea level, ranging from 700 to 900 feet above mean sea level (MCAAP 2016).

3.2.1.2 Soils

Table 3.2-1 lists the major surface soil series or complexes and provides general characteristics including parent material, drainage class, land capability classification, and potential limitations associated with the soil types. Soils at MCAAP are predominantly sandy with varying amounts of silt, clay, and rock fragments and range in thickness from a few inches to several feet (MCAAP 2012). The three major soil types at MCAAP include the Endsaw-Hector-Clearview complex, Ardents-Urban land complex, and Verdigris-Rexor complex. The Endsaw-Hector-Clearview complex at MCAAP consists of stony fine sandy loam, clay, and bedrock on 1 to 15 percent slopes with the depth to the water table between 23 and 80 inches. The Ardents-Urban land complex at MCAAP consists of silt loam, clay, and bedrock on 1 to 15 percent slopes with the depth to the water table at more than 80 inches. Verdigris-Rexor complex consists of silt loam and silty clay loam on 0 to 1 percent slopes with the depth to the water table between 36 to 80 inches (U.S. Department of Agriculture [USDA] 2020).

Hydric and Prime Farmland Soils

Hydric soils are soils that are saturated, flooded, or ponded for long enough during the growing season to develop anaerobic (oxygen-deficient) conditions in their upper part. Anaerobic soil conditions are conducive to establishing vegetation that is adapted for growth in an oxygen-depleted environment and are typically found in wetlands (hydrophytic vegetation). The presence of hydric soils is one of three criteria (hydric soils, hydrophytic vegetation, wetland hydrology) used to determine the presence of U.S. Army Corps of Engineers (USACE) jurisdictional wetlands. None of the major surface soil series or complexes at the MCAAP are designated as hydric soil (USDA 2020).

Table 3.2-1. Soils at MCAAP

Map Unit Symbol	Soil Series or Complex	Acres / % of MCAAP Land Area	Hydric	Prime Farmland	Parent Material	Drainage Class	Land Capability Classification	Landform Setting
ArUF	Arents-Urban land complex, 1-15% slopes	4010 / 8.8%	No	No	Loamy mine spoil or earthy fill derived from sandstone and shale	Moderately well drained	Irrigated: None specified Nonirrigated: 8 Hydrologic Soil Group: C	--
AUCF	Arents-Urban land-Choteau complex, 1-15% slopes	2447 / 5.4%			Arents: Loamy mine spoil or earthy fill derived from sandstone and shale; Choteau: Loamy clayey alluvium or colluvium over shale		Irrigated: None specified Nonirrigated: 8 Hydrologic Soil Group: D	Choteau: Paleoterraces
AUEF	Arents-Urban land-Eram complex, 1-15% slopes	2864 / 6.3%			Arents: Loamy mine spoil or earthy fill derived from sandstone and shale; Eram: Clayey residuum weathered from sandstone and shale			Eram: Hillslopes on hills
BwCC	Bates-Coweta complex, 1-5% slopes, rocky	1630 / 3.6%		Yes	Loamy residuum weathered from sandstone and shale	Well drained	Irrigated: None specified Nonirrigated: 3e Hydrologic Soil Group: C	Hillslopes
ClHC	Clearview-Hector complex, 3-5% slopes	1365 / 3.0%			Clearview: Loamy residuum weathered from sandstone and shale; Hector: Loamy residuum weathered from sandstone	Clearview: Somewhat poorly drained; Hector: Well drained		
CohB	Choteau very fine sandy loam, 0-3% slopes	2410 / 5.3%			Loamy clayey alluvium or colluvium over shale	Somewhat poorly drained	Irrigated: None specified Nonirrigated: 2e Hydrologic Soil Group: C	Paleoterraces
DnEC	Dennis-Eram complex, 1-5% slopes	1816 / 4.0%	No	Yes	Dennis: Clayey residuum weathered from shale; Eram: Clayey residuum weathered from sandstone and shale	Dennis: Somewhat poorly drained; Eram: Moderately well drained	Irrigated: None specified Nonirrigated: 3e Hydrologic Soil Group: C/D	Hillslopes on hills

Table 3.2-1. Soils at MCAAP

Map Unit Symbol	Soil Series or Complex	Acres / % of MCAAP Land Area	Hydric	Prime Farmland	Parent Material	Drainage Class	Land Capability Classification	Landform Setting
DnnB	Dennis loam, 1-3% slopes	2257 / 5.0%			Clayey residuum weathered from shale	Somewhat poorly drained	Irrigated: None specified Nonirrigated: 2e Hydrologic Soil Group: C/D	
EHCF	Endsaw-Hector-Clearview complex, 1-15% slopes, extremely stony	7934 / 17.5%		No	Endsaw: Loamy colluvium over clayey residuum weathered from shale; Hector: Loamy residuum weathered from sandstone; Clearview: Loamy residuum weathered from sandstone and shale	Endsaw: Moderately well drained; Hector: Well drained; Clearview: Somewhat poorly drained	Irrigated: None specified Nonirrigated: 6e Hydrologic Soil Group: D	Hillslopes
EraC	Eram clay loam, 3-5% slopes	3041 / 6.7%		Yes	Clayey residuum weathered from sandstone and shale	Moderately well drained	Irrigated: None specified Nonirrigated: 3e Hydrologic Soil Group: D	Hillslopes on hills
ETCF	Eram-Talihina-Collinsville complex, 3-15% slopes, rocky	2415 / 5.3%		No	Eram: Clayey residuum weathered from sandstone and shale; Talihina: Clayey residuum weathered from shale; Collinsville: Loamy residuum weathered from sandstone	Eram and Talihinia Moderately well drained; Collinsville: Somewhat excessively drained	Irrigated: None specified Nonirrigated: 6e Hydrologic Soil Group: C/D	
LtKD	Larton-Kamie complex, 1-8% slopes	1155 / 2.5%	No	Yes	Larton: Loamy and sandy alluvium and/or eolian deposits; Kamie: Loamy and sandy alluvium	Well drained	Irrigated: None specified Nonirrigated: 4e Hydrologic Soil Group: A	Paleoterraces
URB	Urban land	2082 / 4.6%		No	Mine spoil or earthy fill	--	Irrigated: None specified Nonirrigated: 8	--
VdRA	Verdigris-Rexor complex, 0-1%	3799 / 8.4%			Verdigris: Silty alluvium; Rexor: Loamy alluvium	Verdigris: Well drained; Rexor:	Irrigated: None specified	Flood plains

Table 3.2-1. Soils at MCAAP

Map Unit Symbol	Soil Series or Complex	Acres / % of MCAAP Land Area	Hydric	Prime Farmland	Parent Material	Drainage Class	Land Capability Classification	Landform Setting
	slopes, frequently flooded					Moderately well drained	Nonirrigated: 5w Hydrologic Soil Group: B	
W	Water	894 / 2.0%			--	--	Irrigated: None specified Nonirrigated: 8	Valleys
(41 others, less than 2% of area each)		5266 / 11.4%	--	--	--	--	--	--

Notes: -- Not applicable

[a]Land Capability Classifications places soils in eight capability classes (numbered 1 through 6) where the risks of soil damage or limitations in use become progressively greater from Class 1 to Class 6:
1 - Soils have few limitations that restrict their use.
2- Soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.
3 - Soils have severe moderate limitations that reduce the choice of plants or that require special conservation practices or both.
4 - Soils have very severe limitations that reduce the choice of plants or that require special conservation practices or both.
5 - Soils have severe limitations that make them generally unsuitable for cultivation.
6 - Soils have very severe limitations that make them unsuitable for cultivation.
Capability subclasses are groups of capability units that have the same major conservation problem or limitation noted with an e (erosion and runoff), w (wet, excess water), s (root zone limitations due to shallow, droughty, or stony soil), and c (climatic limitations, temperature or lack of moisture).
Hydrologic soil group is assigned based on rainfall, runoff, infiltrometer data, and the judgment of soil scientists. The four hydrologic soil groups are:
A - Soils have low runoff potential when thoroughly wet. Water is transmitted freely through the soil.
B - Soils have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.
C - Soils have moderately high runoff potential when thoroughly wet. Water transmission through the soils is somewhat restricted.
D - Soils have high runoff potential when thoroughly wet. Water movement through the soil is restricted or very restricted.

Source: USDA 2020.

Prime farmland or Farmland Soils of Statewide Importance is land that has the best combination of physical and chemical characteristics for agricultural with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion. Prime farmland or Farmland Soils of Statewide Importance is determined based on soil type, land use, frequency of flooding, irrigation, water table, and erodibility. The Army is not required to evaluate the MCAAP properties for prime farmland status because land withdrawn from farmland inventory for military or national defense purposes is not subject to considerations related to farmland conversion. However, of the major soil series or complexes at MCAAP presented in **Table 3.2-1**, seven soil types on 30.1 percent of the total MCAAP land area (about 13,674 acres) are considered to be of quality that matches specifications for Prime Farmland: Bates-Coweta complex on 1-5 percent slopes, Clearview-Hector complex on 3-5 percent slopes, Choteau very fine sandy loam on 0-3 percent slopes, Dennis-Eram complex on 1-5 percent slopes, Dennis loam on 1-3 percent slopes, Eram clay loam on 3-5 percent slopes, and Larton-Kamie complex on 1-8 slopes (USDA 2020).

Erodible Soil

Of the major soil series or complexes that occur on MCAAP presented in **Table 3.2-1**, three are rated as highly erodible by water: Ardents-Urban land complex on 1-15 percent slopes, Dennis loam on 1-3 percent slopes, and Dennis-Eram complex on 1-5 percent slopes. In total, the three soils rated as highly erodible by water occur on 17.8 percent of the total land area of MCAAP. Seven soil types that occur at MCAAP are rated as moderately erodible by water: Verdigris-Rexor complex on 0-1 percent slopes, Choteau very fine sandy loam on 0-3 percent slopes, Arents-Urban land-Choteau on 1-15 percent slopes, Bates-Coweta complex on 5 percent slopes, Arents-Urban land-Eram complex on 1-15 percent slopes, and Eram-Talihina-Collinsville complex on 3-5 percent slopes. In addition, five soil types that occur at MCAAP are rated as highly erodible by wind: Endsaw-Hector-Clearview complex on 1-15 slopes, Choteau very fine sandy loam on 0-3 percent slopes, Bates-Coweta complex on 1-5 percent slopes, and Larton-Kamie complex on 1-8 percent slopes. In total, the five soils rated highly erodible by water occur on 31.9 percent of the total land area of MCAAP. Eight soil types that occur at MCAAP are rated as moderately erodible by wind: Arents-Urban land complex on 1-15 percent slopes, Verdigris-Rexor complex on 0-1 percent slopes, Eram clay loam on 3-5 percent slopes, Arents-Urban land-Eram compiles on 1-15 percent slopes, Arents-Urban land-Choteau complex on 1-15 percent slopes, Eram-Talihina-Collinsville complex on 3-15 percent slopes, Dennis loam on 1-3 percent slopes, and Dennis-Eram complex 1-5 percent slopes (USDA 2020)

3.2.1.3 Geology

Bedrock in Pittsburg County where MCAAP is located is dominated by the Atoka, Boddy, McAlester, Savanna, Senora, Stuart, and Thurman formations of the Pennsylvanian subperiod. These formations are composed primarily of interlaid sandstone and shale with occasional

seams of coal. The Pennsylvanian formations are overlain by Quaternary sediments consisting of sands and loamy alluvial deposits (MCAAP 2012).

MCAAP is underlain by Pennsylvanian-aged sandstone and shale bedrock deposited about 300 million years ago. The oldest exposed rocks at MCAAP belong to the McAlester formation which consists primarily of shale with many interbedded sandstone units and is found in a narrow strip that generally parallels the southeastern boundary of the installation. The McAlester formation is up to 2,800 feet thick and contains coal beds 600 to 800 feet below the top of the formation. The upland northern part of MCAAP is underlain by the Boggy formation that consists predominantly of a brown-to-blue-gray shale, between 1,470 and 2,000 feet thick, containing many hard, erosion-resistant sandstone units and a coal bed near the base of the formation. Brown Lake and the immediate surrounding area are underlain by a thin, unconsolidated formation called the Gertie Sand that consists of sands, silts, and gravels up to 30 feet thick that were deposited less than 2 million years ago in an ancient meander of the Canadian River. In the southern half of MCAAP, the Gertie Sand overlies the Thurman sandstone, which in turn overlies the Boggy formation. In the northern half of MCAAP, the Gertie Sand directly overlies the Boggy formation (MCAAP 2016).

Oklahoma is within the stable interior of the U.S. with almost no significant tectonic activity since the Pennsylvanian and Permian time; however, there are many faults within Oklahoma and several faults at the MCAAP. The Oklahoma Fault Database captures all faults within Oklahoma that are available in published literature and provides a representation for each known or suspected fault (Oklahoma Geological Survey 2016).

3.2.1.4 Geologic Hazards

Geological hazards with the potential to occur in Oklahoma include, but are not limited to, earthquakes, landslides, sinkholes, and mine collapse. Geological hazards identified at MCAAP include earthquakes and landslides.

Earthquakes

Oklahoma is within the stable interior of the U.S. with almost no significant tectonic activity since the Pennsylvanian and Permian time about 325-245 million years ago. However, on average Oklahoma experiences about 50 minor earthquakes per year. There are four principal seismic areas in Oklahoma determined on the basis of consistent earthquake recurrence. MCAAP is within the Arkoma Basin seismic area located within the southeastern part of the state. Most of the earthquakes in the Arkoma Basin seismic area occur north of the Ouachita Mountains, range in magnitude from 1.8 to 2.5, and have shallow focal depths of less than 3 miles below the ground surface. MCAAP is in seismic risk zone 1, which means that minor damage might be expected from an earthquake. Several minor earthquakes have occurred on or in the vicinity of MCAAP, including a 2.0 to 2.9 magnitude earthquake that occurred to the west of the MCAAP explosive zone (Luza and Johnson 2005).

Landslides

A landslide is a downslope mass movement of soil, rock, or a combination of materials on an unstable slope. Landslides can occur rapidly as a singular event or very slow over time and normally occur in areas of high topographic relief. In Oklahoma, most of the landslides occur in the eastern one-third of the state due to the wetter climate and steeper slopes associated with more mountainous terrain. The most common type of landslide in Oklahoma is a rotational slump which can occur on either excavated slopes or embankments. Other less common types of landslides include debris slides, block glides, and boulder flows. MCAAP is located in an area with moderate landslide potential (Luza and Johnson 2005). However, no landslides have been recorded on or in the vicinity of the MCAAP (U.S. Geological Survey [USGS] 2020).

3.2.2 Environmental Consequences

This section presents an analysis of potential direct, indirect, temporary, and permanent impacts to geology and soils that could result from implementation of the Preferred Alternative. Direct impacts are the immediate result of project-related activities (e.g., earth disturbing activities). Direct impacts may be either temporary (associated with the construction phase of project implementation) or permanent.

3.2.2.1 Preferred Alternative

Topography

The implementation of the Preferred Alternative would result in temporary and permanent impacts to topography associated with earth-moving activities. The majority of the proposed construction and renovation projects would occur in developed or disturbed areas, and topography would be largely unaffected. However, certain projects are likely to impact areas where leveling of grade and proper drainage modifications would be needed (Projects 2, 3, and 4) and convert areas of softscape to hardscape (concrete, asphalt, and other less permeable surfaces). However, loss of softscape associated with construction and development under the Preferred Alternative would represent a less than significant percent of the total permeable softscape on the installation. Management practices outlined by the MCAAP Integrated Natural Resources Management Plan (INRMP), such as stormwater management and facility drainage design, would be implemented to lessen potential indirect impacts. Therefore, impacts to topography from implementation of the Preferred Alternative would be less than significant.

Soils

The implementation of the Preferred Alternative would result in temporary and permanent impacts to soils. The majority of the proposed construction and renovation projects would occur in developed or disturbed areas, and existing soils would be largely unchanged. Projects 2, 3, and 4 include conversion of softscape into hardscape (construction on undeveloped land and new impervious surfaces). In addition, Projects 4 is a construction project that may require

leveling of grade, proper drainage modifications, and new underground utility lines which will impact surface soils. Of the three projects that will impact soil, Project 4 is the only project located in an area of highly erodible soil on MCAAP. During the construction phase, best management practices (BMPs) (e.g., the use of tarps and containment barriers for stormwater management) would be used to minimize the migration of soils offsite and overall impact to soils; therefore, impacts to soils would be less than significant.

Two of the three projects that will impact soil (Projects 3 and 4) have the potential to impact sensitive soil resources such as those that might qualify as prime farmland or soils of statewide importance, if not on federal land. The loss of sensitive resource soils associated with construction and development under the Preferred Alternative would represent a small percentage of the farmland of statewide importance acreage on the installation and there is no regulatory requirement associated with this potential impact that applies to DoD.

Geology

The implementation of the Preferred Alternative would result in temporary and minor permanent impacts to geology. Minor impacts to the surface and near-surface geology would occur as a result of grading and leveling, and drilling or digging into the bedrock to secure foundations for the new facilities. No mineral resources or sensitive geologic resources would be impacted by implementation of the Preferred Alternative. Therefore, impacts to geology would be less than significant.

Geologic Hazards

Several faults are present at the sites on MCAAP to be developed as part of the Preferred Alternative. Projects 4 and 5 are in the vicinity of faults; however, no recorded earthquakes have occurred at the sites on MCAAP to be developed as part of the Preferred Alternative, and MCAAP is in seismic risk zone 1 indicating that minor damage might be expected from an earthquake (Luza and Johnson 2005). In addition, MCAAP is located in an area with moderate landslide potential (Luza and Johnson 2005). However, no landslides have been recorded on or in the vicinity of the MCAAP (USGS 2020). Therefore, there would be no foreseeable impacts to or from geological hazards associated with the implementation of the Preferred Alternative.

3.2.2.2 No Action Alternative

Under the No Action Alternative, MCAAP would not implement the real property master planning actions identified in **Table 2.4-2** within the next approximately 5 years. Without the implementation of the proposed action, there would be no impacts to geology and soils, and conditions would remain as described in **Section 3.2.1**.

3.3 WATER RESOURCES

Water resources include the quantity and quality of surface water bodies and groundwater, stormwater, floodplains, and wetlands. Surface water includes all rivers, streams, lakes, and ponds that are used for various applications including recreation, sustenance, irrigation, flood control, and human health. Surface waters in the U.S. are protected under the CWA, the goal of which is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

The CWA requires that any point source facility that discharges polluted wastewater into a body of water must first obtain a NPDES permit that is issued at a national level through the USEPA, or an approved State agency. The State of Oklahoma is responsible for issuing Oklahoma Pollutant Discharge Elimination System (OPDES) permits within the state. Stormwater is excess surface water that occurs or collects during periods of frequent precipitation and is typically diverted into a facility's stormwater sewer system. Stormwater runoff management addresses measures to reduce flow energy and pollutants in stormwater and to control discharge from point and non-point sources. Point source pollution is produced by a single, identifiable source. Non-point source pollution affects surface water and groundwater resources as a result of pollution from diffuse sources.

Groundwater includes subsurface hydrologic resources and is typically a reliable and safe freshwater source. Groundwater is an important component of the overall hydrologic cycle of the earth.

Floodplains are defined by EO 11988, *Floodplain Management*, as "the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year." Areas subject to a 1 percent or greater chance of annual flooding are also referred to as 100-year floodplains and areas subject to a 0.2 percent or greater chance of annual flooding are referred to as 500-year floodplains. To minimize the risk of damage associated with these areas, EO 11988 was issued to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practical alternative. If impacts cannot be avoided, the appropriate flood risk management strategies need to be applied to the design and construction of the building.

Wetlands are considered sensitive habitats and are subject to federal regulatory authority under Sections 401 and 404 of the CWA and EO 11990, *Protection of Wetlands*. Wetlands are defined by the USACE as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (Environmental Laboratory 1987). Wetlands generally include swamps, marshes, bogs, and similar areas.

3.3.1 Affected Environment

3.3.1.1 Surface Water

The project area is located in the Bull Creek watershed that drains the central and northeastern sections of MCAAP. Surface runoff from Bull Creek ultimately drains into Lake Eufaula in southeastern Oklahoma, with about 20 miles of distance between MCAAP and the lake. Rocket Lake is located within the project area and Brown Lake is located to the east of and downstream of the project area. Creeks on MCAAP are generally intermittent; during extended dry periods, only pooled areas remain in the upper reaches (MCAAP 2016).

The Oklahoma Water Resources Board established water quality standards for surface waters of Oklahoma. The standards are based on the beneficial uses of surface waters and are prescribed in chapter 45 of Title 785 of the Oklahoma Administrative Code (OAC 785:45). Beneficial uses of Brown Lake and watershed include public and private water supply, warm water aquatic community, agriculture, primary body contact recreation, and aesthetics. Limitations to uses exist because it is a sensitive water supply. Beneficial uses of Bull Creek downstream from Brown Lake include warm water aquatic community, agriculture, primary body contact recreation, and aesthetics (MCAAP 2016).

MCAAP operates under Storm Water Industrial Permit #OKR050886 (issued July 5, 2017; valid for 5 years) and Stormwater Construction Permit #OKR106590 (issued October 18, 2017; valid for 5 years). In compliance with the Storm Water Industrial Permit and Stormwater Construction Permit, MCAAP has prepared Stormwater Pollution Prevention Plans (SWPPPs) for industrial activities (MCAAP 2018a) and construction activities (MCAAP 2018b), respectively.

OPDES Permit #OK0000523 (issued August 1, 2015; valid for 5 years) regulates point source discharges and establishes limits of pollutants that can be discharged. It lists the wastewater discharge effluent limitations monitored at Outfall 01S. MCAAP's industrial area is upstream of Brown Lake, and as such, most of the stormwater from industrial areas discharge into the Brown Lake watershed. Historically, there were several wastewater outfalls within the industrial area. These outfalls have been tied into the sanitary sewer beginning in the late 1990s through early 2000s, and subsequently reduced the pollutant loading (primarily suspended solids) into the Brown Lake watershed. Outfall 01S discharges to Bull Creek downstream from Brown Lake.

MCAAP has a comprehensive monitoring schedule to prevent environmental damage from water pollution. Water samples have been routinely collected from Brown Lake since 1974 (MCAAP 2016). Brown Lake is monitored as a drinking water source reservoir as required by the Safe Drinking Water Act. The Oklahoma Department of Environmental Quality (ODEQ) Industrial Stormwater Multi-Sector General Permit OKR050886 and Stormwater Sampling Guide for MCAAP provides stormwater sampling locations.

