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Lake City Army Ammunition Plant  
Jackson County, Missouri

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# Environmental Assessment and Draft Finding of No Significant Impact



## Next Generation Squad Weapon – Ammunition Manufacturing Facility

Prepared by  
United States Army Corps of Engineers  
Kansas City District



September 2019

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# **Draft Finding of No Significant Impact**

## **Next Generation Squad Weapon – Ammunition Manufacturing Facility**

**September 2019**

### **Introduction**

Lake City Army Ammunition Plant (LCAAP) is a U.S. Army, Government-Owned, Contractor-Operated (GOCO) facility of the Joint Munitions Command (JMC) and the U.S. Army Materiel Command. Employing over 3,000 workers, LCAAP manufactures and tests small caliber ammunition, including 5.56mm, 7.62mm, 20mm and .50 caliber rounds. In addition to the manufacturing, assembling, testing and storing of small caliber ammunition, current operations at LCAAP include primer manufacturing. LCAAP occupies 3,935 acres and is located in the northeastern part of Independence, Missouri; which skirts the west side of Kansas City, Missouri (Figure 1 of the Environmental Assessment (EA)).

### **Purpose and Need**

The purpose of the Proposed Action is to construct and operate a Next Generation Squad Weapons-Ammunition (NGSW-A) manufacturing facility for the production of 6.8mm general purpose and special purpose ammunition at LCAAP. The Proposed Action is needed because the Army is seeking a high performance small caliber round that is more effective, has enhanced combat and training capabilities and is composed of elements that are environmentally friendly. Successful production of this new munition would increase the effectiveness and survivability of U.S. service members around the globe in training and battlefield environments, thus sustaining the protection and national security of the United States and meeting the mission readiness requirement of the U.S. Military. For security purposes and control accessibility, the NGSW-A facility is required to be constructed within the secure inner fence area of LCAAP. The NGSW-A facility is expected to achieve initial production capability by Fiscal Year (FY) 2024.

### **Proposed Action**

The Proposed Action is to construct and operate a NGSW-A facility within an undeveloped location on LCAAP in order to meet current and anticipated small caliber production requirements. Similar to existing legacy ammunition production facilities at LCAAP, the NGSW-A facility is required to be constructed within the secure inner fence area of LCAAP. Additionally, to accommodate the labor force needed to operate the NGSW-A facility, a parking area would be constructed outside the secure inner fence area for employees without inner fence security clearances.

### **Alternatives Considered**

Due to its current mission as the Department of Defense's small caliber ammunition production facility, LCAAP was selected by the Army as the installation in which the

NGSW-A would be produced. Existing facilities would not accommodate the need for this project without impacting legacy ammunition production and demand requirement. Screening criteria was used to determine the most practical and viable location for the NGSW-A facility. Two potential facility locations (Figure 2 of the EA) were identified; thus, the No Action Alternative and two alternative locations to construct a NGSW-A facility were evaluated for potential environmental, economic and social effects.

**Alternative 1 – No Action Alternative:** Under the No Action Alternative, a NGSW-A facility would not be constructed or operated on LCAAP property. LCAAP lands would not be developed and would remain in current conditions. The Army would not meet mission readiness requirements through the production of a lighter, more environmentally-friendly next generation round, thereby continuing to use legacy ammunition currently in production and preventing improvement to the battlefield effectiveness of our troops.