3.3.1.2 Groundwater

Ashland Terrace and Pennsylvania Minor Aquifers are located within MCAAP property boundaries (Oklahoma Water Resources Board 2021). However, groundwater is not present on MCAAP in great quantities except in some terrace gravel deposits. Groundwater in the bedrock flows primarily through joints in the rocks and is perched over impervious beds. Water levels in groundwater wells in the region respond rapidly to recharge from precipitation (MCAAP 2016).

A groundwater well on MCAAP located northeast of the project area is 300 feet deep with first water encountered at 160 feet (Oklahoma Water Resources Board 2020). There are no registered aquifers at MCAAP, and all drinking water is supplied by surface water.

3.3.1.3 Floodplains

Per the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for Pittsburg County, Oklahoma, Panel 575 (Map Number 40121C0575E, Effective July 22, 2010), portions of MCAAP have been identified as being located within an area subject to inundation by 1-percent-annual-chance of flooding (i.e., 100-year floodplain) (FEMA 2010). Floodplains on MCAAP consist primarily of riparian areas associated with streams.

3.3.1.4 Jurisdictional Wetlands and Other Waters of the U.S.

The USACE, Mobile District and MCAAP updated the Planning Level Survey of wetlands for MCAAP based on field investigation conducted in June 2019 and August 2020 to verify the extent of jurisdictional wetlands and other waters of the U.S. Findings of the field investigation indicate the presence of approximately 2,895.74 acres of wetlands, 848.50 acres of open water, and 295.99 acres of streams within the project area (USACE and MCAAP 2021). Beaver activities, such as damming streams and outflow areas of ponds and lakes, are annually increasing the area of wetlands on MCAAP, with at least 20 acres of shallow water wetlands created as a result of beaver activity in recent years (MCAAP 2016). Additionally, two wetland areas were created following the closure and conversion of borrow areas, adding approximately 5 acres of wetlands to MCAAP's total wetland acreage (USACE and MCAAP 2021).

3.3.2 Environmental Consequences

The protection of surface water and groundwater resources during ground-disturbing activities, changes to stormwater control systems, disturbance of areas located within the 100-year floodplain, and disturbance of wetlands or other waters of the U.S. were considered when evaluating potential impacts to water resources. Water resources would be adversely impacted if there were uncontrolled erosion and sedimentation due to stormwater runoff, pollution discharged into impaired water bodies to exceed Total Maximum Daily Loads, significant modification of the floodplain, or significant unmitigated impacts to wetlands or other waters of the U.S. The region of influence for water resources primarily consists of the area within or in the vicinity of the MCAAP Explosive and Non-Explosive Districts where projects would occur.

3.3.2.1 Preferred Alternative

Surface Water

Under the Preferred Alternative, construction and modification projects would have the potential to impact surface water resources. Any project where the collective area impacted by the proposed construction activity would exceed 1 acre in size would require compliance with the Stormwater General Permit OKR10 for Construction Activities (Construction General Permit) under ODEQ Authorization Number OKR106590, per the requirements of the ODEQ, Division of Water Quality. Only Project 4 (Develop C-Line) would disturb more than 1 acre, requiring coverage under the Construction General Permit. The construction contractor would also be required to develop a site-specific SWPPP.

The installation-wide SWPPP for Construction Activities outlines BMPs in accordance with OKR10, which would minimize erosion and control sediment resulting from construction activities. BMPs include schedules of activities, prohibitions of practices, maintenance procedures, structural controls, local ordinances, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures, and practices to control construction site runoff, spills or leaks, waste disposal, or drainage from raw material storage areas (MCAAP 2018b). The use of BMPs such as silt fencing and sediment traps, the application of water sprays, and the prompt revegetation of disturbed areas would reduce potential impacts. Implementation of sediment and erosion controls during construction activities would maintain runoff water quality at levels comparable to existing conditions.

In accordance with UFC 3-210-10, *Low Impact Development* (LID) (as amended, 2015) and Energy Independence and Security Act (EISA) Section 438, any increase in surface water runoff as a result of the new impervious surfaces would be attenuated through the use of permanent drainage management features. Under these requirements, federal facility projects with over 5,000 SF of new impervious surface must maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow. New construction would consist of several separate projects resulting in up to approximately 211,700 SF (4.86 acres) of new impervious surface associated with Projects 2, 3, and 4. LID technologies would be implemented as required to accommodate runoff due to increased impervious surfaces.

In addition, the existing MCAAP is in compliance with the OPDES Multi-Sector General Permit (MSGP) (OKR05) and the MCAAP SWPPP for Industrial Activities (MCAAP 2018a) would be amended as necessary to reflect post-construction operations and potentially new BMPs. This SWPPP provides a management and engineering strategy to improve the quality of stormwater runoff from MCAAP and thereby improve the quality of the receiving waters. Although there would be a small increase in runoff volumes and rates associated with the additional impervious areas under the Preferred Alternative, the stormwater management system would be designed

in compliance with applicable stormwater regulations. Proposed new facility designs would follow the OPDES MSGP (OKR05) conditions such that no significant adverse impacts to water quality would result.

Implementation of these measures, as necessary and appropriate, would ensure that impacts to surface water under the Preferred Alternative would be less than significant.

Groundwater

Construction activities and operations under the Preferred Alternative would include stormwater runoff protection measures that would also serve to protect groundwater quality. Through compliance with the OPDES Construction General Permit (OKR10) and MSGP (OKR05), where required as well as LID and EISA Section 438, there would be a reduction in stormwater pollutant loading potential and thus a reduction in pollution loading potential to the underlying groundwater basins. Impacts to groundwater recharge would be minimized through implementation of LID technologies that would ensure predevelopment hydrology is maintained. Site grading and construction activities would also not reach depths at which groundwater would be affected. Groundwater is not used as a potable water supply for MCAAP and groundwater resources at MCAAP would not be impacted.

Implementation of stormwater runoff protection measures, as necessary and appropriate, would ensure that impacts to groundwater under the Preferred Alternative would not be significant.

Floodplains

The proposed projects identified in **Table 2.4-2** would not occur within a 100-year floodplain zone (FEMA 2010). As discussed under surface water, predevelopment hydrology would be maintained through compliance with LID and EISA Section 438 and there would no substantial increase in stormwater runoff. The Preferred Alternative would be in compliance with EO 11988. Therefore, impacts to flooding that would result from construction activities or operations under the Preferred Alternative would not be significant.

Jurisdictional Wetlands and Other Waters of the U.S.

Under the Preferred Alternative, construction of a gravel road and rail spur and trenching associated with the new underground natural gas utility and water utility under Project 4 would result in permanent and temporary impacts to a potentially jurisdictional wetland and streams. The wetland is identified as forested/shrub and the streams are identified as intermittent in the National Wetlands Inventory database. Under Section 404(b) of the CWA, the USACE can issue general permits to authorize activities that have only minimal individual and cumulative adverse environmental effects. A nationwide permit (NWP) is a general permit that authorizes activities across the country.

Construction of a gravel road and rail spur would permanently impact 0.18 acre of jurisdictional wetlands and qualifies for coverage under NWP 14 – *Linear Transportation Projects*. Pre-

construction notification would be required under NWP 14 and the district engineer will determine the appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal. This may include avoiding, minimizing, rectifying, reducing, or compensating for resource losses.

Trenching associated with the new underground natural gas utility and water utility would temporarily impact 0.007 acre of jurisdictional stream and qualifies for coverage under NWP 58 – *Utility Line Activities for Water and Other Substances*. Because the impact would be less than 0.10 acre, the action can proceed under NWP 58 without the need for a pre-construction notification. Temporary fills would be removed and the stream would be restored/recontoured to pre-construction elevations following installation of the new underground utilities.

Therefore, impacts to wetlands and other waters of the U.S under the Preferred Alternative would not be significant.

3.3.2.2 No Action Alternative

Under the No Action Alternative, MCAAP would not implement the real property master planning actions identified in **Table 2.4-2** within the next approximately 5 years. Water resources would be expected to remain as described under existing conditions in **Section 3.3.1**. Therefore, there would be no impacts to water resources under the No Action Alternative.

3.4 BIOLOGICAL RESOURCES

Biological resources include plant and animal species, and the habitats within which they occur. This analysis focuses on species that are important to the function of ecosystems, are of special societal importance, or are protected under federal or state law. These resources are commonly divided into the following categories: Plant Communities, Wildlife, and Special Status Species.

Biological resources are grouped and analyzed in this EA as follows:

- Plant Communities include plant associations and dominant constituent species that occur in the project area.
- Wildlife includes the characteristic animal species that occur in the project area. Special consideration is given to bird species protected under the MBTA and EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*.
- Special Status Species are those plant and animal species that are listed, have been proposed for listing, or are candidates for listing as threatened or endangered under the federal ESA and other species of concern as recognized by state or federal agencies.

3.4.1 Affected Environment

3.4.1.1 Plant Communities

The majority of the terrestrial habitat on MCAAP consists of timber, brushland, grassland, agricultural, and aquatic areas. Native range grasses comprise most of the upland habitat on the installation. In addition, uplands located on the installation have low tree cover, with prairie

areas scattered with brushland shrubs. Vegetation in the magazine areas consists of an equal proportion of Bermuda grass (*Cynodon dactylon*) and a mixture of dormant prairie grasses (MCAAP 2016).

Approximately 10,400 acres of MCAAP is occupied by timber habitat, which primarily occurs around the installation's borders. The dominant plant species that comprise the timber community are post oak (*Quercus stellata*), blackjack oak (*Q. marilandica*), with mixtures of hickory (*Carya* spp.) and red oak (*Q. shumardii).* An additional 6,423 acres on the installation are characterized as bottomland timber, with the highest quality bottomland timber existing in the west-central region of the installation. Characteristic species of the bottomland timber communities are red oak, pecan (*Carya illinoensis*), green ash (*Fraxinus pennsylvanica*), hackberry (*Celtis occidentalis*), American elm (*Ulmus Americana*), winged elm (*U. alata*), and sycamore (*Platanus occidentalis*) (MCAAP 2016).

Approximately 14,437 acres of the installation comprises grassland habitat. Grassland habitats within the installation contain primarily big bluestem (*Andropogon gerardi*), little bluestem (*A. scoparius*), Indian grass (*Sorghastrum nutans*), and switch grass (*Panicum virgatum*) (MCAAP 2016).

MCAAP contains 275 total acres of agricultural lands. There are 56 agricultural plots that are disked, fertilized, and planted with clover and winter rye grass (MCAAP 2016).

3.4.1.2 Wildlife

The timber portions of MCAAP provide suitable habitat for most common species that occur in the area. Wildlife on MCAAP utilize the diverse array of habitats throughout the installation. Twenty-five mammal species, 163 bird species, 20 fish species, 12 reptile species, and 9 amphibian species are known to occur on MCAAP (MCAAP 2016). Common mammal species that occur at MCAAP, among many others, include the white-tailed deer (*Odocoileus virginianus*), Eastern gray squirrel (*Sciurus carolinensis*), eastern fox squirrel (*S. niger*), gray fox (*Urocyon cinereoargenteus*), red fox (*Vulpes vulpes*), bobcat (*Lynx rufus*), and beaver (*Castor canadensis*). In addition, MCAAP also contains feral hogs (*Sus scrofa*). Common bird species occurring at MCAAP include eastern wild turkey (*Meleagris gallopavo*), northern bobwhite quail (*Colinus virginianus*), red-winged blackbird (*Agelaius phoeniceus*), and great blue heron (*Ardea herodias*). The installation contains several species of migratory birds including Canada goose (*Branta canadensis*), wood duck (*Aix sponsa*), blue-winged teal (*Anas discors*), and mourning dove (*Zenaida macroura*). Fish species that occur on MCAAP include warmouth (*Lepomis gulosus*), green sunfish *(L. cyanellus*), bluegill (*L. macrochirus*), blue catfish (*Ictalurus furcatus*), flathead catfish (*Pylodictis olivaris*), channel catfish (*Ictalurus punctatus*), largemouth bass (*Micropterus salmoides*), white crappie (*Pomoxis annularis*), and black crappie (*P. nigromaculatus*). Common reptiles and amphibians that may occur at MCAAP include Eastern Blanchard's cricket frog (*Acris crepitans blanchardi*), western cottonmouth (*Agkistrodon*

piscivorous leucostoma), ground skink (*Scincella lateralis*), and three-toed box turtle (*Terrapene carolina triunguis*) (MCAAP 2016).

3.4.1.3 Special Status Species

Special status species potentially occurring at MCAAP are listed in **Table 3.4-1**.

Table 3.4-1. Special Status Species Potentially Occurring at MCAAP

Common Name	Scientific Name	Status		Habitat
		Federal	State	
Plants				
Sandgrass	*Calamovilfa arcuate*	E	-	Open gravel/cobble bars maintained by river scour.
Mammals				
Gray bat	*Myotis grisescens*	E	SP	Restricted to caves or cave-like habitats. Summer caves are normally located close to rivers or lakes where the bats feed.
Indiana bat	*Myotis sodalis*	E	SP	Caves and mines. Foraging habits include riparian areas, upland forests, ponds, and fields.
Northern long-eared bat	*Myotis septentrionalis*	T	SSC	Caves, hollow trees, culverts
Birds				
Bald eagle	*Haliaeetus leucocephalus*	BGEPA	-	Estuaries, large lakes, reservoirs, rivers, and some coastal areas.
Interior least tern	*Sternula antillarum athalassos*	E	E	Barren-to-sparsely vegetated sandbars along rivers, sand and gravel pits, lake and reservoir shorelines.
Piping plover	*Charadrius melodus*	T	-	Wide, flat, open, sandy beaches with very little grass or other vegetation.
Red knot	*Calidris canutus rufa*	T	-	Intertidal, marine habitats, especially near coastal inlets, estuaries, and bays.
Fish				
Arkansas River shiner	*Notropis Girardi*	T	T	Main channels of wide, shallow, sandy bottomed rivers and larger streams of the Arkansas River basin.
Invertebrates				
American burying beetle	*Nicrophorus americanus*	T	E	Generalist, resident at MCAAP.

Legend: BGEPA = Bald and Golden Eagle Protection Act; E = endangered; SSC = Species of Special Concern; T = threatened; C=Candidate.

Sources: MCAAP 2016, 2020; USFWS 2020; Oklahoma Department of Wildlife Conservation 2020.

One federally listed plant species has the potential to occur on MCAAP. Sandgrass requires rocky or cobbly surfaces influenced by river scour in order to occur. During rare plant surveys in 1994 and 2002, sandgrass was not observed on MCAAP (MCAAP 2016).

Three federally listed species of bat are potentially present on MCAAP. Indiana bats rely on mines and caves with specific temperature and airflow conditions, which they use for hibernation, and mature forests, which they use for foraging and roosting during their active months (USDA 2020). Gray bats live in caves year-round (USFWS 2019). Neither the Indiana bat nor gray bat roosts in buildings. Northern long-eared bats also rely on mines and caves for hibernation, and forests for foraging and roosting. However, northern long-eared bats are much less selective about the size and types of trees they will roost in. As a result, northern long-eared bats can be found in a wider variety of "forested" settings—ranging from individual trees in disturbed settings to heavily forested landscapes. Passive acoustic bat surveys conducted in 2019 found the gray bat to be present at MCAAP (MCAAP 2020). Although acoustic results indicated potential presence of the northern long-eared bat and Indiana bat, further investigative measures are needed to infer the presence or absence of northern long-eared bat and Indiana bat at MCAAP (MCAAP 2020).

The USFWS released a Section 4(d) rule under the ESA for the northern long-eared bat in 2016. The 4(d) rule defines take and the range map for the species and provides management guidelines to allow for protection of areas impacted by white-nose syndrome while still allowing certain activities to be completed by landowners and managers within the species range without formal consultation (USFWS 2016).

Bald eagles frequently visit MCAAP during the winter; however, they have not been documented nesting on the property since 1982 (MCAAP 2016). The interior least tern has the potential to occur on MCAAP; however, due to the absence of broad sandy areas associated with large rivers, there is a low likelihood of their presence on MCAAP (MCAAP 2016). In addition, the piping plover, a federally threatened species, occurs in areas around the installation; however, MCAAP does not have suitable habitat for the piping plover. Therefore, any occurrence of the piping plover would be transitory. The red knot, a federally threatened species, also occurs in areas around the installation. MCAAP lacks suitable habitat for the red knot, so any occurrence would also be transitory.

The Arkansas river shiner has potential to occur within MCAAP in sandy bottomed rivers or streams. Even though the Arkansas river shiner has potential to occur in streams located on MCAAP, it has yet to be observed (MCAAP 2016). During surveys conducted in 2019 at MCAAP, no federally listed fish species were observed (MCAAP 2020).

The American burying beetle is a federally threatened species that is known to occur on MCAAP (MCAAP 2016). The installation has an Endangered Species Management Plan that provides monitoring programs and conservation plans for the American burying beetle (MCAAP 2012). The beetle is a generalist species that can be found in a variety of habitat types on MCAAP. Based on surveys conducted in 2019, it is estimated that MCAAP has a population of approximately 500 American burying beetles, with the highest concentration in the southeastern portion of MCAAP (MCAAP 2020).

3.4.2 Environmental Consequences

This section presents an analysis of potential direct, indirect, temporary, and permanent impacts to biological resources that could result from implementation of the Preferred Alternative.

Direct impacts are the immediate result of project-related activities (e.g., direct mortality or disturbance of species, or removal of vegetation and habitat during construction). Direct impacts may be either temporary (reversible) or permanent (irreversible).

Indirect impacts are caused by or result from project-related activities but occur later in time or are spatially removed from the activities (e.g., shifts in vegetation composition or increased predation risk over time). Indirect impacts are diffuse, resource-specific, and less amenable to quantification or mapping than direct impacts, but still need to be considered. Indirect impacts typically extend beyond the immediate project footprint(s).

Potential project impacts are described as temporary or permanent based on their anticipated longevity. Project impacts are evaluated based upon an understanding of project configuration and components, and methods and equipment that would be used.

3.4.2.1 Preferred Alternative

Plant Communities

The implementation of the Preferred Alternative would result in both temporary and permanent impacts to plant communities. The majority of the proposed construction and renovation projects (see **Table 2.4-2**) would have relatively small footprints (<1 acre). MCAAP contains approximately 44,965 acres of land, approximately 43,400 acres of which are designated for natural resource management. The temporary and permanent impacts to plant communities associated with the projects and activities in **Table 2.4-2** would represent a less than significant percentage of the total 43,400 acres of relatively undisturbed land on MCAAP. In addition, natural resources at MCAAP are managed in accordance with the INRMP (MCAAP 2016). Under the Preferred Alternative, management practices outlined by the INRMP, such as invasive weed control and restoration of temporarily impacted areas, would be implemented to lessen potential impacts to plant communities. Therefore, impacts to plant communities would not be significant under the Preferred Alternative.

Wildlife

As described above, the proposed construction and renovation projects would not represent a significant loss of valuable wildlife habitat. Under the Preferred Alternative, impacts to wildlife due to construction and/or renovation activities would be minor. Noise associated with construction activities can affect birds and other wildlife in multiple ways, including altered vocal behavior to mitigate masking, reduced abundance in noisy habitats, changes in vigilance and foraging behavior, and impacts on individual fitness (Shannon 2016). However, bird and wildlife populations at MCAAP, including those protected under the MBTA, are already exposed to

elevated noise associated with military industrial operations. As a result, indirect impacts from construction noise are expected to be minor because the ambient noise levels within the vicinity are elevated under existing conditions and would be unlikely to substantially increase from the relatively minor and temporary nature of the proposed construction activities.

In addition, if demolition or construction activities take place during bird breeding season for resident and migratory birds (roughly March 1 to September 31), MCAAP would ensure that measures are put in place to protect nesting bird species, so as to avoid take of nests and young, including species protected under the MBTA.

The implementation of the proposed construction and renovation projects could eliminate or displace wildlife from the project footprints and their vicinities. Individuals of the smaller, less mobile, and burrowing species could be killed or injured by construction in new footprints, whereas mobile species (e.g., birds and larger mammal species) would disperse to surrounding areas. Any loss of or indirect impacts to commonly occurring individuals would not represent a significant portion of the population. Construction activities would be temporary, and following construction, wildlife would be able to occupy those portions of the project areas that have not been developed. Therefore, impacts to wildlife would not be significant under the Preferred Alternative.

Special Status Species

Under the Preferred Alternative, loss of vegetation could represent a loss of foraging and summer roosting habitat for the northern long-eared bat, although it has not been observed at MCAAP. Under the Preferred Alternative, there would be no loss of cave or mine bat hibernation habitat. All tree clearing, construction, and maintenance activities would be conducted in accordance with the guidelines provided in the ESA, Section 4(d) rule for the northern long-eared bat. Per the Section 4(d) rule, incidental take of northern long-eared bats from tree removal activities is not prohibited unless it results from removing a known occupied maternity roost tree, from tree removal activities within 150 feet of a known occupied maternity roost tree from June 1 through July 31, or results from tree removal activities within 0.25 mile of a hibernaculum at any time. Under the Preferred Alternative, no tree clearing would be conducted within 150 feet of a known occupied maternity roost tree or within 0.25 mile of a hibernaculum. To the extent practical, any tree cutting would be completed during the hibernation period (November to April) when bats would not be impacted by land clearing. Otherwise, MCAAP would coordinate with USFWS to minimize potential impacts to northern long-eared bats and other listed bat species. In addition, and consistent with the Section 4(d) rule recommendations (USFWS 2016), use of outdoor lighting would be done in a manner to minimize light pollution by angling lights downward or via other light minimization measures to lessen potential nighttime foraging impacts on bats. The above measures would ensure protections for all listed bat species that may occur, and therefore, impacts to listed bat species would not be significant under the Preferred Alternative.

Although sandgrass could be directly impacted under the proposed action through direct loss of individuals or through habitat loss, the species has never been observed on MCAAP (MCAAP 2016). Therefore, impacts to sandgrass would not be significant under the Preferred Alternative.

Although the interior least tern, piping plover, and red knot have the potential to occur on MCAAP, the proposed action will have no impact on their habitats. In addition, bald eagles are known to occur sporadically in the vicinity of the project areas; however, impacts to plant communities would not be large enough to represent a significant loss of for aging/hunting habitat and the species' breeding habitat would not be affected. Therefore, impacts to the interior least tern, piping plover, red knot, and bald eagles would not be significant under the Preferred Alternative.

The project area is located within the Bull Creek watershed, where there is potential for the Arkansas river shiner to occur. However, the installation-wide SWPPP for Construction Activities outlines BMPs that would reduce any runoff associated with the Preferred Alternative. Therefore, impacts to the Arkansas river shiner would not be significant under the Preferred Alternative.

Although the American burying beetle could be directly impacted under the Preferred Alternative through direct loss of individuals or through habitat loss, surveys in 2019 found that the majority of the population on MCAAP occurs in the southeastern portion of the installation (MCAAP 2020), outside of the project area footprints. In addition, the species is managed on MCAAP according to an Endangered Species Management Plan (MCAAP 2012). Conservation measures that are implemented for American burying beetle include biannual surveys and pre-construction surveys, if deemed necessary by the USFWS. MCAAP is currently conducting informal ESA section 7 consultation with the USFWS. Therefore, impacts to the American burying beetle would not be significant under the Preferred Alternative.

Prior to any new development in natural habitats, surveys and/or monitoring associated with ongoing INRMP management objectives would identify the potential for special status species to be impacted, and BMPs, such as seasonal avoidance, relocation, or habitat enhancement, would offset impacts to special status species. Any loss of natural habitat associated with the implementation of the Preferred Alternative would represent a less than significant percent of the available habitat on MCAAP. Therefore, impacts to special status species would not be significant under the Preferred Alternative.

3.4.2.2 No Action Alternative

Under the No Action Alternative, MCAAP would not implement the real property master planning actions identified in **Table 2.4-2** within the next approximately 5 years. Biological resources would remain as described in **Section 3.4.1**, Therefore, there would be no impact biological resources under the No Action Alternative.

3.5 CULTURAL RESOURCES

Cultural resources consist of prehistoric and historic buildings, districts, sites, structures, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Cultural resources can be divided into three major categories: archaeological resources (prehistoric and historic), architectural resources, and traditional cultural resources.

Archaeological resources are locations where human activity measurably altered the earth or left deposits of physical remains (e.g., tools, arrowheads, or bottles). “Prehistoric” refers to resources that predate the advent of written records in a region. These resources can range from a scatter composed of a few artifacts to village sites and rock art. “Historic” refers to resources that postdate the advent of written records in a region. Archaeological resources can include campsites, roads, fences, trails, dumps, battlegrounds, mines, and a variety of other features.

Architectural resources include standing buildings, dams, canals, bridges, and other structures of historic or aesthetic significance. Architectural resources generally must be more than 50 years old to be considered for protection under existing cultural resource laws. However, more recent buildings and structures, such as Cold War-era military buildings, may warrant protection if they have exceptional characteristics and the potential to be historically significant or if they are integral parts of a district that is eligible. These properties are evaluated under National Register of Historic Places (NRHP) Criteria Consideration G, which includes properties that have achieved significance within the past 50 years. Architectural resources must also possess integrity (i.e., important historic features must be present and recognizable in order to convey its significance).

Traditional cultural properties (TCPs) can include archaeological resources, buildings, neighborhoods, prominent topographic features, habitats, plants, animals, and minerals that American Indians or other groups consider essential for the continuance of traditional cultures.

Only cultural resources considered to be significant, known or unknown, warrant consideration with regards to adverse impacts resulting from a proposed action. To be considered significant, archaeological or architectural resources must meet one or more criteria as defined in 36 CFR 60.4 for inclusion in the NRHP. The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

a. that are associated with events that have made a significant contribution to the broad patterns of our history; or
b. that are associated with the lives of persons significant in our past; or that embody the distinctive characteristics of a type, period, or method of construction, or

c. that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
d. that have yielded, or may be likely to yield, information important in prehistory or history.

Several federal laws and regulations have been established to manage cultural resources, including the NHPA (1966), the Archaeological and Historic Preservation Act (1974), AIRFA (1978), the ARPA (1979), and NAGPRA (1990). In addition, coordination with federally recognized American Indian Tribes must occur in accordance with EO 13175, *Consultation and Coordination with Indian Tribal Governments*.

On November 27, 1999, the DoD promulgated its Annotated American Indian and Alaska Native Policy, which emphasizes the importance of respecting and consulting with Tribal governments on a government-to-government basis. This Policy requires an assessment, through consultation, of the effect of proposed DoD actions that may have the potential to significantly affect protected Tribal resources, Tribal rights, and Indian lands before decisions are made by the respective services (DoD American Indian/Alaska Native Policy), as does DoD Instruction 4710.02, *Interaction with Federally Recognized Tribes* (September 14, 2006).

3.5.1 Affected Environment

The area of potential effects (APE) for this project encompasses the areas where ground-disturbing activities, including new construction, building renovations and modifications, and building demolitions would occur. MCAAP is consulting with the Oklahoma SHPO on its finding of effect for the proposed action.

3.5.1.1 Archaeological Resources

MCAAP maintains an Integrated Cultural Resources Management Plan (ICRMP) to aid in management of the cultural resources on the facility in accordance with appropriate federal laws and other applicable Army regulations. Since 1975, 29 surveys for archaeological resources have been conducted on MCAAP, covering nearly 2,000 acres. Six archaeological sites have been identified as a result of these studies (MCAAP 2020). Three of the MCAAP archaeological sites have been identified as potentially eligible for listing in the NRHP. The remaining three sites have been determined to be ineligible for listing in the NRHP (MCAAP 2020).

3.5.1.1 Architectural Resources

MCAAP, originally a Naval facility designated the McAlester Navy Ammunition Depot, was established on May 20, 1943 as a result of the military and industrial buildup that took place prior to and during World War II. MCAAP was one of two ammunition production facilities constructed by the Navy Bureau of Yards and Docks in 1942. By 1944, more than 2,000 buildings were constructed, the majority of which were ammunition storage facilities to support the production of ammunition during World War II. The installation has continued to operate in

ammunition production, storage, and demilitarization operations and in various support functions. MCAAP is the DoD's largest explosive storage facility and as such, is a major ammunition storage site for all branches of the Armed Forces. Today, MCAAP encompasses approximately 45,000 acres of federally owned land in Pittsburg County, Oklahoma (MCAAP 2020).

Two architectural assessments were conducted at MCAAP in 1984 and 1996. The 1984 survey identified three categories of historic properties, with Category I signifying a high degree of historical significance and Category III as the least degree of significance. Historic properties in Categories I through III were potentially eligible for listing in the NRHP. No Category I or II properties were identified at MCAAP. Three classes of Category III properties were identified. These include the C-Tree Schoolhouse, Corbetta Beehive Magazines, and Triple-Barrel Vault Magazines. In 1996, a comprehensive inventory of World War II properties at MCAAP was inconclusive, as 409 buildings and structures were determined to require further investigation as to their NRHP eligibility (MCAAP 2020).

Currently, no architectural properties at MCAAP are listed in the NRHP. Among MCAAP's historic properties are ammunition storage facilities including the Corbetta Beehive Magazines and the Triple-Barrel Vault Magazines. Most of the historic properties at MCAAP are determined eligible for the NRHP through two of the Advisory Council on Historic Preservation's (ACHP) Program Comments signed in 2006: *Program Comment for World War II and Cold War-Era (1939–1974) Army Ammunition Production Facilities and Plants*, and the *Program Comment for World War II and Cold War-Era (1939–1974) Ammunition Storage Facilities*. There are no historic districts, historic landscapes, or historic objects present at MCAAP (MCAAP 2020).

The proposed action would result in renovations or repairs to 13 buildings. All 13 buildings are World War II and Cold War-era buildings determined potentially eligible for listing in the NRHP (MCAAP 2020). The proposed action would also result in the demolition of two buildings. These two buildings were built in 1943 and are currently used as change houses and lunchrooms. They are World War II-era buildings considered potentially eligible for listing in the NRHP.

3.5.1.2 Traditional Cultural Properties

To date, no TCPs or Native American sacred places have been identified at MCAAP (MCAAP 2020). There are five federally recognized Native American Tribes that may be historically, culturally, or linguistically affiliated with the area. These tribes include: the Choctaw Nation of Oklahoma, the Chickasaw Nation, the Caddo Indian Tribe, the Quapaw Tribe of Indians of Oklahoma, and the Wichita and Affiliated Tribes (MCAAP 2020).

3.5.2 Environmental Consequences

Section 106 of the NHPA of 1966 empowers the ACHP to comment on federally initiated, licensed, or permitted projects affecting cultural sites listed or eligible for inclusion in the NRHP.

Once cultural resources have been identified, significance evaluation is the process by which resources are assessed relative to established significance criteria and criteria considerations. Cultural resources that have been determined to be eligible for listing in the NRHP are called "historic properties."

Analysis of potential impacts on cultural resources considers both direct and indirect impacts. Direct impacts may occur by: (1) physically altering, damaging, or destroying all or part of a resource; (2) altering characteristics of the surrounding environment that contribute to resource significance; (3) introducing visual, audible, or atmospheric elements that are out of character with the property or alter its setting; or (4) neglecting the resource to the extent that it deteriorates or is destroyed. Direct impacts can be assessed by identifying the type and location of the proposed action and by determining the exact locations of cultural resources that could be affected. Indirect impacts primarily result from the effects of the use and operation of the facilities, which could disturb, damage, or destroy cultural resources.

3.5.2.1 Preferred Alternative

Archaeological Resources

No archaeological sites considered eligible or potentially eligible for listing in the NRHP are located within the APE. However, not all of the APE has been subjected to archaeological investigations. The MCAAP Cultural Resource Manager (CRM) evaluates undertakings that may result in effects to cultural resources on a case-by-case basis. In accordance with the ICRMP Standard Operating Procedure (SOP) Number 7.1: *Undertakings Affecting Historic Resources*, the MCAAP CRM is to be notified early in the planning process and is responsible for ensuring that the installation is in compliance with federal and state regulations (MCAAP 2020). MCAAP is currently consulting with the Oklahoma Archaeological Survey on the undertaking.

It is not expected that unidentified cultural resources would be found during implementation of the Preferred Alternative at MCAAP; however, in the event of an unanticipated discovery during ground-disturbing activities, the following specific actions would occur. The Project Manager would cease work immediately and the discovery would be reported to the MCAAP CRM. The CRM would secure the location and ensure that all cultural items are left in place and that no further disturbance is permitted to occur. The CRM would then contact a qualified archaeologist to inspect the site and would follow the procedures outlined in SOP Number 7.1, as well as SOP 7.2: Native American Consultation, SOP Number 7.6: *Archaeological Field Procedures*, SOP Number 7.7: *Intentional Archaeological Excavation Resulting in a Discovery*, SOP Number 7.8: *Accidental Discovery of Archaeological Resources*, SOP Number 7.9: *Reporting Damage to Historic Properties*, and SOP Number 7.11: *Disclosure of Information as needed* (MCAAP 2020). Under these conditions, there would be no significant impacts to archaeological resources at MCAAP with the implementation of the Preferred Alternative.

Architectural Resources

The proposed action calls for the repair, renovation, expansion, or demolition of 15 buildings at MCAAP. Interior renovations would include heating, ventilation, and air conditioning (HVAC), electrical, fire sprinkler system, and plumbing repairs or upgrades; improved lighting; interior painting; or other general repairs. One building would undergo interior renovations and receive a new roof, and 11 buildings would receive new roofs and repairs to roof trusses, where needed (MCAAP 2020). The proposed action would also result in the demolition of two buildings. These buildings were built in 1943 and are currently used as change houses and lunchrooms.

One of these buildings is not eligible for listing in the NRHP while the others are considered eligible for listing in the NRHP through two of the ACHP's Program Comments: *Program Comment for World War II and Cold War-Era (1939–1974) Army Ammunition Production Facilities and Plan*ts, and the *Program Comment for World War II and Cold War-Era (1939–1974) Ammunition Storage Facilities*. The ACHP Program Comments cover several different types of undertakings, including maintenance and repair, rehabilitation, renovation and demolition, and specify mitigation actions for each military branch to satisfy the DoD's requirement to take into account the effects of the undertakings on buildings and structures designed and built as ammunition production and storage facilities between 1939 and 1974. The types of building repairs, renovations, and demolition activities in the Preferred Alternative would be among the same allowances included in the Program Comments. Due to the identified mitigation measures in the ACHP Program Comments, potential impacts to historic properties would be less than significant.

There would be no significant impacts to architectural resources at MCAAP with the implementation of the Preferred Alternative.

Traditional Cultural Properties

No TCPs have been identified at MCAAP. Government-to-government consultation between MCAAP and each federally recognized Tribe who may have historic association with the MCAAP property will be initiated on a project specific basis according to the MCAAP ICRMP SOP Number 7.2: *Native American Consultation* and SOP Number 7.3: *Native American Graves Protection and Repatriation Act* (MCAAP 2020). No significant impacts to TCPs are anticipated with implementation of the Preferred Alternative.

Therefore, there would be no significant impacts to cultural resources with the implementation of the Preferred Alternative.

3.5.2.2 No Action Alternative

Under the No Action Alternative, MCAAP would not implement the real property master planning actions identified in **Table 2.4-2** within the next approximately 5 years. Without the implementation of the proposed major construction, renovation, and modernization projects,

facilities would continue to deteriorate, which would impede mission effectiveness. Cultural resources would be expected to remain as described under affected environment in **Section 3.5.1**. Therefore, there would be no significant impacts to cultural resources under the No Action Alternative.

3.6 TRAFFIC AND TRANSPORTATION

Transportation refers to roadway and street systems, the movement of vehicles on roadway networks, pedestrian and bicycle traffic, and mass transit.

3.6.1 Affected Environment

The transportation infrastructure within MCAAP consists of roadways; railway; and active gates. In general, roadways at MCAAP are well maintained and considered in good condition. The capacity of the roadway system is adequate for the installation's population; however, there are backups leaving the installation during evening rush hour (AMC 2020).

Railway at MCAAP is currently utilized at manufacturing and production facilities, the ammunition storage igloos/magazines, and in a few locations near the open burn pits. Rail access to MCAAP is provided by spurs owned by Union Pacific Railroad (AMC 2016). The railroad network at MCAAP is well maintained and considered in good condition (AMC 2020).

3.6.2 Environmental Consequences

Impacts to transportation and traffic are analyzed by considering the possible changes to existing traffic conditions from proposed project traffic.

3.6.2.1 Preferred Alternative

Under the Preferred Alternative, MCAAP would implement the projects identified in **Table 2.4-2** within the next approximately 5 years. The only project that would have a long-term impact at to the transportation network at MCAAP is Project 4, the development of C-Line.

During construction associated with all projects, there would be minor, short-term impacts to traffic at MCAAP from construction vehicles accessing the installation. This extra traffic would be minor in comparison to the daily traffic at MCAAP associated with the movement of vehicles and trucks throughout the installation.

The Preferred Alternative would not increase personnel loading at MCAAP or alter the installation's operations; therefore, long-term increases to traffic would not be expected. Over the long term, implementation of the Preferred Alternative would be expected to have minor impacts on the transportation system and traffic at MCAAP. Project 4 would develop C-Line in order to create a new Ammunition Reclamation Center. New roadways would be constructed and would connect from Road E to each facility. In addition, rail and truck access would be provided along the south side of the demilitarization facilities. A concrete access road along the railroad line would provide access for both. A rail spur of approximately 6,364 LF would be

needed to connect the new C-Line to the existing B-Line complex. Once completed, there would be additional traffic in the area of the newly developed C-Line; however, this would reduce traffic in other areas of the installation where ammunition reclamation currently occurs. The capacity of the roadway system at MCAAP is considered adequate for the installation's population; therefore, there would be no significant impacts to transportation and traffic from implementation of the of the Preferred Alternative.

3.6.2.2 No Action Alternative

Under the No Action Alternative, MCAAP would not implement the real property master planning actions identified in **Table 2.4-2** within the next approximately 5 years. The development of the C-Line at MCAAP would not occur. Transportation and traffic would be expected to remain as described under affected environment in **Section 3.6.1**. Therefore, there would be no significant impacts to the transportation system at MCAAP under the No Action Alternative.

3.7 UTILITIES AND SERVICE SYSTEMS

Utilities and service systems refers to the system of public works that provide the underlying framework for a community. Utilities include such amenities as water, power supply, and waste management. All DoD installations are required to proactively plan for and assess all specific infrastructure and utility requirements and other essential services to ensure that proposed increases in personnel and their dependents can be accommodated. The installations routinely evaluate community facilities and services to account for fluctuations associated with new units assigned to the installation and the deployment of existing units. In addition, the installations identify infrastructure or utility needs within the scope of each corresponding project. If particular projects require additional infrastructure or utilities, they are incorporated as a part of that project. This process ensures that any infrastructure or utility deficiencies are identified in the initial planning stages.

3.7.1 Affected Environment

3.7.1.1 Electrical System

Electrical service to MCAAP is provided by the American Electrical Power/Public Service Company of Oklahoma. Electrical service is provided by a 46-kilovolt line to the installation's two transformers and distributed via government-owned power lines. MCAAP typically has a demand of 5 megawatts (MW). Each of the two transformers on the installation has a capacity of 7 MW, so MCAAP is capable of meeting demands of up to 14 MW for short periods if needed (AMC 2016).

3.7.1.2 Potable Water

Potable water for MCAAP is supplied via Brown Lake, and the installation is allowed to withdraw up to 900 acre-feet per year under an existing water rights permit. The water is treated at the installation's water treatment plant located at the eastern edge of Brown Lake. The plant has the

capacity to treat 1.0 million gallons per day (mgd). Treated water is routed into a 1-million-gallon clear well and then distributed to various users, including MCAAP, the Towns of Savanna and Haywood, and the Haywood School. The installation maintains three ground level storage tanks for potable water, two have a 200,000-gallon capacity and the third has a 100,000-gallon capacity. There are also four elevated storage tanks at MCAAP, three have a 100,000-gallon capacity and the fourth has a 50,000-gallon capacity. Potable water is then distributed from these tanks via gravity-fed pipelines (AMC 2016). Currently, the MCAAP water system is operating at 50 percent of its capacity (AMC 2020).

3.7.1.3 Wastewater

Wastewater from MCAAP is treated at the installation's wastewater treatment plant (WWTP). The wastewater system conveys sanitary and industrial wastewater through gravity-fed collection pipes to the WWTP. The WWTP is designed to treat 0.5 mgd, with a maximum capacity of 0.75 mgd. If the wastewater flow exceeds the WWTP treatment capacity, it is diverted to flow management lagoons (Medium Caliber Lagoon and the Sewer Treatment Plant Lagoon) that have a combined capacity of 4 million gallons of wastewater flow equalization/flow management (AMC 2016). Additional flow-through lagoons provide treatment before discharge to the sewer. Industrial wastewater lagoons for pink water and ammunition plant wastewater provide raw water storage prior to industrial pre-treatment. The wastewater treatment system at MCAAP is currently operating between 60-70 percent of its capacity (AMC 2020).

3.7.1.4 Natural Gas

Natural gas service for MCAAP is provided by Constellation New Energy-Gas Division. The installation utilizes natural gas for space heating, hot water, burning methane gas at the WWTP, incinerating paint fumes, cooling some buildings with gas-driven chillers, heating oil for tar kettles, and processing steam. The installation used approximately 346 million cubic feet of natural gas in 2015 (AMC 2016). There are currently no issues with natural gas service at MCAAP, and available service and pressure is adequate (AMC 2020).

3.7.1.5 Communications

Communications at MCAAP are provided by AT&T via one service point. The existing phone switch node is antiquated and beyond repair (AMC 2020).

3.7.1.6 Solid Waste

Industrial solid waste at MCAAP is collected and disposed of at the nonhazardous industrial solid waste landfill on the installation. Approximately 3-5 tons of waste per day is deposited at the landfill. Construction and demolition waste and municipal waste that is collected from the installation by a contractor is typically taken to the Alderson Regional Landfill (AMC 2016).

3.7.2 Environmental Consequences

This section analyzes the magnitude of anticipated increases or decreases in public works infrastructure demands considering historic levels, existing management practices, and storage capacity, and evaluates potential impacts to public works infrastructure associated with implementation of the alternatives. Impacts are evaluated by whether they would result in the use of a substantial proportion of the remaining system capacity, reach or exceed the current capacity of the system, or require development of facilities and sources beyond those existing or currently planned.

3.7.2.1 Preferred Alternative

Under the Preferred Alternative, MCAAP would implement the projects identified in **Table 2.4-2** within the next approximately 5 years. Buildings undergoing renovation and modernization would utilize existing utility connections. Project 1 would upgrade the electric distribution system from to Haywood Gate. Project 2 would install a backup generator for A-Line and Project 3 would install a backup generator for B-Line, each would include a medium voltage switching station. Project 5 would modernize one of the buildings.

Project 4 would develop C-Line. All new utilities for C-Line would be connected to the site from the B-Line area. This includes roughly 14,000 LF of 8-inch water line, 3,882 LF of forced 2-inch main sewer line and lift station, about 2,700 LF of fire water piping with hydrant assembly, and 3,500 LF of three-phase concrete encased conduit electrical line. Additionally, approximately 7,500 LF of 3-inch natural gas line, would be needed at the site to feed the new boiler system. For steam, about 2,700 LF of steam line would be required to connect the boiler to the other C-Line buildings. A 2-inch condensate line would also be needed between the facilities.

During construction, there would be minor, short-term impacts to the electrical, water, wastewater, and communication systems from temporary disruptions needed to connect new distribution lines to the existing system or complete repairs on existing lines. New water line construction permitting would be required through the Oklahoma Department of Environmental Quality.

The Preferred Alternative would not increase personnel loading at MCAAP or alter the installation's operations; therefore, increased utility usage would not be expected. Over the long term, implementation of the Preferred Alternative would be expected to decrease utility usage at MCAAP, specifically electrical, water, and wastewater. Project 1 would be expected to enhance the electrical distribution system at MCAAP. Projects 2 and 3 would install backup generators at A-Line and B-Line, which would increase the long-term resiliency of the facilities in these areas. Project 4 would develop the C-Line. The facilities at the new Ammunition Reclamation Center would be built to current standards and would be expected to have higher efficiency for all integrated utility systems compared to outdated facilities that would be demolished. Project 5 would modernize a building, which would upgrade the electrical, water, and wastewater systems

in those facilities. Projects 4 and 5 would be expected to decrease utility usage at MCAAP over the long term through increased efficiency. Overall, the Preferred Alternative would have a long-term positive impact on utility use at MCAAP.

3.7.2.2 No Action Alternative

Under the No Action Alternative, MCAAP would not implement the real property master planning actions identified in **Table 2.4-2** within the next approximately 5 years, and the decreases in utility usage expected under the Preferred Alternative would not be achieved. Therefore, implementation of the No Action Alternative would lead to minor, long-term negative impacts to the utility systems at MCAAP.

3.8 HAZARDOUS MATERIALS/HAZARDOUS WASTE/ TOXIC SUBSTANCES/CONTAMINATED SITES

Hazardous materials include, but are not limited to, hazardous and toxic substances (biological, chemical, and/or physical) and any other materials that pose a potential hazard to human health and the environment due to their quantity, concentration, or physical and chemical properties. This section also considers petroleum, oil, and lubricant (POL) management and associated spill response planning.

Hazardous wastes are characterized by their ignitability, corrosivity, reactivity, and toxicity. Hazardous materials and wastes, if not controlled, may either (1) cause or significantly contribute to an increase in mortality, serious irreversible illness, or incapacitating reversible illness, or (2) pose a substantial threat to human health or the environment.

Toxic substances are substances that are hazardous to health and/or the environment. Toxic substances include asbestos, lead-based paint (LBP), and polychlorinated biphenyls (PCBs). Health hazards associated with these materials can cause acute or chronic reactions.

The Army addresses contaminated sites via their Installation Restoration Program (IRP). The IRP is a comprehensive program designed to address contamination from past activities and restore Army lands to usable conditions by performing appropriate, cost-effective cleanup of contamination resulting from past practices. This section also addresses the Military Munition Response Program (MMRP).

The primary relevant federal regulations related to this resource area include those promulgated under RCRA and the CERCLA. MCAAP is required to comply with these primary and all other applicable federal and state regulations.

3.8.1 Affected Environment

3.8.1.1 Hazardous Materials

Operations at MCAAP require the use and storage of hazardous materials. Hazardous and toxic materials used at MCAAP are representative of typical hazardous waste and toxic materials used across the U.S. and in municipal, services, commercial, and industrial sectors.

A review of the EPCRA Tier II report for the reporting period January 1 to December 31, 2019 indicates that MCAAP reported 35 regulated chemicals at the installation (MCAAP 2020a). MCAAP submits annual Toxic Release Inventory (TRI) Form Rs to the USEPA. A review of the submittal for reporting year 2019 indicates that seven chemicals were reported (Lead, Dibutyl Phthalate, Copper, Dinitrotoluene [mixed isomers], Lead Compounds, Nitroglycerin, and Zinc [fume or dust]) in accordance with EPCRA TRI reporting thresholds (MCAAP 2020b).

The MCAAP Directorate of Logistics is assigned primary responsibility for managing the hazardous materials program at MCAAP, while the Environmental Management Office (EMO) is responsible for compliance oversight of the program. MCAAP has established a Hazardous Material Control Center (HMCC) to implement the Hazardous Materials Management Program. The HMCC serves as a centralized system for hazardous material procurement, tracking, and management. MCAAP has developed MCAAP Pamphlet 200-3, Hazardous Material Control Venter Inspection and Material Usage, Hazardous Material Authorization, which describes responsibilities, requisition, approval, receipt, issue, and training related to the MCAAP hazardous materials program (MCAAP 2015a).

The National Contingency Plan established under the federal CWA and CERCLA states that all federal agencies must plan for emergencies and develop procedures for dealing with oil discharges and releases of hazardous substances for which they are responsible. Army Regulation 200-1, Environmental Protection and Enhancement, states that it is Army policy to provide prompt, effective response to contain and clean up spills that may occur.

The Oil Pollution Prevention regulations established under the USEPA require certain facilities to prepare and implement a Spill Prevention, Control, and Countermeasure (SPCC) Plan to reduce or eliminate oil discharges to navigable waters of the United States. The MCAAP SPCC Plan (EM-PLAN-42) was prepared in accordance with federal, State, and Army Regulation 200-1 and was most recently amended in October 2019 (MCAAP 2021). The SPCC Plan documents the procedures for prevention, response, control, and reporting of oil spills. The SPCC Plan also serves as a guide for organizations to ensure that staff take appropriate measures to prevent and contain spills and leaks of oil in accordance with Title 40, CFR Part 112.

MCAAP manages POLs and storage tanks throughout the installation in accordance with the SPCC Plan (MCAAP 2019). In support of activities at MCAAP various POLs are stored in above ground storage tanks (ASTs), drums, mobile/portable storage tanks, oil filled operational equipment, and other containers (MCAAP 2019). The locations, contents, and capacities of the

storage tanks are described in detail in the SPCC Plan, and BMP are in place for all storage containers.

3.8.1.2 Hazardous Waste

MCAAP is a large quantity generator of hazardous wastes. MCAAP manages and disposes of all hazardous waste under USEPA Part B hazardous waste permit OK6213822798-2013. This permit includes treatment operations at two separate sites – the treatment of hazardous waste in the Ammunition Peculiar Area 1236 Deactivation Furnace and treatment of hazardous waste by open burning/open detonation (OB/OD). All hazardous wastes accumulated must be stored in one of the six, 90-day storage facilities. The primary 90-day storage facility is centrally located in Building 53SH207 (MCAAP 2020c).

MCAAP developed and implements a Hazardous Waste Management Plan (HWMP) (EM-PLAN-40) that establishes guidelines and instructions for properly storing, labeling, and disposing of hazardous waste throughout the installation. The HWMP also specifically describes proper disposal of universal wastes such as: waste batteries, pesticides, mercury-containing items, and fluorescent lights (MCAAP 2020c).

MCAAP manages waste munitions at the installation and operates an OB/OD areas. The OB/OD areas are managed in accordance with the installation's RCRA Part B Permit renewed by the ODEQ in June 2013 and valid through June 2023. As described in the permit, the OB/OD areas consist of an area for open burning (Open Burning Grounds) and two different areas for open detonation (Demo Range 1 and Demo Range 2). The net explosive weight for the OD area per pit is limited to 500 pounds. Scrap metal is picked up after each detonation and properly disposed of. The net explosive weight per burn is limited to 20,000 pounds per burn event (ODEQ 2013).

MCAAP operates two, 90-day storage areas for explosive contaminated items. These 90-day storage areas are inspected weekly. All waste military munition facilities are inspected quarterly. MCAAP handles and manages all waste munitions in accordance with all applicable SOPs and are transported and discarded by personnel trained in munitions handling as well as hazardous waste handling (MCAAP 2020c).

MCAAP currently generates an industrial wastewater stream from the reclamation and demilitarization of munitions. This industrial wastewater stream includes dissolved explosives such as trinitrotoluene and cyclo trimethylene trinitramine (RDX). The effluent is pre-treated on site after which the effluent is discharged to the aerobic treatment plant and mixed with the rest of the plant's wastewater prior to discharge in accordance with the plant's OPDES permit.

3.8.1.3 Toxic Substances

Asbestos

Although regulations now prohibit the use of asbestos-containing material (ACM) in buildings, ACM may still be present in older building systems. Due to the date when which most of the MCAAP facilities were built, many structures have the possibility of containing ACM and presumed ACM. An asbestos baseline survey of installation buildings constructed prior to 1994 has been conducted. The MCAAP asbestos survey is updated, by the Environmental Asbestos Program Manager, as abatement and any demolitions occur (MCAAP 2015b).

MCAAP has developed and implemented an Asbestos Management Plan (AMP) (EM-PLAN-55). The AMP establishes an Asbestos Management Team and describes how MCAAP complies with federal and state requirements for asbestos management, and where appropriate describes BMPs. The asbestos program at MCAAP is robust, with a group of in-house facility workers, including Industrial Hygienists and a program manager in the EMO responsible for planning, permitting, performing, and managing all levels of asbestos remediation. Asbestos disposal is also performed on site, with MCAAP maintaining a dedicated asbestos cell at the MCAAP landfill (MCAAP 2015b).

Lead-Based Paint

Many of the buildings and structures at MCAAP were constructed before 1978 and are therefore likely to contain LBP. Although the use of LBP is now prohibited, LBP may be present in older building systems. MCAAP manages LBP throughout the installation using staff from the Directorate of Engineering who are trained to recognize potential LBP. MCAAP is currently developing a Lead Management Plan.

PCBs

MCAAP does not have any known PCB transformers or equipment with greater than 500 parts per million PCBs, with the exception of PCB containing light ballasts. All PCB-oil filled units have been removed from service on MCAAP. Large equipment, such as transformers, are checked for PCB-oil when they are serviced. Older PCB containing lighting ballasts are rarely encountered on the installation.

3.8.1.4 Contaminated Sites

The Defense Environmental Restoration program (DERP) was developed by the DoD pursuant of legislation codified at 10 U.S.C. Section 2700 et seq., to identify, investigate, and remediate potential hazardous material disposal sites on DoD property. As part of DERP, the DoD created the IRP. The IRP is designated to address the cleanup of hazardous substances on military installations. The DERP is implemented using the process developed for cleanup under CERCLA legislation, including a series of eight steps that follow the accepted plan of action

beginning with a site investigation and if necessary, mending in the remediation/cleanup of the site.

In February 2020, MCAAP prepared the Army DERP Installation Action Plan (IAP) which serves as the overall management plan for the installation's IRP sites. The IAP provides a comprehensive, multi-year outline of cleanup activities, schedules, costs, Administrative Record documentation and program information for the IRP sites. The MCAAP IAP lists ten active IRP sites on the installation and seven MMRP sites (MCAAP 2020d). The IAP includes Land Use Controls (LUCs) to afford continuous or interim protection at a site as DERP steps are implemented (MCAAP 2020d).

3.8.2 Environmental Consequences

The nature and magnitude of potential impacts associated with hazardous materials, hazardous wastes, and toxic substances depends on toxicity, storage, use, transportation, and disposal of these substances. Potential impacts associated with contaminated sites could include disruption of existing characterization, containment, or cleanup activities (i.e., LUCs) resulting in the potential for increased risk of contamination exposure, transport, and danger to workers and the environment.

The threshold for significant impacts to hazardous materials, hazardous wastes, toxic substances, and contaminated sites is met if the storage, use, handling, or disposal of these substances or disruption of contaminated areas would substantially increase the risk or environmental contamination, or would violate applicable federal, state, and local regulations.

The following analysis evaluates the potential for the alternatives to introduce hazardous materials to the environment, generate hazardous wastes, and/or encounter toxic substances and/or contaminated media.

3.8.2.1 Preferred Alternative

As shown in **Table 2.4-2** implementation of the Preferred Alternative would result in several construction and renovation activities, to be preceded by site preparation and/or demolition activities. Over the long-term, the proposed new and upgraded facilities would be modernized and result in improvements and efficiencies in waste/toxic substance management and reduce the risk of inadvertent releases associated with deteriorating facilities.

Hazardous Materials

Implementation and construction of the identified projects is likely to require the use of hazardous materials (e.g. fuels, lubricants, solvents, etc.), which would require proper storage, handling, use, and disposal. After construction, all new facilities would follow existing hazardous materials management procedures as identified in the MCAAP SPCC Plan (MCAAP 2021). The continued compliance with existing fuel storage management and safety procedures would continue to decrease the potential for an inadvertent product release to the environment.

Any hazardous materials encountered during demolition activities would be handled in accordance with all applicable regulations. Thus, the potential effects from hazardous materials are expected to be negligible from the implementation of the Preferred Alternative.

Hazardous Wastes

Any additional hazardous wastes generated from the implementation of the Preferred Alternative would be managed in accordance with the MCAAP HWMP (MCAAP 2020c), current installation management procedures, and under the existing distinct USEPA hazardous waste generator number following any necessary updates/notifications. If there is an increase in the amount of hazardous wastes generated, MCAAP would increase existing management and disposal procedures to accommodate the increase and obtain all required permits.

All proposed demolition and construction activities and associated solid waste management would be conducted in accordance with MCAAP's Integrated Solid Waste Management Plan (ISWMP) (MCAAP 2018). Additionally, the construction contractor would be required to implement a Hazardous Materials and Wastes Management Plan (or similar plan) to ensure appropriate procedures are in place to address handling, storage, and disposal of hazardous materials and wastes during construction. Minimization of solid waste disposal would be achieved through construction and demolition waste from landfills as possible using demolition deconstruction techniques to reduce, reuse, or recycle various types of waste.

MCAAP would continue to manage solid wastes in accordance with the ISWMP (MCAAP 2016) and continue to adhere to all regulatory reporting requirements. Thus, the potential effects from hazardous and solid wastes are expected to be negligible from the implementation of the Preferred Alternative.

Included as part of the Preferred Alternative is Project #4 – Develop C-Line. This project would construct three demilitarization process facilities and waste stream collection pits. While the estimated wastewater discharge volumes are not available at this time, MCAAP would continue to manage, transport, and dispose of the waste stream in accordance with all regulatory requirements. The new facilities would facilitate the continued efficient and safe demilitarization process in accordance with regulatory requirements.

Toxic Substances

Prior to any demolition, additional surveys/testing (as warranted given previous investigations) of all structures would be completed to confirm whether toxic substances (i.e., asbestos, LBP, PCB items) are present. If such materials are present, work would be completed in accordance with applicable Occupational Safety and Health Administration (OSHA), Oklahoma Department of Labor, and USEPA regulations.

Due to the date at which most of the MCAAP facilities were built, many of the work areas have possibility of containing ACM. Before demolition of buildings, prior inventory/surveys would be

reviewed to indicate the potential presence of ACM. If the effected buildings were not previously surveyed, ACM surveys would be conducted. The management of any disturbed ACM would be conducted in accordance with the MCAAP AMP (MCAAP 2015b) and applicable regulations.

If a building is not known or presumed to contain LBP, testing would be completed before demolition to determine whether LBP is present. Any LBP materials would be managed and disposed of in accordance with all applicable regulations.

All known transformers containing PCBs have been removed. However, if potentially PCB containing materials are encountered during demolition activities, they would be tested, handled, and disposed of in accordance with installation procedures and applicable regulations.

Implementation of the Preferred Alternative would not use ACM, LBP, or PCBs. Any potentially toxic substances used in the building construction or building operation would be handled in accordance with all applicable regulations. The Preferred Alternative would be implemented in accordance with MCAAP, OSHA, and other regulatory exposure requirements during demolition to reduce the likelihood of adverse impacts to worker health and safety in association with ACM, LBP, and toxic substances. Thus, the potential effects from toxic substances are expected to be negligible from the implementation of the Preferred Alternative.

Contaminated Sites

Although there are IRP/MMRP sites located within the area of the Preferred Alternative, MCAAP would implement measures to avoid impacts to these sites to the maximum extent practicable. The IRP sites would continue to be managed in accordance with the IRP and regulatory requirements, and projects would be reviewed for potential impacts to IRP-managed sites as design specifications are developed. Existing remediation and LUCs would continue to occur, minimizing the potential for impacts to or from contaminated sites.

While not expected, contamination may be present in soils removed to expose any building foundations proposed for demolition or new construction. If excavation indicates the potential presence of contaminated soil, additional excavation, sampling, and laboratory analysis would be completed until all contaminated soil has been removed. Thus, the potential effects from contaminated sites are expected to be negligible from the implementation of the Preferred Alternative.

3.8.2.2 No Action Alternative

Under the No Action Alternative, MCCAP would not implement the real property master planning actions identified in **Table 2.4-2** within the next approximately 5 years. Operations at MCAAP would continue, though without the implementation of the proposed major construction, renovation, and modernization projects, facilities would continue to deteriorate. The continued deterioration of facilities would present a potential for releasing hazardous or toxic materials into the environment; however, this potential would be minimized through the continued

implementation of monitoring, plans, controls, and actions. MCAAP would continue to follow regulations and plans that pertain to hazardous materials, hazardous wastes, toxic substances, and contaminated sites. Thus, no adverse impacts from hazardous materials, hazardous wastes, toxic substances, and contaminated sites would be expected from implementation of the No Action Alternative.

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4.0 CUMULATIVE IMPACTS

4.1 PROJECT CONSIDERED FOR POTENTIAL CUMULATIVE EFFECTS

The approach taken in the analysis of cumulative impacts in this document follows the objectives of NEPA, CEQ regulations, and CEQ guidance. Cumulative impacts are defined in 40 CFR Section 1508.7 as follows:

> The impact on the environment that results from the incremental impact of the action when added to the other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

To determine the scope of environmental impact statements, agencies shall consider …[c]umulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement (40 CFR Section 1508.25).

In addition, CEQ and the USEPA have published guidance addressing implementation of cumulative impact analyses—Guidance on the Consideration of Past Actions in Cumulative Effects Analysis (CEQ 2005) and Consideration of Cumulative Impacts in USEPA Review of NEPA Documents (USEPA 1999). CEQ guidance entitled Considering Cumulative Impacts Under NEPA (1997) states that cumulative impact analyses should "...determine the magnitude and significance of the environmental consequences of the proposed action in the context of the cumulative impacts of other past, present, and future actions...identify significant cumulative impacts…[and]...focus on truly meaningful impacts."

Cumulative impacts are most likely to arise when a relationship or synergism exists between a proposed action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with or in proximity to the proposed action would be expected to have more potential for a relationship than those more geographically separated. Similarly, relatively concurrent actions would tend to offer a higher potential for cumulative impacts. To identify cumulative impacts, the analysis needs to address the following three fundamental questions.

1. Does a relationship exist such that impacts to affected resource areas by the proposed action might interact with the impacts to resources of past, present, or reasonably foreseeable actions?
2. If so, what would the combined impact be?
3. Are there any potentially significant impacts not identified when the proposed action is considered alone?

Where feasible, the cumulative impacts were assessed using quantifiable data; however, for many of the resources included for analysis, quantifiable data is not available, and a qualitative analysis was undertaken.

4.2 POTENTIAL CUMULATIVE EFFECTS ON RESOURCE AREAS

4.2.1 Resources of Concern

This cumulative impact analysis focuses on those resource areas where the incremental impact of the proposed action could have the potential for significant direct or indirect cumulative effects. Based on the analysis presented in Chapter 3.0, the following resource areas were carried forward for further analysis of potential cumulative effects: air quality, water resources, biological resources, cultural resources, and hazardous materials/hazardous waste/toxic substances/contaminated sites.

For the purposes of this EA, the following resource areas were not carried forward for cumulative effects analysis: geology, soils, cultural resources, transportation and traffic, and utilities and service systems. Since the direct and/or indirect impacts to these resource areas are localized and temporary, and the respective resources are anticipated to recover within a short period of time, another action would need to occur in the same localized area at the same time for cumulative impacts to be possible. While a few of the other actions potentially affecting these resource areas may occur in the same localized area, the potential for cumulative significant impacts due to the incremental impact of the proposed action would not exist as the proposed action was found to result in no, negligible, or minor direct/indirect adverse impacts to these resource areas.

4.2.2 Other Actions Affecting the Resources of Concern

Other past, present, and reasonably foreseeable actions that could influence the resource areas carried forward for further analysis (air quality, water resources, cultural resources, transportation and traffic, utilities and service systems, and hazardous materials/hazardous waste/toxic substances/contaminated sites) are addressed here. This includes consideration of the other past and present actions and their locations, the extent of their direct and indirect effects, any likely future actions, and their relative contribution to cumulative impacts on the specific resource.

4.2.2.1 Past, Present, and Reasonably Foreseeable Actions

In accordance with CEQ's guidance, past actions are relevant and useful in analyzing whether or not the reasonably foreseeable effects of the proposed action may have a continuing, additive, and significant relationship to those effects. CEQ guidance emphasizes a focus on the current aggregate effects of past actions without delving into the historical details of individual past actions unless such information is necessary to describe the cumulative impact of all past actions combined.

A description of relevant recent past, ongoing, and reasonably foreseeable future actions, along with the status of the NEPA analysis (if applicable) is provided below

ADP Mid- and Long-Range Projects for the Industrial Core District. While this EA analyzes prioritized, short-range projects within the Explosive District from the MCAAP Explosive and Non-Explosive Districts ADP, the ADP also identified mid- and long-range projects to be implemented beyond the approximate 5-year timeline of this EA. As with the projects associated with the proposed action, the mid- and long-range projects will provide safe, flexible, and efficient facilities to meet current and future installation mission requirements effectively and cost efficiently. The ADP is intended to guide incremental development, executed in accordance with the long-range vision, goals, and objectives, and performed upon a continuum of improvement in hopes that the built environment at MCAAP becomes a strength (AMC 2020a, 2020b).

Mid-Range (6-15 years) projects of note include construction of a new centralized operations center, new lumbers storage facility, new Trammel Gate development, repair of vehicle bridges at five buildings, and construction of a new vehicle maintenance facility. Long-Range (16-20 years) projects of note include construction of a general purpose storage, light industrial DoD tenant expansion, new visitor control center and main gate improvement, new security headquarters, emergency operations center, and key shop, relocation of rail maintenance facilities, network enterprise center administration consolidation, and consolidation of Morale, Welfare, and Recreation and semi-public functions (e.g. fitness center, equipment storage, credit union, recycling yard), upgrading of perimeter fence, and installation of storm shelters (AMC 2020a, 2020b). The timing and likelihood of implementation of these projects is subject to funding and prioritization. Since this results in uncertainty regarding what mid- and long-range projects are reasonably foreseeable, the potential cumulative impacts of these projects are evaluated generally herein.

Additional relevant recent past, ongoing, and reasonably foreseeable future actions that are either not described within the ADP, or are currently being implemented, are summarized in **Table 4.2-1**.

Table 4.2-1. Past, Present, and Reasonably Foreseeable Actions at MCAAP

Project Name/Description	Year of Implementation
Construction of new Haywood Gate and Demolition of one building	2020
Expansion of an existing building	2020
Demolition of 21 facilities	2019 and 2020
Installation of 2 new drone towers	2020

***Legend*:** B=Building; MCAAP=McAlester Army Ammunition Plant.

4.2.3 Determination of the Magnitude and Significance of Cumulative Impacts on the Selected Resource

4.2.3.1 Air Quality

Emissions associated with the projects described in **Table 4.2-1** cannot be evaluated quantitatively, as too little information is available regarding project details for that level of analysis. All of the project would likely be completed prior to the construction included in the proposed action. Because of the attainment classification of the area and apparent scopes of the projects, it is unlikely that significant impacts to air quality, such as violation of a NAAQS, would result. It is more likely that the overall level of criteria pollutant emissions would increase somewhat during construction periods, but at a level that would generate few, temporary impacts.

GHG emissions would modestly increase due to implementing the proposed construction projects, as identified in **Section 4.1**. All of the projects listed in **Table 4.2-1** would generate GHGs, but these would be temporary for projects that are construction related. While quantification of GHG emissions for all of these projects is not possible, it can generally be assumed that, at a minimum, an overall temporary increase in GHG emissions, compared to the baseline, would occur as a result of the proposed construction projects.

4.2.3.2 Water Resources

Impacts to water resources, including wetlands, are typically localized. Therefore, the study area considered in the cumulative analysis for this resource area is limited to projects that may occur at or in very close proximity to the proposed action area. Several of the projects planned by the Army (as listed in **Table 4.2-1**) are relevant in that they could impact surface waters within a similar timeframe as the proposed action.

Surface Water

Individual projects under the Preferred Alternative and any cumulative construction projects that exceed 1 acre would require coverage under the OPDES Construction General Permit (OKR10). In compliance with coverage under this permit, project specific SWPPPs would be prepared and implemented, including post-construction stormwater management practices, to manage and treat the stormwater discharge to protect water quality during and after construction. All development on MCAAP would also comply with LID, EISA Section 438, and the OPDES MSGP (OKR05). Therefore, cumulative effects to surface water would be less than significant when considering the Preferred Alternative and other cumulative projects.

Groundwater

Construction impacts to groundwater under the Preferred Alternative would not extend below ground surface to a depth that would affect the underlying groundwater basins. Compliance with measures to protect water quality in surface waters under the Preferred Action and other

cumulative construction projects would minimize impacts to water quality in the underlying groundwater basins.

Floodplains

The proposed projects under the Preferred Alternative would not occur within any 100-year floodplain nor would it impact floodplain capacity (FEMA 2010). Therefore, there would be no cumulative impacts to floodplains.

Jurisdictional Wetlands and Other Waters of the U.S.

The Preferred Alternative would result in permanent and temporary impacts to a potentially jurisdictional wetland and streams. Compensatory mitigation and federal permitting and state water quality certification in accordance with Sections 401 and 404 of the CWA would be necessary for any cumulative project affecting wetlands and other waters of the U.S. Under either the Preferred Alternative or other cumulative projects, avoidance or compensatory mitigation would minimize cumulative impacts to wetlands and other waters of the U.S.

In conclusion, individually, the projects would result in permanent and temporary and localized impacts to water resources and it is expected the environment would recover following conclusion of each project. Moreover, permit requirements would minimize individual project impacts to the fullest extent possible. As a result, no significant adverse cumulative impacts to water resources are anticipated.

4.2.3.3 Biological Resources

Cumulative impacts to biological resources are not likely to occur with the implementation of the proposed action. All actions undertaken by MCAAP are required to adhere to the ESA and MBTA. Section 7 ESA consultation has been, is being, or will be performed where required for each project, and cumulative impacts to federally listed species are addressed as part of that process and documented in appropriate consultations with the USFWS. Where appropriate, mitigation measures are implemented to minimize the likelihood of cumulative habitat loss for federally listed species, take of individuals, and impacts to birds protected under the MBTA. The impacts of the proposed action and those of other demolition and construction projects would be avoided, minimized, and/or compensated to the point that significant cumulative impacts to biological resources would not occur. Therefore, when added to the impacts from other potentially cumulative actions, implementation of the proposed action would result in no significant cumulative impacts to biological resources.

4.2.3.4 Hazardous Materials/Hazardous Waste/Toxic Substances/Contaminated Sites

Implementation of the Preferred Alternative would not result in a significant impact from hazardous materials, hazardous wastes, toxic substances, or contaminated sites. When combined with other projects identified in the cumulative effects region, there is a potential increase of an inadvertent release of hazardous materials or wastes; however, each project

would be required to comply with the applicable regulations to minimize this potential. 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 in accordance with federal and Oklahoma law.

With regard to the potential to displace toxic substances such as ACM, LBP, and PCBs, all MCAAP ADP projects that include a demolition element may contribute to the volume of toxic substances removed, transported, and disposed of, especially when disposed of in accordance with applicable regulations. The management, transport, and remediation of hazardous wastes, toxic substances, and contaminated sites at MCAAP would continue to occur in compliance with all applicable federal, state, and local regulations. In conclusion, significant adverse cumulative impacts from hazardous materials, hazardous wastes, toxic substances, and contaminated sites are not anticipated.

5.0 MITIGATION AND CONCLUSION

5.1 INTRODUCTION AND DEFINITION OF MITIGATION MEASURES

Mitigation is a specific NEPA term that refers to additional action taken to avoid, minimize, rectify, reduce/eliminate, or provide compensation for an adverse impact resulting from implementation of an action alternative. Per 40 CFR Part 1508.20, mitigation includes the following:

- avoiding the impact altogether by not taking a certain action or parts of an action;
- minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- compensating for the impact by replacing or providing substitute resources or environments.

5.2 BEST MANAGEMENT PRACTICES AND STANDARD OPERATING PROCEDURES

The Army implements management actions generally informed such as BMPs and SOPs on an ongoing basis to provide environmental protection. BMPs and SOPs are distinguished from mitigation measures in this EA because they are existing requirements and/or ongoing, regularly occurring practices that are not specific to, but apply to, the proposed action. **Table 5.2-1** provides a summary of the relevant BMPs and SOPs to the proposed action analyzed in this EA. The table indicates the BMP and/or SOP that would be applied, what phase of the project the BMP and/or SOP would be applied, and the primary resource areas that would benefit from the BMP and/or SOP. Implementation, monitoring of effectiveness, and revisions and updates of BMPs and SOPs are part of the Army's overall environmental management system cycle of continual improvement.

Table 5.2-1. Summary of Relevant Practices and/or Standard Operating Procedures

Item	BMP/SOP	Description	Activity			Resource Area							Potential for Significant Impact if Not Implemented
			Design	Construction	Operation	Air Quality	Geology/Soils	Water	Biological	Cultural	Transportation/ Utilities	HazMat/Waste	
1.	Dust Control	• Require construction contractors to minimize disturbed areas as much as possible through construction sequencing; using wet suppression to control dust from motorized equipment and vehicle traffic; utilizing water trucks, power washers, sweepers, and/or vacuums on paved roads to control dust; and placing rock construction entrances on access roads that begin at a junction with paved roads to reduce track out of loose materials. • Conduct daily inspections of dust control measures when environmental conditions are dry.		X		X							Possible – in addition to compliance issues, dust is also a health and safety issue.
2.	Air Quality Permitting	• Pursue the appropriate permitting once project details are available, and in accordance with the ODEQ Division of Air Quality processes.			X	X							Possible – The emission impacts are expected to be negligible to air quality in the region and are exempt from General Conformity. However, failure to meet permitting requirements would result in a regulatory violation.

Table 5.2-1. Summary of Relevant Practices and/or Standard Operating Procedures

Item	BMP/SOP	Description	Activity			Resource Area							Potential for Significant Impact if Not Implemented
			Design	Construction	Operation	Air Quality	Geology/Soils	Water	Biological	Cultural	Transportation/ Utilities	HazMat/Waste	
3.	NPDES Construction Permit(s)	• For projects where the collective area impacted by the proposed construction activity would exceed 1 acre in size, obtain a NPDES Construction Permit. This includes development of a site-specific Erosion and Sediment Control Plan to emphasize pollution prevention through the use of BMPs to minimize potential impacts associated with stormwater runoff during construction. These measures include straw bales, sandbags, silt fencing, earthen berms, use of tarps or water spraying, soil stabilization, temporary sedimentation basins, and revegetation with native plant species, where possible. • Prepare and implement Post-Construction Stormwater Management Plan in compliance with the General NPDES Construction Permit. The Plan would identify the BMPs that will be installed to manage and treat the stormwater discharge to protect water quality after construction activities are terminated.		X	X		X	X	X			X	Possible – regulatory violation for failure to meet permitting requirements
4.	NPDES Industrial Permit	• Require designs to comply with NPDES permit conditions. • Amend installation SWPPP as necessary to reflect post-construction operations and potentially new BMPs.	X		X		X	X	X			X	Possible – regulatory violation for failure to meet permitting requirements.
5.	INRMP Implementation	• Implement the proposed action in accordance with applicable INRMP BMPs and SOPs (e.g., habitat management, landscaping with native plants, avoidance of nesting migratory birds).	X	X	X		X	X	X				Possible – adherence to these BMPs and SOPs ensures regulatory compliance.

Table 5.2-1. Summary of Relevant Practices and/or Standard Operating Procedures

Item	BMP/SOP	Description	Activity			Resource Area							Potential for Significant Impact if Not Implemented
			Design	Construction	Operation	Air Quality	Geology/Soils	Water	Biological	Cultural	Transportation/ Utilities	HazMat/Waste	
6.	ICRMP Implementation	• Implement the proposed action in accordance with applicable ICRMP BMPs and SOPs (e.g., Unanticipated Discovery of Archaeological Deposits).		X	X					X			Possible – adherence to these BMPs and SOPs ensures regulatory compliance.
7,	Hazardous Materials and Waste Management	• Follow existing hazardous materials management procedures as identified in the MCAAP Hazardous Material Management System and the MCAAP Environmental Management System Procedure EEJ-010, Hazardous Material Management. • Follow MCAAP Integrated Solid Waste Management Plan requirements to include waste minimization and recycling. • Require construction contractor to implement a Hazardous Materials and Wastes Management Plan to ensure appropriate procedures are in place to address handling, storage, and disposal of hazardous materials and wastes (e.g., construction and demolition debris recycling, waste diversion). • If there is an increase in the amount of hazardous wastes generated, MCAAP would increase existing management and disposal procedures to accommodate the increase and obtain all required permits. • Prior to any demolition and as warranted given previous investigations, conduct testing for presence of hazardous/toxic materials. If such materials are present, require work to be completed in accordance with applicable OSHA and USEPA regulations.	X	X	X							X	Possible –environmental and/or health and safety regulatory violations.

Table 5.2-1. Summary of Relevant Practices and/or Standard Operating Procedures

Item	BMP/SOP	Description	Activity			Resource Area							Potential for Significant Impact if Not Implemented
			Design	Construction	Operation	Air Quality	Geology/Soils	Water	Biological	Cultural	Transportation/ Utilities	HazMat/Waste	
8.	Construction Traffic	• Route and schedule construction vehicles to minimize on- and off-installation traffic congestion. • Locate temporary equipment laydown or construction staging areas in previously disturbed (paved, gravel, etc.) areas with least impacts to traffic flow. • Require construction contractors to provide appropriate notification and signage on construction related traffic impacts (e.g., detours, construction activity).		X			X	X	X		X		Unlikely
9.	Environmental Design	• New projects will be designed in accordance with applicable Leadership in Energy and Environmental Design, LID, and EISA guidance for reduction in sustainability, water use, impervious surface, and water and energy conservation.	X	X	X		X	X	X				Unlikely

Note: X indicates that the BMP/SOP applies to that activity or resource area.
Legend: BMP = Best Management Practice; EISA = Energy Independence and Security Act; ICRMP = Integrated Cultural Resources Management Plan; INRMP = Integrated Natural Resources Management Plan; LID = Low Impact Development; MCAAP = McAlester Army Ammunition Plant; NPDES = National Pollutant Discharge Elimination System; OSHA = Occupational Safety and Health Administration; SOP = Standard Operating Procedure; SWPPP = Stormwater Pollution Prevention Plan; USEPA = United States Environmental Protection Agency.

5.3 MITIGATION MEASURES INCLUDED IN THIS EA

Some of the measures identified in **Table 5.2-1** include project specific actions but are regularly occurring practices for implementation of construction and demolition projects at MCAAP. No mitigation measures specific to the proposed action would be necessary to reduce adverse impacts to below significant levels (e.g., reasonable and prudent measures from an agency consultation effort).

5.4 CONCLUSION

As discussed in Chapters 3.0 and 4.0, environmental consequences for the proposed action would result in both short- and long-term environmental effects. However, implementation of the proposed action is not expected to result in the types of impacts that would significantly reduce environmental productivity, affect biodiversity, or permanently narrow the range of potential long-term beneficial uses of the environment. Implementing the Preferred Alternative would not be expected to result in significant adverse effects on any environmental or socioeconomic resources. As such, a FNSI will be issued, and an EIS will not need to be prepared prior to implementation of the Preferred Alternative. A summary of the potential impacts associated with the Preferred Alternative and the No Action Alternative is presented in **Table 5.2-2.**

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7.0 AGENCY COORDINATION AND CONSULTATION

This Preliminary Draft EA was distributed to the following agencies

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This EA was prepared for the Army by Cardno under contract with the Mobile District Corps of Engineers. A list of primary Army organizations and individuals who contributed to the preparation and review of this document follows. Key contractor contributors are listed in **Table 8.0-1**.

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APPENDIX A
EXAMPLE REC TEMPLATE

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Record of Environmental Consideration (REC)

To (Environmental Officer): _____

From (Proponent): _____

Project Title:_____

Brief project description:

Anticipated date of proposed action (mm/yyyy):_____

(date must be after the date REC is signed)

Anticipated Action Duration (months): _____

Reason for using a REC (choose one):

☐ a. Adequately covered under the *Environmental Assessment for Implementation of Master Planning Actions within the Explosive District at McAlester Army Ammunition Plant, Oklahoma*.

☐ b. Categorically excluded under the provisions of CX (___)(__), 32 CFR Part 651, Appendix B (and no extraordinary circumstances, as defined in 32 CFR 651.29(b) (1)-(14), exist) because:

_____ _____

Date Project Proponent

_____

Date

_____

Installation Environmental NEPA Coordinator

ENVIRONMENTAL CHECKLIST FOR AMC REAL PROPERTY MASTER PLANNING ACTIONS

Complete this checklist for activities proposed for Army Materiel Command (AMC) real property master planning actions. Its purpose is to determine whether individual facility construction, repair and sustainment, restoration and modernization, and/or demolition projects are covered under the EA for Master Planning Actions within the Explosive District at MCAAP. The answers provided in part B of this checklist indicate either compliance with an EA for AMC's real property master planning program or needs additional documentation. If the applicable sections of the checklist have been completed and indicate that the Proposed Action qualifies for coverage under an EA, a Record of Environmental Consideration can be prepared for the action and the action can proceed. If the checklist indicates the need for additional analysis, or if the Proposed Action is not otherwise covered under an EA, then the need for further National Environmental Policy Act (NEPA) analysis will need to be assessed.

The resource areas reviewed and discussed in the EA must be assessed individually for each real property master planning action. The checklist includes resource areas included in the EA: air quality, geology and soils, water resources, biological resources, cultural resources, transportation and traffic, and utilities and service systems, hazardous materials and hazardous waste, toxic substances, and contaminated sites, and safety. Resource areas eliminated from further consideration in the EA—noise, land use and recreation, coastal zone consistency, aesthetics and visual resources, and socioeconomics and environmental justice—are included in the checklist to capture the effects of any real property master planning actions to which the resource areas are relevant.

PART A BACKGROUND INFORMATION

1. Project name:
2. Project description:
3. Project location: _____
4. Project manager: _____
5. Phone number: _____
6. Email address: _____
7. Project contact (if different from project manager): _____
8. Proposed project start date: _____
9. Proposed project duration: _____
10. Date this checklist was completed: _____

Comments:

PART B ENVIRONMENTAL RESOURCE ANALYSIS

Upon completion of the proposed action information and any associated follow-on activities (e.g., site revegetation), which of the following statements would be true and which would be false?

B.1. Review of Resource Areas Eliminated from Further Consideration

B.1.1. Noise

a. The project will not have activities within 800 feet of the installation boundary for more than one year. TRUE FALSE

If FALSE, please explain. _____

Determine the distance from the project site to the nearest noise-sensitive receptor (e.g., church, school). If the distance is more than 800 feet, the project can proceed. If it is less than 800 feet, consider dividing the project into phases with quiet periods between the phases or using BMPs to minimize off-post noise.

b. The project will not generate short- or long-term noise or vibration beyond typical construction and operation levels. TRUE FALSE

If FALSE, please explain. _____

Ensure that the population potentially affected by the noise is informed of when noise-generating activities will occur, what level of noise and vibration they might experience, and how to contact the installation with noise complaints.

B.1.2. Land Use and Recreation

a. The action will not create a land use incompatibility. TRUE FALSE

If FALSE, please explain.

b. The action will comply with the installation's land use plan (if applicable). TRUE FALSE

If FALSE, please explain.

B.1.3. Aesthetics and Visual Resources

a. The action will not adversely affect a valued scenic view or sensitive aesthetic or visual resource. TRUE FALSE

If FALSE, please explain.

b. The action will comply with the installation's design guide (if applicable). TRUE FALSE

If FALSE, please explain.

B.1.4. Socioeconomics, Environmental Justice, and Protection of Children

a. The action will not cause a long-term loss or displacement of recreational opportunities and resources. TRUE FALSE

If FALSE, please explain.

b. The action will not exceed the Rational Threshold Value (RTV) (obtained using the Army's Economic Impact Forecast System [EIFS] model) or historical precedent for past economic fluctuation for employment and regional income (as estimated by an acceptable economic model such as Implementation Plan [IMPLAN] or Regional Economic Model, Inc. [REMI]). TRUE FALSE

If FALSE, please explain.

c. The action will not have a disproportionate adverse economic, social, or health impact on a minority or low-income population. TRUE FALSE

If FALSE, please explain.

d. The action will not create a disproportionate environmental health or safety risk to children. TRUE FALSE

If FALSE, please explain.

B.2. Review of Other Resource Areas

B.2.1. Air Quality

a. The action will not violate the installation's air operating permit. TRUE FALSE

If FALSE, please explain. _____

If the use of best management practices (BMPs) cannot bring the emissions within regulatory limits, contact the state air quality agency for further assistance.

b. No new or modified stationary sources of air pollutants would be established at MCAAP as part of the Proposed Action. TRUE FALSE

If FALSE, please explain._____

Consider emissions from added paint booths, chillers, boilers, generators, pumps, and/or energetics for building demolitions as such would be subject to permit review with the TCEQ.

B.2.2. Soils and Water Resources

a. The action will be permitted under a construction general stormwater permit and an approved erosion and sediment control plan (for actions that will result in total ground disturbance of 1 acre or more).
TRUE FALSE

If FALSE, please explain. _____
Ground-disturbing activities that disturb less than 1 acre total do not need coverage under a construction general stormwater permit. Actions that disturb 1 acre or more must be permitted; contact the state agency to obtain a permit.

b. The action will not violate a National Pollutant Discharge Elimination System (NPDES) stormwater permit.
TRUE FALSE

If FALSE, please explain. _____
Contact the state water quality agency to determine how surface waters and stormwater runoff can be controlled sufficiently to ensure that no NPDES permits are violated.

c. The action will not occur within a floodplain. TRUE FALSE

If FALSE, please explain. _____
Executive Order (EO) 11988, *Floodplain Management*, requires federal agencies to avoid to the extent possible adverse impacts on floodplains and to avoid direct and indirect support of floodplain development when a practicable alternative exists. Because the proposed project involves removing a structure from a floodplain, compliance with the EO is not an issue. To ensure safety during the project, schedule it outside a time when flooding might occur and ensure that the ground is stabilized before flooding occurs.

d. The action will not cause an exceedance of a Total Maximum Daily Load (TMDL). TRUE FALSE

If FALSE, please explain. _____
Contact the state water quality agency to determine how to protect the affected surface water sufficiently to ensure that the TMDL is not exceeded.

e. The action will not cause a change in the impairment status of a surface water. TRUE FALSE

If FALSE, please explain._____
Contact the state water quality agency to determine how to protect the affected surface water sufficiently during project activities to minimize any impairment.

f. The action will not require a Clean Water Act (CWA) section 401 water quality certification.
TRUE FALSE

If FALSE, please explain._____
Obtain a CWA section 401 water quality certification if required by the state agency.

B.2.3. Biological Resources and Wetlands

a. The action will not adversely affect a federal or state protected plant or animal species. TRUE FALSE

If FALSE, please explain._____

b. The action will comply with installation-specific tree replacement and other natural resources protection policies.
TRUE FALSE

If FALSE, please explain._____
Contact the installation natural resources manager for guidance on complying with natural resources protection policies.

c. The action will not cause the unpermitted loss or destruction of more than 1 acre of jurisdictional wetlands.
TRUE FALSE

If FALSE, please explain._____
If wetlands are suspected to be impacted, complete a wetland delineation of the project site. Obtain a CWA section 404 permit from the U.S. Army Corps of Engineers. If permitted, you might have to mitigate any wetland loss to ensure compliance with the Permit.

B.2.4. Cultural Resources

a. The action will not result in the demolition or adverse modification of a building or structure that is included in the Program Comments for Cold War Era Unaccompanied Personnel Housing, World War II and Cold War Era (1939–1974) Ammunition Storage Facilities; or for World War II and Cold War Era (1939–1974) Army Ammunition Production Facilities and Plants. TRUE FALSE

If FALSE, please explain._____
If building demolitions vary from that evaluated in the EA, consult the installation Integrated Cultural Resources Management Plan's (ICRMP's) building inventory to determine the National Register of Historic Places (NRHP) status of the building(s) to be demolished.

b. The action will not result in the demolition or adverse modification of buildings or structures that are eligible for or listed on the NRHP not covered by a program comment or by the World War II Temporary Buildings Programmatic Agreement.

TRUE FALSE

If FALSE, please explain._____ If building demolitions vary from that evaluated in the EA, consult the installation ICRMP's building inventory to determine the NRHP status of the building(s) to be demolished.

c. The action will not adversely affect a historic resource and/or historic district that is eligible for or listed on the NRHP.

TRUE FALSE

If FALSE, please explain._____

B.2.5. Transportation and Traffic

a. The project will not create any long-term road closures or traffic delays. TRUE FALSE

If FALSE, please explain._____

Reroute construction traffic to minimize impacts on the surrounding road network. Notify installation personnel about closures and re-routings.

B.2.6. Utilities and Service Systems

a. The action will not cause an exceedance of the existing capacity of an element of infrastructure.

TRUE FALSE

If FALSE, please explain._____

b. The action will not violate a regulatory limit of any infrastructure system. TRUE FALSE

If FALSE, please explain._____

B.2.7. Hazardous Materials and Hazardous Waste, Toxic Substances, and Contaminated Sites

a. The action will not disturb known or create new contaminated sites that would be subject to regulatory control—including soil contamination, underground storage tanks, spills, and burial pits within the area that would be disturbed during the proposed action. TRUE FALSE

If FALSE, please explain._____

If site differs from that evaluated in the EA, coordinate with the installation Environmental Office to ensure that site assessments (record searches, soil gas surveys, monitoring well documentation, or other sample results) that could indicate the presence of contamination within the footprint of the proposed action have been thoroughly reviewed.

b. The building and ancillary structures to be renovated or demolished are absent of hazardous substances and wastes (i.e., asbestos-containing materials, lead-based paint, polychlorinated biphenyls, explosive residues, radioactive material, and other regulated materials) or the project has been permitted by the state to proceed with one or more known hazardous substances in place. TRUE FALSE

If FALSE, please explain._____

Coordinate with the installation Environmental Office to determine whether abatement or remediation is necessary.

c. The action will not cause a violation of a law or regulation governing hazardous substances or wastes or an installation hazardous waste permit. TRUE FALSE

If FALSE, please explain._____

Coordinate with the installation Environmental Office and regulatory agencies as necessary.

d. The activities being addressed are not the subject of an ongoing environmental investigation, remediation, demolition, or restoration in accordance with the Comprehensive Environmental Response, Compensation and Liability Act and Resource Conservation and Recovery Act.

TRUE FALSE

If FALSE, please explain._____

e. All potential impacts attributable to hazardous materials and hazardous wastes are adequately addressed in the EA. TRUE FALSE

If FALSE, please explain._____

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APPENDIX B
AGENCY CORRESPONDENCE

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DEPARTMENT OF THE ARMY
MCALESTER ARMY AMMUNITION PLANT
1 C TREE ROAD
MCALESTER OK 74501-9002

REPLY TO ATTENTION OF

October 06, 2020

Environmental Management Office
1 C-Tree Road, Bldg. 22
McAlester, OK 74501

Caddo Nation of Oklahoma
Tamara Francis, Tribal Historic Preservation Officer
Cultural Preservation Office
P.O. Box 487
Binger, OK 73009

SUBJECT: Environmental Assessment for Implementation of Master Planning Actions within the Explosive District, McAlester Army Ammunition Plant, Oklahoma

Dear Ms. Francis,

The Department of the Army (Army) is preparing a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FNSI) for implementation of real property master planning actions at McAlester Army Ammunition Plant (MCAAP), Oklahoma planned to begin within the next approximately 5 years, which are principally from the Area Development Plan (ADP) for the Explosive and Non-Explosive Districts. This EA will evaluate potential impacts to the human and natural environment as a result of the implementation of these master planning actions at MCAAP. The EA will be prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code Section 4321 et seq.), the Council on Environmental Quality regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500–1508), and the Army's regulations implementing NEPA (32 CFR Part 651 as published in Federal Register, Volume 67, Pages 15290–15332).

The Army specifically requests identification of any specific information, issues, or concerns that should be included in the EA that would facilitate the decision-making process. Please provide any comments you may have within 30 days of receipt of this letter to me at 1 C-Tree Road, Bldg. 22, McAlester, OK 74501 or by email at traci.c.mcmurtrey.civ@mail.mil. Thank you for your assistance.

Sincerely,

Traci McMutrey
Environmental Protection Specialist
McAlester Army Ammunition Plant

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DEPARTMENT OF THE ARMY
MCALESTER army AMMUNITION PLANT
1 C TREE ROAD
MCALESTER OK 74501-9002

REPLY TO
ATTENTION OF

October 06, 2020

Environmental Management Office
1 C-Tree Road, Bldg. 22
McAlester, OK 74501

Chickasaw Nation of Oklahoma
Bill Anoatubby, Governor
P.O. Box 1548
520 E. Arlington Blvd.
Ada, OK 74820

SUBJECT: Environmental Assessment for Implementation of Master Planning Actions within the Explosive District, McAlester Army Ammunition Plant, Oklahoma

Dear Governor Anoatubby,

The Department of the Army (Army) is preparing a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FNSI) for implementation of real property master planning actions at McAlester Army Ammunition Plant (MCAAP), Oklahoma planned to begin within the next approximately 5 years, which are principally from the Area Development Plan (ADP) for the Explosive and Non-Explosive Districts. This EA will evaluate potential impacts to the human and natural environment as a result of the implementation of these master planning actions at MCAAP. The EA will be prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code Section 4321 et seq.), the Council on Environmental Quality regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500–1508), and the Army's regulations implementing NEPA (32 CFR Part 651 as published in Federal Register, Volume 67, Pages 15290–15332).

The Army specifically requests identification of any specific information, issues, or concerns that should be included in the EA that would facilitate the decision-making process. Please provide any comments you may have within 30 days of receipt of this letter to me at 1 C-Tree Road, Bldg. 22, McAlester, OK 74501 or by email at traci.c.mcmurtrey.civ@mail.mil. Thank you for your assistance.

Sincerely,

Traci McMutrey
Environmental Protection Specialist
McAlester Army Ammunition Plant

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DEPARTMENT OF THE ARMY
MCALESTER ARMY AMMUNITION PLANT
1 C TREE ROAD
MCALESTER OK 74501-9002

REPLY TO ATTENTION OF

October 06, 2020

Environmental Management Office
1 C-Tree Road, Bldg. 22
McAlester, OK 74501

Choctaw Nation of Oklahoma
Gary Batton, Chief
Dr. Ian Thompson, Tribal Historic Preservation Officer
P.O. Box 1210
Durant, OK 74702-1210

SUBJECT: Environmental Assessment for Implementation of Master Planning Actions within the Explosive District, McAlester Army Ammunition Plant, Oklahoma

Dear Chief Batton and Dr. Thompson,

The Department of the Army (Army) is preparing a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FNSI) for implementation of real property master planning actions at McAlester Army Ammunition Plant (MCAAP), Oklahoma planned to begin within the next approximately 5 years, which are principally from the Area Development Plan (ADP) for the Explosive and Non-Explosive Districts. This EA will evaluate potential impacts to the human and natural environment as a result of the implementation of these master planning actions at MCAAP. The EA will be prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code Section 4321 et seq.), the Council on Environmental Quality regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500–1508), and the Army's regulations implementing NEPA (32 CFR Part 651 as published in Federal Register, Volume 67, Pages 15290–15332).

The Army specifically requests identification of any specific information, issues, or concerns that should be included in the EA that would facilitate the decision-making process. Please provide any comments you may have within 30 days of receipt of this letter to me at 1 C-Tree Road, Bldg. 22, McAlester, OK 74501 or by email at traci.c.mcmurtrey.civ@mail.mil. Thank you for your assistance.

Sincerely,

Traci McMutrey
Environmental Protection Specialist
McAlester Army Ammunition Plant

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DEPARTMENT OF THE ARMY
MCALESTER army AMMUNITION PLANT
1 C TREE ROAD
MCALESTER OK 74501-9002

REPLY TO
ATTENTION OF

October 06, 2020

Environmental Management Office
1 C-Tree Road, Bldg. 22
McAlester, OK 74501

Quapaw Tribe of Oklahoma
Everett Bandy, Tribal Historic Preservation Officer
P.O. Box 765
Quapaw, OK 74363
(918) 642-4724

SUBJECT: Environmental Assessment for Implementation of Master Planning Actions within the Explosive District, McAlester Army Ammunition Plant, Oklahoma

Dear Mr. Bandy,

The Department of the Army (Army) is preparing a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FNSI) for implementation of real property master planning actions at McAlester Army Ammunition Plant (MCAAP), Oklahoma planned to begin within the next approximately 5 years, which are principally from the Area Development Plan (ADP) for the Explosive and Non-Explosive Districts. This EA will evaluate potential impacts to the human and natural environment as a result of the implementation of these master planning actions at MCAAP. The EA will be prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code Section 4321 et seq.), the Council on Environmental Quality regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500–1508), and the Army's regulations implementing NEPA (32 CFR Part 651 as published in Federal Register, Volume 67, Pages 15290–15332).

The Army specifically requests identification of any specific information, issues, or concerns that should be included in the EA that would facilitate the decision-making process. Please provide any comments you may have within 30 days of receipt of this letter to me at 1 C-Tree Road, Bldg. 22, McAlester, OK 74501 or by email at traci.c.mcmurtrey.civ@mail.mil. Thank you for your assistance.

Sincerely,

Traci McMutrey
Environmental Protection Specialist
McAlester Army Ammunition Plant

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DEPARTMENT OF THE ARMY
MCALESTER ARMY AMMUNITION PLANT
1 C TREE ROAD
MCALESTER OK 74501-9002

REPLY TO ATTENTION OF

October 06, 2020

Environmental Management Office
1 C-Tree Road, Bldg. 22
McAlester, OK 74501

Wichita and Affiliated Tribes
Gary McAdams, Tribal Historic Preservation Officer
P.O. Box 7
Anadarko, OK 73005

SUBJECT: Environmental Assessment for Implementation of Master Planning Actions within the Explosive District, McAlester Army Ammunition Plant, Oklahoma

Dear Mr. McAdams,

The Department of the Army (Army) is preparing a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FNSI) for implementation of real property master planning actions at McAlester Army Ammunition Plant (MCAAP), Oklahoma planned to begin within the next approximately 5 years, which are principally from the Area Development Plan (ADP) for the Explosive and Non-Explosive Districts. This EA will evaluate potential impacts to the human and natural environment as a result of the implementation of these master planning actions at MCAAP. The EA will be prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code Section 4321 et seq.), the Council on Environmental Quality regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the Army's regulations implementing NEPA (32 CFR Part 651 as published in Federal Register, Volume 67, Pages 15290-15332).

The Army specifically requests identification of any specific information, issues, or concerns that should be included in the EA that would facilitate the decision-making process. Please provide any comments you may have within 30 days of receipt of this letter to me at 1 C-Tree Road, Bldg. 22, McAlester, OK 74501 or by email at traci.c.mcmurtrey.civ@mail.mil. Thank you for your assistance.

Sincerely,

Traci McMutrey
Environmental Protection Specialist
McAlester Army Ammunition Plant

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DEPARTMENT OF THE ARMY
MCALESTER ARMY AMMUNITION PLANT
1 C TREE ROAD
MCALESTER OK 74501-9002

REPLY TO ATTENTION OF

October 6, 2020

Environmental Management Office
1 C-Tree Road, Bldg. 22
McAlester, OK 74501

Ms. Victoria Eberhardt
Oklahoma Ecological Services Field Office
U.S. Fish and Wildlife Service
904 East 21st Street
Tulsa, Oklahoma, 74129-1428
OKProjectReview@fws.gov

SUBJECT: Environmental Assessment for Implementation of Master Planning Actions Within the Explosive District, McAlester Army Ammunition Plant, OK

Dear Ms. Eberhardt,

The Department of the Army (Army) is preparing a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FNSI) for implementation of real property master planning actions within the Explosive District at McAlester Army Ammunition Plant (MCAAP) planned to begin within the next approximately 5 years, which are principally from the Area Development Plan (ADP) for the Explosive and Non-Explosive Districts. This EA will evaluate potential impacts to the human and natural environment as a result of the implementation of these master planning actions at MCAAP.

The EA will be prepared for the Proposed Action at MCAAP in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code Section 4321 et seq.), the Council on Environmental Quality regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500–1508), and the Army's regulations implementing NEPA (32 CFR Part 651 as published in Federal Register, Volume 67, Pages 15290–15332).

Based on an Information for Planning and Consultation (IPaC) query of the project area, the northern long-eared bat (*Myotis septentrionalis*), interior least tern (*Sternula antillarum athalassos*), piping plover (*Charadrius melodus*), red knot (*Calidris canutus rufa*), and American burying beetle (*Nicrophorus americanus*) have the potential to occur in the project area at MCAAP.

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The interior least tern has the potential to occur on MCAAP; however, due to a lack of habitat for the species, it is not known to occur on MCAAP. In addition, the piping plover occurs in areas around the installation; however, MCAAP does not have suitable habitat for the piping plover. The red knot also occurs in areas around the installation; however, MCAAP lacks suitable habitat for the red knot, and is not known to occur on the installation. Therefore, the Army expects that the Proposed Action would have no effect on these species because of lack of occurrence.

Although the northern long-eared bat has not definitively been recorded on MCAAP, surveys conducted in 2019 indicated the presence of the northern long-eared bat, as well as two other federally listed bat species (gray bat [*Myotis grisescens*] and Indiana bat [*Myotis sodalis*]), at MCAAP. However, the 2019 suspected occurrences of the Indiana bat and northern long-eared bat appear to be potentially suspect based on literature review, numbers of myotid calls recorded (three and nine calls, respectively), potential interpretation issues between myotid calls, and documented habitats within MCAAP. During 2019 surveys, gray bat calls totaled over 200 for the survey period at MCAAP; but, the gray bat's preferred documented habitat (caves), is completely lacking at MCAAP, leaving the question of the species' actual presence unanswered. However, for the purpose of the EA analysis, it is assumed that all three of these federally listed bat species occur on MCAAP.

Under the Proposed Action, all tree clearing, construction, and maintenance activities would be conducted in accordance with the guidelines provided in the ESA, Section 4(d) rule for the northern long-eared bat. Per the Section 4(d) rule, incidental take of northern long-eared bats from tree removal activities is not prohibited unless it results from removing a known occupied maternity roost tree, from tree removal activities within 150 feet of a known occupied maternity roost tree from June 1 through July 31, or results from tree removal activities within 0.25 mile of a hibernaculum at any time. Under the Proposed Action, no tree clearing would be conducted within 150 feet of a known occupied maternity roost tree or within 0.25 mile of a hibernaculum. To the extent practical, any tree cutting would be completed during the hibernation period (November to April) when bats would not be impacted by land clearing. Otherwise, MCAAP would coordinate with USFWS to minimize potential impacts to northern long-eared bats and other listed bat species. In addition, and consistent with the Section 4(d) rule recommendations, use of outdoor lighting would be done in a manner to minimize light pollution by angling lights downward or via other light minimization measures to lessen potential nighttime foraging impacts on bats. The above measures would ensure protections for all listed bat species that may occur, and therefore, the Army expects that the Proposed Action may affect the northern long-eared bat, the gray bat, and the Indiana bat, but would not adversely affect these listed bat species.

Although the American burying beetle could be impacted under the Proposed Action through direct loss of individuals or through habitat loss, surveys in 2019 found that the majority of the population on MCAAP occurs in the southeastern portion of the

installation, outside of the project area footprints. In addition, the species is managed on MCAAP according to an Endangered Species Management Plan. Conservation measures that are implemented for American burying beetle include biannual surveys and preconstruction surveys, if deemed necessary by the USFWS. Pending the Army's request for informal consultation on the American burying beetle, including any necessary measures to reduce impacts to the species, the Army expects that the Proposed Action may affect, but is not likely to adversely affect the American burying beetle.

A copy of the Description of Proposed Action and Alternatives (DOPAA) has been included in Enclosure 1, for your review. The Army requests your concurrence on the potential effects to federally species described above.

Please provide any comments you may have within 30 days of receipt of this letter to me at 1 C-Tree Road, Bldg. 22, McAlester, OK 74501, or by email at traci.c.mcmurtrey.civ@mail.mil.

Sincerely,

Traci McMutrey
Environmental Protection Specialist
McAlester Army Ammunition Plant

2

October 22, 2020

Ms. Traci McMurtrey
Environmental Protection Specialist
Department of the Army
McAlester Army Ammunition Plant
1-C Tree Road, Building 22
McAlester, OK 74501

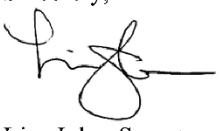
Dear Ms. McMurtrey:

Thank you for the letter of notification regarding the Department of the Army preparing a draft Environmental Assessment for the Implementation of Master Planning Action within the Explosive District at the McAlester Army Ammunition Plant in Pittsburg County, Oklahoma.

The proposed project is outside of our area of interest at this time. Therefore, we do not request government-to-government consultation with the United States Department of the Army regarding this undertaking. While the Chickasaw Nation has no objection to this project, we respectfully defer to the federally-recognized First American tribe(s) who have identified a connection to the project area.

Your efforts to preserve and protect significant historic properties are appreciated. If you have any questions, please contact Ms. Karen Brunso, tribal historic preservation officer, at (580) 272-1106, or by email at karen.brunso@chickasaw.net.

Sincerely,



Lisa John, Secretary
Department of Culture and Humanities

cc: traci.c.mcmurtrey.civ@mail.mil

DEPARTMENT OF THE ARMY
MCALESTER ARMY AMMUNITION PLANT
1 C-TREE ROAD
MCALESTER, OKLAHOMA 74501-9002

REPLY TO
ATTENTION OF:

December 16, 2020

Directorate of Engineering
1 C-Tree Road, Bldg. 6
McAlester, OK 74501

Ms. Lynda Ozan
State Historic Preservation Office
Oklahoma Historical Society
Oklahoma History Center
800 Nazih Zuhdi Drive
Oklahoma City, OK 73105-7917

SUBJECT: Section 106 Consultation Regarding Implementation of Master Planning Actions at McAlester Army Ammunition Plant, Oklahoma

Dear Ms. Ozan,

The Army would like to initiate Section 106 consultation with your office for the implementation of master planning projects at the McAlester Army Ammunition Plant (MCAAP) pursuant to 36 Code of Federal Regulations (CFR) Part 800 of the National Historic Preservation Act of 1966, as amended. The undertaking is to implement a comprehensive approach to developing the Installation using planning strategies that reinforce capabilities to support MCAAP's mission, promote quality of life, and enhance sustainability and environmental viability on the Installation. The projects identified in the master planning process, principally located in the Explosive District from the Area Development Plan (ADP), are planned to be implemented in the next approximately 5 years (Enclosure 1).

This consultation will support an Environmental Assessment (EA) that is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code Section 4321 *et seq.*), the Council on Environmental Quality regulations implementing NEPA (40 CFR Parts 1500–1508), and the Army's regulations implementing NEPA (32 CFR Part 651).

The Army anticipates the Area of Potential of Effects (APE), as defined in 36 CFR 800.16(d), for this undertaking would include the areas where the following would occur:

a. ground-disturbing activities,
b. building renovations/modifications, and
c. building demolitions (Enclosure 2).

The Army has conducted both archaeological and architectural surveys within the APE. The Army has identified historic properties that are located within the APE for this undertaking in accordance with 36 CFR Part 800.4(a) and 800.4(b). No archaeological sites considered eligible or potentially eligible for listing in the National Register of Historic Places (NRHP) are located within the APE.

The Proposed Action calls for the repair, renovation, expansion, or demolition of 18 buildings at MCAAP. Interior renovations would include heating, ventilation, and air conditioning, electrical, fire sprinkler system, and plumbing repairs or upgrades; improved lighting; interior painting; or other general repairs. Buildings [redacted] would receive new roofs and Buildings [redacted] through [redacted] (11 buildings) would receive new roofs and repairs to roof trusses, where needed. The Proposed Action would also result in the demolition of two buildings. Both buildings, Buildings [redacted] and [redacted] were built in 1943 and are currently used as change houses and lunchrooms. All of these buildings are considered eligible for listing to the NRHP through two of the Advisory Council on Historic Preservation's (ACHP's) Program Comments: *Program Comment for World War II and Cold War-Era (1939–1974) Army Ammunition Production Facilities and Plants*, and the *Program Comment for World War II and Cold War-Era (1939–1974) Ammunition Storage Facilities*. The ACHP Program Comments cover several different types of undertakings, including maintenance and repair, rehabilitation, renovation and demolition, and specify mitigation actions for each military branch to satisfy the Department of Defense's requirement to take into account the effects of the undertakings on buildings and structures designed and built as ammunition production and storage facilities between 1939 and 1974. The types of building repairs, renovations, and demolition activities in the Preferred Alternative would be among the same allowances included in the Program Comments.

No traditional resources have been identified at MCAAP. Government-to-government consultation between MCAAP and each federally recognized Tribe that may be associated with the MCAAP is being conducted for this action in recognition of their status as sovereign nations, to provide information regarding Tribal concerns per Section 106 of the NRHP, as well as information on traditional resources that may be present on or near the Installation.

The Army is inviting public input on the Proposed Action through the NEPA process. Regulations in 32 CFR Part 651 guide opportunities for public participation with respect to the NEPA process and decision-making on the proposed action. The EA and Draft Finding of No Significant Impact, as appropriate, will be made available for a 30-day public review.

Pursuant to 36 CFR Part 800.4(a)(1), the Army requests your concurrence on our determination of the APE for the undertaking. The Army also requests your concurrence that the efforts to identify historic properties are sufficient and requests your concurrence with our determination of ***No Adverse Effect*** per 36 CFR Part 800.5(b).

Additionally, the Army requests identification of any specific information, issues, or concerns that should be included in the EA that would facilitate the decision-making process.

Correspondence may be sent to Mr. Ryan S. Toby, JMMC-DEL, 1 C Tree Road, Building 22, McAlester, OK 74501, 918-420-6611, email ryan.toby.civ@mail.mil.

Sincerely,

TOBY.RYAN.1379670390 Digitally signed by TOBY.RYAN.1379670390 Date: 2020.12.16 10:50:46 -06'00'

Ryan S. Toby
Cultural Resources Mananger, MCAAP

Enclosures:
1. List of Area Development Plan Projects
2. Map of Area of Potential Effects

Oklahoma Historical Society *Founded May 27, 1893*
State Historic Preservation Office
Oklahoma History Center • 800 Nazih Zuhdi Drive • Oklahoma City, OK 73105-7917
(405) 521-6249 • Fax (405) 522-0816 • www.okhistory.org/shpo/shpom.htm

January 12, 2021

Mr. Ryan Toby, Cultural Resources Manager
McAlester Army Ammunition Plant
1 "C" Tree Road
McAlester, OK 74501

RE: File #0849-21; McAlester Army Ammunition Plant Proposed Master Planning Activities

Dear Mr. Toby:

On December 21, 2020, we received the documentation submitted with your December 16, 2020 cover letter concerning the referenced project in Pittsburg County. The project may impact Building [redacted] (C-Tree School), which was previously determined eligible for listing on the National Register of Historic Places (NRHP) in 1991. However, we are unable to process your request for review at this time until you provide the following additional information:

(1) Please provide a completed Historic Preservation Resource Identification Form, appropriate photographs and maps, and an assessment of eligibility for listing on the National Register of Historic Places (NRHP) for each of the following thirteen (13) structures to be affected by the project, for which we have no information:

1. Building [redacted]
2. Building [redacted]
3. Building [redacted]
4. Building [redacted]
5. Building [redacted]
6. Building [redacted]
7. Building [redacted]
8. Building [redacted]
9. Building [redacted]
10. Building [redacted]
11. Building [redacted]
12. Building [redacted]
13. Building [redacted]

NOTE: If these properties are less than 45 years old, Historic Preservation Resource Identification Forms and photos are not required. However, your review request must include the address and date (or year) of construction of each property.

If these properties are 45 years old or older, and you have not received Historic Preservation Resource Identification Forms and the Review and Compliance Manual which is necessary to complete the forms, you may call or write to request hard copies from our office, or go directly on line at www.okhistory.org and select "State Historic Preservation Office," then "Programs," then "Section 106," then click on *"Review & Compliance (Section 106 Process) Manual"* which includes nstructions and the form.

Mr. Toby
January 12, 2021
Page 2

RE: File #0849-21; McAlester Army Ammunition Plant Proposed Master Planning Activities

(2) Please provide a site plan/map that identifies each of the buildings involved in the undertaking in proximity to Building [redacted]. We cannot assess the indirect impacts of the project until we have a better understanding of where they are located within the McAlester Army Ammunition Plant (MCAAP).

Additionally, Buildings [redacted], and [redacted] are not eligible for listing on the NRHP and were removed from our determination of eligibility list in 2009.

(3) Please provide documentation regarding the archaeological surveys that were conducted in the area of potential effect (APE). As noted from our review of the MCAAP DE-Plan-03 August 2020 Integrated Cultural Resources Management Plan (File #2832-20, letter attached), there is a paucity of information on the archaeological resources under the management of MCAAP; thus at this time, an opinion of project effect on archaeological resources cannot be made regarding this proposed project.

In addition to our review, you must contact the Oklahoma Archeological Survey (OAS), 111 East Chesapeake, #102, Norman OK 73019-5111 (#405/325-7211, FAX #405/325-7604), to obtain a determination about the presence of prehistoric resources that may be eligible for the NRHP. Should the OAS conclude that there are no prehistoric archaeological sites as defined in 36 CFR Part 800.16(l), which are eligible for inclusion in the NRHP within the project area and that such sites are unlikely to occur, we concur with that opinion.

The OAS may conclude that an on-site investigation of all or part of the project impact area is necessary to determine the presence of archaeological resources. In the event that such an investigation reveals the presence of prehistoric archaeological sites, we will defer to the judgment of the OAS concerning whether or not any of the resources should be considered "historic properties" under the Section 106 review process. If sites dating from the historic period are identified during the survey or are encountered during implementation of the project, additional assessments by the State Historic Preservation Office will be necessary.

If you have any questions, please contact Jennifer Bailey, Historic Preservation Specialist, at 405/522-4479 or Catharine M. Wood, Historical Archaeologist, at 405/521-6381. Please reference the above underlined file number when responding. Please remember that per regulation, the 30-day review period starts on the day we receive documents in our office, not the date they were mailed.

Sincerely,

Lynda Ozan
Deputy State Historic
Preservation Officer
LO:pm

Attachment: SHPO Letter for File #2832-20

cc: Dr. Kary Stackelbeck, State Archaeologist, OAS

Oklahoma Historical Society *Founded May 27, 1893*
State Historic Preservation Office
Oklahoma History Center • 800 Nazih Zuhdi Drive • Oklahoma City, OK 73105-7917
(405) 521-6249 • Fax (405) 522-0816 • www.okhistory.org/shpo/shpom.htm

October 8, 2020

Mr. Ryan Toby, Manager
Natural Resources & Cultural Resources
McAlester Army Ammunition Plant
1 "C" Tree Road
McAlester, OK 74501

RE: File #2832-20; McAlester Army Ammunition Plant DE-Plan-03, Integrated Cultural Resources Management Plan (ICRMP), Pittsburg County, Oklahoma

Dear Mr. Toby:

Thank you for submitting for review and comment the August 2020 Integrated Cultural Resource Management Plan (ICRMP) for the McAlester Army Ammunition Plant (MCAAP) that we received on September 10, 2020. We appreciate your efforts to keep us informed about management activities at MCAAP and offer our comments below.

(1) **Chapter 2.0 Statutes and Regulations**
(a) The National Historic Preservation Act (NHPA) was amended in 2015 and the U.S. Code was changed from 16 U.S.C. 470 et seq. to **54 U.S.C. 300101 et seq**. (See attached).

(2) **Chapter 3.0 Goals and Responsibilities**
(a) The SHPO and the Oklahoma Archeological Survey (OAS) are partners in the Section 106 review process and both of our offices review and comment on archaeological site records and archaeological survey reports. The OAS reviews for effects to prehistoric period archaeological resources and the SHPO reviews for effects to historic period archaeological resources and the built environment. Please update your consultation procedures to reflect that fact. For further guidance on Section 106 consultation procedures, please review the Review and Compliance Manual that is available online at: https://www.okhistory.org/shpo/section106.htm

(3) **Chapter 4.0 Cultural Resource Inventory**
(a) Along with the historic period homestead sites located at the Plant, has the MCAAP taken into consideration the possibility for historic period, military operation related archaeological sites to exist at the Plant?

(b) **4.2.3.1** Building [redacted] C-Tree Schoolhouse is a historic property that was determined eligible for listing in the National Register of Historic Places (NRHP) by consensus on September 6, 1991, under Criteria A and C. For your reference, please see the listing available online at: https://www.okhistory.org/shpo/doesearch?city=&county=Pittsburg&action=Search

(c) **4.3** Mapping, the SHPO and OAS always require Township, Range, and Section location information accompanied by a 7.5-minute USGS topographic map that clearly depicts the project location.

Mr. Toby
October 8, 2020
Page 2

RE: File #2832-20; McAlester Army Ammunition Plant DE-Plan-03, Integrated Cultural Resources Management Plan (ICRMP), Pittsburg County, Oklahoma

(4) **Chapter 5.0 Management Plan**
(a) **5.1.1**., The last sentence of paragraph three, "Generally, however, the cultural resources management program has been successful in minimizing adverse effects to the military mission" is contrary to the responsibility of the military department's responsibility under Section 106 and Section 110 of the National Historic Preservation Act.

(b) **5.1.2**, What are the MCAAP's procedures to deter vandalism and looting of archaeological sites and historic properties?

(c) What are the MCAAP's procedures for ensuring that environmental personnel are not disturbing archaeological sites and historic properties during their work?

(d) **5.2**, What are the plans for the MCAAP to complete their archaeological historic built environment inventories?

(e) **5.2.1**, Archaeological resources, while the OAS is the main repository for the archaeological site records as well as responsible for issuing the trinomial for new sites, the MCAAP must obtain comments from both the SHPO and the OAS for any archaeological surveys and any archaeological sites (new or previously recorded) that are identified during Section 106 and Section 110 undertakings.

(f) **5.2.1**, regarding the history of ground disturbance, has the MCAAP taken into consideration the possibility for historic period, military operation related archaeological sites to exist at the Plant?

(g) **5.2.1.1**, how old are the previous archaeological surveys that the MCAAP is relying on? Typically, for any studies older than ten years, it is recommended that the a new survey be conducted to assess the status of the location as well as the status of any cultural resources that were either previously recorded and did not meet the minimum threshold for consideration due to age or the potential for new information to be available that would add to the information for that resource.

(h) **5.2.1.2**, MCAAP will submit copies of all archaeological reports to both the SHPO and OAS.

(i) **5.4.2**, Erosion can occur over time or immediately due to significant weather events or by military activities. Erosion is a significant threat to both archaeological sites and the built environment and the MCAAP should take erosion into consideration and provide procedures for protecting the historic resources that they are responsible for under Section 110 of the NHPA.

(j) **5.4.3.3**, the management plans for the three archaeological sites and cemetery as outlined do not even meet the minimum standards under Section 110 of the NHPA. Signage is typically not an ideal choice for archaeological sites since it may lead to looting and vandalism. It is recommended that for 34PS381, a survey be conducted to establish the amount of disturbance that has occurred over time and whether or not the site even exists anymore.

Mr. Toby
October 8, 2020
Page 3

RE: File #2832-20; McAlester Army Ammunition Plant DE-Plan-03, Integrated Cultural Resources Management Plan (ICRMP), Pittsburg County, Oklahoma

(k) **5.5.1**, while the SHPO does not provide so called "approval authorities over MCAAP undertakings" with regard to agreement documents such as Memorandum of Agreements (MOAs) and Programmatic Agreements (PAs); MOAs and PAs are legally binding documents and the MCAAP is responsible for fulfilling the stipulations that have been agreed to by the signatories of those documents. For further information on agreement documents and the responsibilities of the signatories, please refer to the Advisory Council on Historic Preservation's website for guidance on agreement documents available at: https://www.achp.gov/initiatives/guidance-agreement-documents

(5) **Chapter 6.0 Standard Operating Procedures**
(a) **6.9.4.,** it was noted in this paragraph that MCAAP produces an annual report. Are the SHPO and OAS included in the mailing list for this report?

(b) Need to ensure that the MCAAP is using Secretary of the Interior (SOI) qualified personnel in archaeology and architectural history to conduct surveys, excavation and historic property evaluations.

(c) Has the MCAAP developed a cultural landscape planning document? Are there plans to conduct these surveys?

(6) It was noted that the Public Involvement Plan that was included in the previous ICRMP from 2012 and reviewed in 2017 (SHPO File #2073-17) was not included in this new ICRMP. Is public involvement no longer a part of the MCAAP's overall mission?

Thank you for the opportunity to review and comment on the August 2020 MCAAP ICRMP. We look forward to working with you in the future. If you have any questions, please contact Catharine M. Wood, Historical Archaeologist, at 405/521-6381.

Sincerely,

Lynda Ozan
Deputy State Historic
Preservation Officer

LO:pm

Attachment

cc: Dr. Kary Stackelbeck, State Archaeologist, OAS

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National Historic Preservation Act Has Moved!

As you may have heard, the National Historic Preservation Act (NHPA) has a new home in the United States Code (U.S. Code), the official compilation of federal statutes. While the NHPA was previously codified at title 16 of the U.S. Code, effective December 19, 2014, it was moved to title 54. Please find the law codifying the NHPA in title 54 here. The provisions of the newly codified NHPA may be found starting at section 300101.

This recodification was carried out as part of a larger effort to better organize all the statutes related to the National Park Service, which plays a key role in the NHPA due to its duties connected to the National Register of Historic Places and the State and Tribal Historic Preservation Offices, among others. The recodification also resulted in the removal of obsolete provisions, changes to the location of some sections and subsections so they are better grouped thematically, and the correction of technical errors. However, none of the changes are substantive. The requirements and programs under the NHPA remain the same. They are simply better organized and located in a new title of the U.S. Code.

In the coming weeks, you will notice that the Advisory Council on Historic Preservation (ACHP)'s new official documents and Web site entries will start using the new U.S. Code citations for the NHPA. The ACHP expects stakeholders to transition to usage of the new U.S. Code citations to the NHPA as soon as they are reasonably able. However, please note that the law that moved the NHPA to title 54 specifies that a reference to an old title 16 provision (e.g., 16 U.S.C. 470f, for Section 106 of the NHPA) is legally deemed to refer to the corresponding provision in the new title 54. So, you do not need to be concerned if it takes some time to make such citation changes in future NHPA correspondence with the ACHP or within Section 106 agreement documents. No amendments to past NHPA correspondence or existing Section 106 agreements will be needed or expected.

The regulations implementing Section 106 of the NHPA, at 36 CFR part 800, are not affected by this recodification, so you can continue referencing those regulations as you have before.

The ACHP intends to continue referring to Section 106 of the NHPA as "Section 106" since that refers to the section in the original public law that enacted the NHPA, as opposed to its legal citation on the U.S. Code. It is also a reference that has been in constant use for almost 50 years.

Finally, for your convenience, here are some of the more frequently used, old citations to the NHPA and their corresponding citations in the new title 54:

Name	Old NHPA (title 16)	New NHPA (new title 54)
NHPA in general	16 U.S.C. 470 et seq.	54 U.S.C. 300101 et seq.
Section 106	16 U.S.C. 470f	54 U.S.C. 306108
Section 110(a)	16 U.S.C. 470h-2(a)	54 U.S.C. 306101(a) and 306102
Section 110(f)	16 U.S.C. 470h-2(f)	54 U.S.C. 306107

Section 110(k)	16 U.S.C. 470h-2(k)	54 U.S.C. 306113
Section 110(l)	16 U.S.C. 470h-2(l)	54 U.S.C. 306114
Section 111	16 U.S.C. 470h-3	54 U.S.C. 306121 and 306122

If you have any questions, please contact Javier Marques, Associate General Counsel, at jmarques@achp.gov.

Updated on January 7, 2015

Return to Top

DEPARTMENT OF THE ARMY
MCALESTER army AMMUNITION PLANT
1 C TREE ROAD
MCALESTER, OKLAHOMA 74501-9002

REPLY TO
ATTENTION OF:

July 15, 2021

JMMC-DEL
Cultural Resources Manager
Ryan S. Toby
1 C Tree Road, Bldg. 22
McAlester, OK 74501-9002

Ms. Lynda Ozan
State Historic Preservation Office
Oklahoma Historical Society
Oklahoma History Center
800 Nazih Zuhdi Drive
Oklahoma City, OK 73105-7917

SUBJECT: File #0849-21; McAlester Army Ammunition Plant Proposed Master Planning Activities

Dear Ms. Ozan

This letter is to provide additional information with respect to File #0849-21, regarding the letter McAlester Army Ammunition Plant (MCAAP) received from your office on January 12, 2021 for an Environmental Assessment of Master Planning Actions.

With specific reference to item (1): "Please provide a completed Historic Preservations Resource Identification Form, appropriate photographs and maps, and an assessment of eligibility for listing in the National Register of Historic Places (NRHP) for each of the following thirteen structures to be affected by the project, for which we have no information." Please find our response below.

All thirteen buildings are considered eligible for listing in the NRHP through two of the ACHP's Program Comments: *Program Comment for World War II and Cold War-Era (1939–1974) Army Ammunition Production Facilities and Plants,* **and** the *Program Comment for World War II and Cold War-Era (1939–1974) Ammunition Storage Facilities.*

Buildings [redacted] (11 buildings) would receive new roofs and repairs to roof trusses, where needed. The Proposed Action would also result in the demolition of two buildings, Buildings [redacted] and [redacted]. These buildings were built in 1943 and are currently used as change houses and lunchrooms. These types of building repairs, renovations, and demolition activities in the Preferred Alternative would be among the same allowances included in the Program Comments. Table 1 lists the construction year for these 13 buildings per your instruction. Enclosure 1 shows the locations of these buildings within the MCAAP.

The ACHP Program Comments cover several different types of undertakings, including maintenance and repair, rehabilitation, renovation and demolition, and specify mitigation actions for each military branch to satisfy the Department of Defense's requirement to take into account the effects of the undertakings on buildings and structures designed and built as ammunition production and storage facilities between 1939 and 1974. As applied to MCAAP, the 2006 Program Comments satisfy the Army's responsibilities at the installation for compliance under Section 106 regarding the effects of management actions on all properties built between 1939 and 1974. Therefore, any activity that might result in altering or demolishing a historic building at MCAAP has been mitigated under the Program Comments, and it will not be necessary for MCAAP to submit further correspondence to you for this Proposed Action, unless the project changes. To that end, MCAAP is not required to submit Historic Preservation Resource Identification Forms per the Program Comments.

Table 1. Building Information for Proposed Projects

Building Number	Construction Year
[redacted]	1943
[redacted]	1943
[redacted]	1943
[redacted]	1943
[redacted]	1943
[redacted]	1943
[redacted]	1943
[redacted]	1943
[redacted]	1943
[redacted]	1943
[redacted]	1943
[redacted]	1943
[redacted]	1943

With specific reference to item (2): "Please provide a site plan/map that identifies each of the buildings involved in the undertaking in proximity to Building [redacted]. We cannot assess the indirect impacts of the project until we have a better understanding of where they are located within the MCAAP." Please find our response below.

Enclosure 1 includes a map with the locations of the buildings listed above in Table 1 and Building [redacted].

"Additionally, Buildings [redacted], and [redacted] are not eligible for listing on the NRHP and were removed from our determination of eligibility list in 2009."

Thank you for clarifying the eligibility determinations on these three buildings. Our files have been updated.

With specific reference to item (3): "Please provide documentation regarding the archaeological surveys that were conducted in the area of potential effects (APE)...regarding this proposed project." "In addition to our review, you must contact the Oklahoma Archaeological Survey (OAS)...we concur with that opinion." Please find our response below.

No archaeological sites considered eligible or potentially eligible for listing in the NRHP are located within the APE. However, not all of the APE has been subjected to archaeological investigations. The MCAAP Cultural Resource Manager (CRM) evaluates undertakings that could result in effects to cultural resources on a case-by-case basis. In accordance with the

Integrated Cultural Resources Management Plan Standard Operating Procedure (SOP) Number 7.1: *Undertakings Affecting Historic Resources*, the MCAAP CRM is to be notified early in the planning process and is responsible for ensuring that the installation is in compliance with federal and state regulations (MCAAP 2020).

It is not expected that unidentified cultural resources would be found during implementation of the Preferred Alternative at MCAAP; however, in the event of an unanticipated discovery during ground-disturbing activities, the following specific actions would occur. The Project Manager would cease work immediately and the discovery would be reported to the MCAAP CRM. The CRM would secure the location and ensure that all cultural items are left in place and that no further disturbance is permitted to occur. The CRM would then contact a qualified archaeologist to inspect the site and would follow the procedures outlined in SOP Number 7.1, as well as SOP 7.2: *Native American Consultation*, SOP Number 7.6: *Archaeological Field Procedures*, SOP Number 7.7: *Intentional Archaeological Excavation Resulting in a Discovery*, SOP Number 7.8: *Accidental Discovery of Archaeological Resources*, SOP Number 7.9: *Reporting Damage to Historic Properties*, and SOP Number 7.11: *Disclosure of Information as Needed* (MCAAP 2020). Under these conditions, there would be no significant impacts to archaeological resources at MCAAP with the implementation of the Preferred Alternative.

MCAAP has submitted the Section 106 consultation package to the OAS for their review regarding their determination on the presence of prehistoric resources that may be eligible for listing in the NRHP within the APE. MCAAP will keep your office updated regarding this consultation.

Pursuant to 36 Code of Federal Regulations (CFR) Part 800.4(a)(1), the Army requests your concurrence on our determination of the APE for the undertaking. The Army also requests your concurrence that the efforts to identify historic properties are sufficient and requests your concurrence with our determination of ***No Adverse Effect*** per 36 CFR Part 800.5(b).

Correspondence may be sent to Mr. Ryan S. Toby, JMMC-DEL, 1 C Tree Road, Building 22, McAlester, OK 74501, 918-420-6611, or via email at ryan.toby.civ@mail.mil.

Sincerely,

Ryan S. Toby
Cultural Resources Manager, MCAAP

Enclosure:
1. Map Depicting Building 90 and buildings listed in Table 1.

3

DEPARTMENT OF THE ARMY
MCALESTER ARMY AMMUNITION PLANT
1 C TREE ROAD
MCALESTER, OKLAHOMA 74501-9002

REPLY TO
ATTENTION OF:

July 15, 2021

JMMC-DEL
Ryan S. Toby
Cultural Resources Manager
1 C Tree Road, Bldg. 22
McAlester, OK 74501-9002

Dr. Kary Stackelbeck
State Archaeologist
Oklahoma Archeological Survey
University of Oklahoma
111 Chesapeake Street
Norman, OK 73109-5111

SUBJECT: Section 106 Consultation Regarding Implementation of Master Planning Actions at McAlester Army Ammunition Plant, Oklahoma

Dear Dr. Stackelbeck,

The Army would like to initiate Section 106 consultation with your office for the implementation of master planning projects at the McAlester Army Ammunition Plant (MCAAP), located in McAlester, Pittsburg County, Oklahoma pursuant to 36 Code of Federal Regulations (CFR) Part 800 of the National Historic Preservation Act of 1966, as amended. The undertaking is to implement a comprehensive approach to developing the Installation using planning strategies that reinforce capabilities to support MCAAP's mission, promote quality of life, and enhance sustainability and environmental viability on the Installation. The projects identified in the master planning process, principally located in the Explosive District from the Area Development Plan (ADP), are planned to be implemented in the next approximately 5 years (Enclosure 1).

This consultation will support an Environmental Assessment (EA) that is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code Section 4321 *et seq.*), the Council on Environmental Quality regulations implementing NEPA (40 CFR Parts 1500–1508), and the Army's regulations implementing NEPA (32 CFR Part 651).

The Army anticipates the Area of Potential of Effects (APE), as defined in 36 CFR 800.16(d), for this undertaking would include the areas where the following would occur: ground-disturbing activities, building renovations/modifications, and building demolitions. Enclosure 2 depicts the locations of the proposed projects listed in Enclosure 1.

No known archaeological sites considered eligible or potentially eligible for listing in the National Register of Historic Places (NRHP) are located within the APE. However, not all the APE has been subjected to archaeological investigations. The MCAAP Cultural Resource Manager (CRM) evaluates undertakings that could result in effects to cultural resources on a case-by-

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case basis. In accordance with the ICRMP Standard Operating Procedure (SOP) Number 7.1: *Undertakings Affecting Historic Resources*, the MCAAP CRM is to be notified early in the planning process and is responsible for ensuring that the installation is in compliance with federal and state regulations (MCAAP 2020).

It is not expected that unidentified archaeological resources would be found during implementation of the Preferred Alternative at MCAAP; however, in the event of an unanticipated discovery during ground-disturbing activities, the following specific actions would occur. The Project Manager would cease work immediately and the discovery would be reported to the MCAAP CRM. The CRM would secure the location and ensure that all cultural items are left in place and that no further disturbance is permitted to occur. The CRM would then contact a qualified archaeologist to inspect the site and would follow the procedures outlined in SOP Number 7.1, as well as SOP 7.2: *Native American Consultation*, SOP Number 7.6: *Archaeological Field Procedures*, SOP Number 7.7: *Intentional Archaeological Excavation Resulting in a Discovery*, SOP Number 7.8: *Accidental Discovery of Archaeological Resources*, SOP Number 7.9: *Reporting Damage to Historic Properties*, and SOP Number 7.11: *Disclosure of Information as Needed* (MCAAP 2020). Under these conditions, there would be no significant impacts to archaeological resources at MCAAP with the implementation of the Preferred Alternative.

Pursuant to 36 CFR Part 800.4(a)(1), the Army requests your concurrence on our determination of the APE for the undertaking. The Army also requests your concurrence that the efforts to identify historic properties are sufficient and requests your concurrence with our determination of ***No Adverse Effect*** per 36 CFR Part 800.5(b).

Correspondence may be sent to Mr. Ryan S. Toby, JMMC-DEL, 1 C Tree Road, Building 22, McAlester, OK 74501, 918-420-6611, or via email at ryan.toby.civ@mail.mil.

Sincerely,

Ryan S. Toby
Cultural Resources Manager, MCAAP

Enclosures:
1. List of Area Development Plan Projects
2. Map of Area of Potential Effects

Enclosure 1 – List of Area Development Plan Projects

List of Area Development Plan Projects

ADP Project Number	EA Project Number and Description	Estimated Area of New Ground Disturbance
Infrastructure and Security		
94732	Project #1 - Electric Distribution Upgrade – This project would include repair and upgrades of overhead electrical distribution lines from pole 3-30 to pole 7-8 near the Haywood Gate. Existing wood poles would be replaced with round steel poles in similar single and H-structure configurations.	0
94737	Project #2 - Backup Generator for A-Line – This project would include the installation of a backup generator for the A-line production line. This would also include a medium voltage switching station at the generator site. An approximately 15-foot by 25-foot by 1-foot thick concrete pad would also be constructed to hold the generator. The concrete pad would sit on top of a 1,000-gallon double walled underground fuel tank.	375 square feet (.008609 acre)
94738	Project #3 - Backup Generator for B-Line – This project would include the installation of a backup generator for the B-line production line. This would also include a medium voltage switching station at the generator site. An approximately 15-foot by 25-foot by 1-foot thick concrete pad would also be constructed to hold the generator. The concrete pad would sit on top of a 1,000-gallon double walled underground fuel tank.	375 square feet (.008609 acre)
New Construction		
65443	Project #4 – Develop C-Line – This project would include the construction of a new Ammunition Reclamation Center, which would include a process control facility, a boiler building, and three main process facilities. Two buildings are targeted for demolition as part of this project.	350,000 square feet (8.03 acres)
Building Renovation and Modernization		
NA	Project #5 - Facility Modernization (Missile Maintenance) –This project would consolidate missile maintenance into one building, and would include interior renovations.	0
NA	Project #6 - Multi-Purpose Load Facility – This project would include interior renovations of three buildings along with new roofs. Interior renovations would include new windows, doors, electrical power panels and distribution, lighting, fire suppression systems, heating, potable water and sewer systems, and building envelope insulation. Foundation work on these buildings would be completed separately prior to renovations and the Installation will do a REC prior to this work.	0
85229	Project #7 - Roof Repairs for Warehouses – This project would include the replacement of existing transite roofs for 11 buildings. Repair to roof trusses	0

Enclosure 1 – List of Area Development Plan Projects

List of Area Development Plan Projects

ADP Project Number	EA Project Number and Description	Estimated Area of New Ground Disturbance
	would also occur where need. Asbestos abatement would occur prior to replacement of roofs.	

Legend: REC = Record of Environmental Consideration

Oklahoma Archeological Survey

THE UNIVERSITY OF OKLAHOMA

July 20, 2021

Department of the Army
McAlester Army Ammunition Plant
Attn: Ryan S. Toby
JMMC-DEL
1 C Tree Road, Building 22
McAlester, OK 74501-9002

Re: OAS FY21-2437 Department of the Army McAlester Army Ammunition Plant Proposed Implementation of Master Planning Projects: ADP Project #s 94732 (Electric Distribution Upgrade); 94737 (Backup Generator for A-Line); 94738 (Backup Generator for B-Line); 65443 (Develop C-Line); Facility Modernization of B567; Multi-purpose Load Facility; 85229 (Roof Repairs for 52-SH-100 Series Warehouses).
Legal Description: N ½ Section 15, T4N, R13E, Pittsburg County, Oklahoma.

Dear Mr. Toby:

The Community Assistance Program staff of the Oklahoma Archeological Survey has reviewed the above referenced project in order to identify areas that may potentially contain prehistoric or historic archeological materials (historic properties). The location of your project has been crosschecked with the state site files containing approximately 26,000 archaeological sites, which are currently recorded for the state of Oklahoma. No Sites are listed as occurring within your project area, and based on the topographic and hydrologic setting, no archaeological materials are likely to be encountered. Thus, an archaeological field inspection is not considered necessary. Please contact this office at (405) 325-7211 if buried archaeological materials such as chipped stone tools, pottery, bone, historic crockery, glass, metal items or building materials are exposed during construction activities.

This environmental review and evaluation is done in cooperation with the State Historic Preservation Office, Oklahoma Historical Society. The responsible federal agency or their official delegate must also have a letter from that office to document consultation pursuant to Section 106 of the National Historic Preservation Act.

In addition to our review comments, under 36CFR Part 800.3 you are reminded of your responsibility to consult with the appropriate Native American tribe/groups to identify any concerns they may have pertaining to this undertaking and potential impacts to properties of traditional and/or ceremonial value.

Sincerely,

Caitlin M. Baker
Staff Archaeologist

Kary L. Stackelbeck, Ph.D.
State Archaeologist

: dkg
cc: SHPO

111 Chesapeake, Room 102, Norman, Oklahoma 73019-5111 PHONE: (405) 325-7211 FAX: (405) 325-7604
A UNIT OF ARTS AND SCIENCES SERVING THE PEOPLE OF OKLAHOMA

APPENDIX C
AIR QUALITY CACULATIONS

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MCAAD Construction Calcs

Construction Period: March 21 through August 22 — 392 actual days — 547 calendar days

453.59 grams per pound

2021

14,000	LF 8" water line
3,882	KF 2" sewer line
2,712	LF fire water line
3,500	LF electrical line
7,562	LF 3" natural gas line
	ties into bldg 185
27,000	LF steam line
6,364	LF rail spur
24	ft wide concrete access road
14	CY concrete pad for A line generator
14	CY concrete pad for B line generator
14	CY gravel for A&B line generators

Construct Ammunition Reclamation Center — 38,667 SY grading

3 process buildings	10,000	sf each		
control building	7,000	sf		
boiler building	3,000	sf		
Clearing and Grubbing	28	AC	44820	44820
Tree clearing	5.4	AC	20300	6560
Grading	135,520	SY	65120	51380
				35100
Cut/Fill	65,120	CY excavated & moved to spoil area		86480
	44,432	CY fill brought in		
Gravel	6,273	CY gravel		
Concrete	5,523	CY concrete		
Trenching	1,303	CY excavated		
Pavement	142	CY		

Railwork

Clearing and Grubbing	10	AC
Tree Clearing	0.5	AC
Grading	96,800	SY
Cut/Fill	42,180	CY excavated
	35,620	CY fill
Demo asphalt	1,399	CY
Asphalt	874	CY
Gravel	50	CY

avg tie = 9 feet

6364 LF

1.21 miles

3,249 crossties/mile

1 month construction

3,916 crossties total

190 ties/truckload

1,414 ties total

Assume 100% require complete replacement

Materials delivered onsite via truck

28 truck deliveries

Trenching 114 CY excavated

Gravel Road (Fire Lane)

Clearing and Grubbing 2 AC

Tree Clearing 0.2 AC

Grading 10,348 SY

Cut/Fill 4,640 CY excavated

1,770 CY fill

Gravel 2,391 CY gravel

Bldg 176 demo 12,564 sf

Bldg 165 demo 13,323 sf

2021 Demolition: 311 1,919 sf total

Assume 1 CY construction debris per 20 SF of building

96 CY demolition debris

10 Truck loads demolition debris

Clearing 40 Acres

Off-road Equipment	Hours of Operation	Engine HP	Load Factor	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO_2 g/hp-hr
Dozer	464	145	0.58	0.38	1.41	4.17	0.12	0.30	0.29	536
Loader/Backhoe	464	87	0.21	1.43	7.35	6.35	0.15	1.06	1.03	692
Small Backhoe	464	55	0.21	1.43	7.35	6.35	0.15	1.06	1.03	692

	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Dozer	1.17	4.39	12.96	0.36	0.92	0.89	1,663.79
Loader w/ integral Backhoe	0.97	4.96	4.28	0.10	0.72	0.70	466.68
Small backhoe	0.61	3.14	2.71	0.06	0.45	0.44	295.03

On-road Equipment	Hours of Operation	Engine HP	Speed (mph)	VOC lb/mile	CO lb/mile	NOx lb/mile	SO_2 lb/mile	PM10 lb/mile	PM2.5 lb/mile	CO_2 lb/mile
Dump Truck	212	230	45	0.0015	0.0080	0.0361	0.0000	0.0015	0.0015	3.4385

	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Dump Truck	14.51	76.72	344.11	0.17	14.35	13.91	32,804
Subtotal in lbs	17	89	364	1	16	16	35229
Clearing Grand Total in Tons	**0.01**	**0.04**	**0.18**	**0.00**	**0.01**	**0.01**	**17.6**
Clearing Grand Total in Metric Tons							**16.0**

Site Prep - Grading / Excavating

69 days of grading

Site Prep - Excavate/Fill (CY) 195,065 CY 128,642 CY hauled Dump RT= 20 miles

Grading (SY) 242,668 SY Assume compact 0.5 feet (0.166 yards) 40,283 CY compacted

Off-road Equipment	Hours	Engine HP	Load Factor	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO_2 g/hp-hr
Excavator	650	243	0.59	0.34	1.21	4.03	0.12	0.22	0.22	536
Skid Steer Loader	780	160	0.23	0.38	1.47	4.34	0.12	0.31	0.30	536
Dozer (Rubber Tired)	707	145	0.59	0.38	1.41	4.17	0.12	0.30	0.29	536
Scraper Hauler Excavator	86	365	0.58	0.38	1.42	4.19	0.12	0.30	0.29	536
Compactor	186	103	0.58	0.40	1.57	4.57	0.12	0.32	0.31	536
Grader	86	285	0.58	0.34	1.21	4.07	0.12	0.23	0.22	536
Backhoe/Loader	120	87	0.59	0.35	1.25	4.23	0.12	0.24	0.23	536

	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Excavator	70.68	248.52	828.14	23.69	45.79	44.42	110,115.08
Skid Steer Loader	24.26	93.05	274.63	7.29	19.33	18.75	33,909.47
Dozer (Rubber Tired)	50.21	188.53	556.32	15.36	39.45	38.27	71,406.92
Scraper Hauler Excavator	15.14	56.97	168.05	4.63	11.90	11.54	21,501.46
Compactor	9.70	38.57	112.15	2.83	7.84	7.60	13,156.39
Grader	10.80	37.93	127.82	3.62	7.08	6.87	16,826.10
Backhoe/loader	4.74	16.95	57.49	1.57	3.24	3.14	7,275.64

On-road Equipment	Miles	MPH	Engine HP	VOC lb/mile	CO lb/mile	NOx lb/mile	SO_2 lb/mile	PM10 lb/mile	PM2.5 lb/mile	CO_2 lb/mile
Dump Truck	214,403	-	230	0.0015	0.0080	0.0361	0.0000	0.0015	0.0015	3.4385

	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Dump Truck	326.18	1,724.22	7,733.54	3.87	322.56	312.55	737,234.64

65,120 CY hauled onsite

On-road Equipment	Miles	MPH	Engine HP	VOC lb/mile	CO lb/mile	NOx lb/mile	SO_2 lb/mile	PM10 lb/mile	PM2.5 lb/mile	CO_2 lb/mile
Dump Truck	8,140	-	230	0.0015	0.0080	0.0361	0.0000	0.0015	0.0015	3.4385

	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Dump Truck	12.38	65.46	293.61	0.15	12.25	11.87	27,989.72
Subtotal in lb:	**524**	**2,470**	**10,152**	**63**	**469**	**455**	**1,039,415**
Site Prep Grand Total in Tons	**0.26**	**1.24**	**5.08**	**0.03**	**0.23**	**0.23**	
Site Prep Grand Total in Metric Tons							**471**

Demo Asphalt/Concrete

1,399 SF

Off-road Equipment	Hours of Operation	Engine HP	Load Factor	Emission Factors: VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/hp-hr
Crawler Dozer w/attachments	8	125	0.58	0.34	1.21	4.08	0.12	0.23	0.22	535.79
Air Compressor	8	49	0.59	0.33	2.54	4.53	0.13	0.54	0.53	595.16
Excavator	8	380	0.59	0.31	2.50	4.51	0.13	0.55	0.54	595.21

	Annual Emissions: VOC lb	CO lb	NOx lb	SO_2 lb	PM_{10} lb	$PM_{2.5}$ lb	CO_2 lb
Crawler Dozer w/attachments	0.44	1.54	5.22	0.15	0.29	0.28	685.11
Wheel mounted air compressor	0.17	1.30	2.31	0.07	0.28	0.27	303.47
Excavator	1.23	9.87	17.82	0.51	2.18	2.12	2,353.60
Subtotal (lbs):	**2**	**13**	**25**	**1**	**3**	**3**	**3342**
Asphalt Demo Grand Total in Tons	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	
Asphalt Demo Grand Total in Metric Tons							**2**

Building Demolition

25,887 SF 1,294 Estimated CY of debris based on 20 SF/CY

Off-road Equipment	Hours of Operation	Engine HP	Load Factor	Emission Factors VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/hp-hr
Hydraulic excavator	129	86	0.59	0.23	2.57	2.68	0.11	0.40	0.39	595.46
Wheel Loader / Backhoe	129	87	0.23	1.07	6.13	5.02	0.14	0.95	0.92	692.77
air compressor	129	49	0.59	0.26	1.41	3.51	0.11	0.23	0.22	536.20

	Annual Emissions VOC lb	CO lb	NOx lb	SO_2 lb	PM_{10} lb	$PM_{2.5}$ lb	CO_2 lb
Hydraulic excavator	3.30	37.09	38.68	1.64	5.81	5.64	8,592.74
Wheel Loader w/ integral Backhoe	6.07	34.87	28.58	0.80	5.40	5.24	3,942.40
Wheel mounted air compressor	2.16	11.58	28.84	0.89	1.91	1.85	4,408.57
Subtotal (lbs):	11.53	83.55	96.10	3.33	13.12	12.73	16943.71

On-road Equipment	Miles	Engine HP	Speed (mph)	VOC lb/mile	CO lb/mile	NOx lb/mile	SO_2 lb/mile	PM_{10} lb/mile	$PM_{2.5}$ lb/mile	CO_2 lb/mile
Dump Truck	2,157	230	-	0.001521	0.008042	0.036070	1.80E-05	0.001504	0.001458	3.438541

	VOC lb	CO lb	NOx lb	SO_2 lb	PM_{10} lb	$PM_{2.5}$ lb	CO_2 lb
Dump Truck	3.28	17.35	77.81	0.04	3.25	3.14	7,417.79
Subtotal (lbs):	14.82	100.89	173.91	3.37	16.37	15.87	24,361.51
Building Demo Grand Total in Tons	**0.007**	**0.050**	**0.087**	**0.002**	**0.008**	**0.008**	
Building Demo Grand Total in Metric Tons							**11.05**

Gravel Work

8,713 CY 726 trips 14,522 total miles

Off-road Equipment	Hours	Engine HP	Load Factor	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM_{10} g/hp-hr	$PM_{2.5}$ g/hp-hr	CO_2 g/hp-hr
Dozer	87	185	0.59	0.34	1.21	4.08	0.12	0.23	0.22	536
Wheel Loader	109	87	0.59	0.35	1.25	4.23	0.12	0.24	0.23	536
Compactor	240	103	0.43	0.36	1.34	4.45	0.12	0.26	0.25	536

	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Dozer	7.21	25.31	85.55	2.42	4.74	4.60	11233.69
Wheel Loader for Spreading	4.30	15.39	52.18	1.42	2.94	2.85	6603.40
Compactor	8.44	31.41	104.45	2.70	6.03	5.85	12570.41

On-road Equipment	Miles	Engine HP	VOC lb/mile	CO lb/mile	NOx lb/mile	SO_2 lb/mile	PM_{10} lb/mile	$PM_{2.5}$ lb/mile	CO_2 lb/mile
Dump Truck	14,522	230	0.0015	0.0080	0.0361	0.0000	0.0015	0.0015	3.4385

	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Dump Truck	22.09	116.78	523.81	0.26	21.85	21.17	49,934
Subtotal (lbs):	**42**	**189**	**766**	**7**	**36**	**34**	**80,342**
Gravel Work Grand Total in Tons	**0.02**	**0.09**	**0.38**	**0.00**	**0.02**	**0.02**	
Gravel Work Grand Total in Metric Tons							**36**

Concrete Work

Total 5,523 CY Note: Assume all excavated soil is accounted for in Excavate/Fill and Trenching

Off-road Equipment	Hours of Operation	Engine HP	Load Factor	Emission Factors VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO_2 g/hp-hr
Concrete Mixer	291	3.5	0.43	0.69	3.04	6.17	0.13	0.54	0.52	588
Concrete Truck	263	300	0.43	0.38	1.75	6.18	0.11	0.27	0.26	530

	Annual Emissions VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Concrete Mixer	0.66	2.94	5.96	0.12	0.52	0.51	568.01
Concrete Truck	28.39	130.58	462.42	8.53	20.10	19.49	39,634.22
Subtotal (lbs):	**29**	**134**	**468**	**9**	**21**	**20**	**40,202**
Concrete Work Grand Total in Tons	**0.01**	**0.07**	**0.23**	**0.00**	**0.01**	**0.01**	
Concrete Work Grand Total in Metric Tons							**18**

Building Construction- Structure - Year

40,000 SF Foundation
40,000 SF Total

Off-road Equipment	Hours of Operation	Engine HP	Load Factor	Emission Factors VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO_2 g/hp-hr
Crane	78	330	0.58	0.25	1.22	5.26	0.11	0.21	0.20	530
Concrete Truck	78	300	0.43	0.19	1.45	4.32	0.12	0.21	0.20	536
Diesel Generator	62	40	0.43	0.26	1.41	3.51	0.11	0.23	0.22	536
Telehandler	155	99	0.59	0.51	3.94	4.93	0.13	0.52	0.51	595
Scissors Lift	124	83	0.59	0.51	3.94	4.93	0.13	0.52	0.51	595
Skid Steer Loader	78	67	0.59	1.69	7.97	6.70	0.15	1.19	1.15	691
Pile Driver	799	260	0.43	0.46	1.55	5.90	0.11	0.31	0.30	530
All Terrain Forklift	124	84	0.59	0.51	3.94	4.93	0.13	0.52	0.51	595

	Annual Emissions						
	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Crane	8.04	39.88	172.01	3.73	6.79	6.59	17342.06
Concrete Truck	4.14	32.06	95.23	2.54	4.63	4.49	11819.67
Diesel Generator	0.62	3.31	8.25	0.25	0.55	0.53	1260.61
Telehandler	10.17	78.64	98.38	2.55	10.40	10.09	11868.35
Scissors Lift	6.82	52.74	65.98	1.71	6.98	6.77	7960.18
Skid Steer Loader	11.43	53.81	45.24	1.00	8.03	7.79	4666.19
Pile Driver	91.42	305.71	1162.68	22.44	61.83	59.98	104338.25
All Terrain Forklift	6.90	53.38	66.78	1.73	7.06	6.85	8056.09
Subtotal (lbs):	**139.53**	**619.53**	**1,714.56**	**35.97**	**106.27**	**103.08**	**167,311.41**
Building Construction Grand Total in Tons	**0.07**	**0.31**	**0.86**	**0.02**	**0.05**	**0.05**	
Building Construction Grand Total in Metric Tons							**76**

Paving Surface and Paving HMA

Pavement - Surface Area 1,016 CY 65969 SF

Paving - HM 27,443 CF

Off-road Equipment	Hours of Operation	Engine HP	Load Factor	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO2 g/hp-hr	PM g/hp-hr	PM2.5 g/hp-hr	CO_2 g/hp-hr
Grader	202	145	0.59	0.38	1.41	4.16	0.12	0.30	0.29	536
Roller	303	401	0.59	0.34	2.46	5.53	0.12	0.34	0.33	536
Paving Machine	404	164	0.59	0.38	1.44	4.25	0.12	0.30	0.29	536
Asphalt Curbing Machine	40	130	0.59	0.40	1.57	4.57	0.12	0.32	0.31	536

	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Grader	14.34	53.81	158.56	4.39	11.27	10.93	20,412.05
Roller	53.96	389.29	874.88	18.22	53.54	51.93	84,691.59
Paving Machine	32.75	124.34	366.51	9.93	25.86	25.08	46,172.52
Asphalt Curbing Machine	2.70	10.73	31.20	0.79	2.18	2.11	3,659.70

On-road Equipment	Hours of Operation	Engine HP	Productivity based Speed	VOC lb/mile	CO lb/mile	NOx lb/mile	SO2 lb/mile	PM lb/mile	PM2.5 lb/mile	CO_2 lb/mile
Dump Truck	404	230	10	0.001521	0.008042	0.036070	1.80E-05	0.001504	0.001458	3.438541
Water Truck	202	230	10	0.001521	0.008042	0.036070	1.80E-05	0.001504	0.001458	3.438541

	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Dump Truck	0.61	3.25	14.57	0.01	0.61	0.59	1,389.38
Water Truck	0.31	1.62	7.29	0.00	0.30	0.29	694.69

Hot Mix Asphalt (HMA)	Volume of HMA (ft^3)	Weight of HMA (tons)	VOC lb/ton of aspha	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Standard Hot Mix Asphalt	27,443	207	0.04	8.28	-	-	-	-	-	-
			Subtotal (lbs):	**113**	**583**	**1,453**	**33**	**94**	**91**	**157,020**
			Paving Grand Total in Tons	**0.06**	**0.29**	**0.73**	**0.02**	**0.05**	**0.05**	
			Paving Grand Total in Metric Tons							**71**

Rail Replacement 40 mi RT

Off-road Equipment	Hours	Engine HP	Load Factor	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	SO_2 g/hp-hr	PM10 g/hp-hr	PM2.5 g/hp-hr	CO_2 g/hp-hr
Excavator	160	243	0.59	0.34	1.21	4.03	0.12	0.22	0.22	536
Loader	80	160	0.23	0.38	1.47	4.34	0.12	0.31	0.30	536

	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Excavator	17.39	61.15	203.78	5.83	11.27	10.93	27,096.22
Skid Steer Loader	2.49	9.54	28.16	0.75	1.98	1.92	3,476.74

On-road Equipment	Miles	Engine HP	VOC lb/mile	CO lb/mile	NOx lb/mile	SO_2 lb/mile	PM_{10} lb/mile	$PM_{2.5}$ lb/mile	CO_2 lb/mile
Dump Truck	0	230	0.0015	0.0080	0.0361	0.0000	0.0015	0.0015	3.4385

	VOC lb	CO lb	NOx lb	SO2 lb	PM10 lb	PM2.5 lb	CO_2 lb
Dump Truck	0.24	1.29	5.77	0.00	0.24	0.23	550
Subtotal (lbs):	**20**	**72**	**238**	**7**	**13**	**13**	**31,123**
Rail Work Grand Total in Tons	**0.01**	**0.04**	**0.12**	**0.00**	**0.01**	**0.01**	
Rail Work Grand Total in Metric Tons							**14**

Material Deliveries

On-road Equipment	Miles	Engine HP	Speed (mph)	VOC lb/mile	CO lb/mile	NOx lb/mile	SO2 lb/mile	PM lb/mile	PM2.5 lb/mile	CO_2 lb/mile
Delivery Truck	105,840	265	-	0.0015	0.0080	0.0361	0.0000	0.0015	0.0015	3.4385

	VOC lb	CO lb	NOx lb	SO2 lb	PM lb	PM2.5 lb	CO_2 lb
Delivery Truck	161.02	851.16	3,817.65	1.91	159.23	154.29	363,935.18
Building Construction Grand Total in Tons	**0.08**	**0.43**	**1.91**	**0.00**	**0.08**	**0.08**	
Building Construction Grand Total in Metric Tons							**165**

Year	PM_{10} tons/acre/ mo	acres	days of disturbance	PM_{10} Total	PM2.5/ PM_{10} Ratio	$PM_{2.5}$ Total
2021	0.42	13.38	117.6	33.0	0.1	3.3

Total Estimated Emissions

Year	VOC tons	CO tons	NOx tons	SO2 tons	PM10 tons	PM2.5 tons	CO_2 Metric tons
2021	0.31	1.48	5.55	0.05	19.40	2.18	510
2022	0.22	1.08	4.04	0.03	14.11	1.58	371

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