**Alternative 2 – Construct and Operate a NGSW-A Facility at Site Option 1 (Preferred Alternative):** Under Alternative 2, a NGSW-A facility would be constructed within the existing secure inner fence area at Site Option 1 (Figure 3 of the EA). The NGSW-A facility would consist of a single building or multiple structures equaling approximately 450,000 to 625,000 square feet and located within a 55-acre project area. The main building(s), supporting infrastructure and associated blast arcs are expected to require approximately 30-acres of the project area. An additional 2- to 4-acre parking lot would be built outside the secure inner fence within a 7.5-acre area northeast of the constructed NGSW-A facility. This location would also be used as a contractor material staging area. Road improvements and storm water drainage structures would also occupy a portion of the project area and would be integrated into LCAAP's infrastructure. Existing abandoned utility structures within the project area would be removed and minor ground grading and contouring would occur as needed. Five World War II era general storage buildings and two semi-permanent storage buildings equaling approximately 18,000 square feet are located within the northwest corner of the project area and could be demolished if required by facility designs. Utility lines, such as electrical lines, would be rerouted or integrated within the facilities infrastructure. Construction within existing Explosive Safety/Quantity Distance (QD) Arcs would be avoided to adhere to Department of Defense (DoD) safety regulations (DESR 6055.09). Existing ground contamination at LCAAP is managed by the Installation Restoration Program (IRP). IRP sites are known to exist within and adjacent to the project areas. However, if unknown contamination is identified during construction, then the contractor would contact LCAAP Environmental Engineering for appropriate guidance and instruction. The contractor is required to follow all applicable federal, state, local and LCAAP regulations, plans and environmental policy; to include applicable permits.

**Alternative 3 – Construct and Operate a NGSW-A Facility at Site Option 2:** Under Alternative 3, a NGSW-A facility would be constructed within the existing secure inner fence area at Site Option 2 (Figure 4 of the EA). The NGSW-A facility would consist of a single building or multiple structures equaling approximately 450,000 to 625,000 square feet and located within a 53-acre project area. The main building(s), supporting infrastructure and associated blast arcs are expected to require approximately 30-acres of the project area within the inner fence. Due to the size of the building(s) a section of

the inner fence within the project boundary would be moved westward to enclose the facility. A 2- to 4-acre parking lot would be built outside the secure inner fence in the western 23-acre portion and would also serve as the project's material staging area. Road improvements, to include possibly rerouting Commander's Ridge Road and storm water drainage structures would also occupy a portion of the project area and would be integrated into LCAAP's infrastructure. Minor ground grading/leveling would occur as needed. Utilities, such as electrical lines, would be rerouted or integrated within the facilities infrastructure. Construction within existing QD Arcs would be avoided to adhere to DoD safety regulations (DESR 6055.09). Existing IRP sites are known to exist within and adjacent to the project area. If unknown contamination is identified during construction, then the contractor would contact LCAAP Environmental Engineering for appropriate guidance and instruction. The contractor is required to follow all applicable federal, state, local and LCAAP regulations, plans and environmental policy; to include applicable permits.

### **Summary of Environmental Consequences**

The Preferred Alternative (Alternative 2) would have no impacts to federally listed threatened or endangered species or to their designated critical habitat. The Preferred Alternative would have no adverse impacts to sites listed on, or eligible for inclusion on the National Register of Historic Places. The project would not have adverse impacts to migratory birds or eagles. No waters of the U.S., to include wetlands, would be impacted. The Preferred Alternative would result in minor short-term construction-related impacts to air quality, noise, soils, biological resources and transportation. Beneficial impacts include socioeconomics in the region of influence and benefits to infrastructure on LCAAP. Approximately 30-acres would be disturbed to construct the NGSW-A facility, however, non-developed areas would be seeded with warm season grasses and maintained through mowing activities. The Preferred Alternative would not result in any significant, long-term adverse impacts to the human environment.

### **Mitigation Measures**

Areas on or adjacent to the proposed project footprint that contain wetlands, arsenic, or are within an explosive arc were avoided through the site selection process described within the EA. Through avoidance and proposed remediation, Best Management Practices (BMPs) and restoration actions, mitigation measures are not required with implementation of the Preferred Alternative.

### **Public Review**

Prior to a decision on whether to prepare an Environmental Impact Statement (EIS), USACE is circulating a Public Notice (Notice) for the EA and draft Finding of No Significant Impact (FONSI), with a thirty-day comment period. The Notice has been published in The Examiner daily newspaper and a physical copy has been posted at Mid Continent Library-North Independence Branch, Independence, Missouri. The Notice is being provided to the public, resource agencies, federally recognized Native American Tribes and individuals/agencies/businesses listed on the USACE Regulatory e-mail distribution list. The Notice states that the EA and draft FONSI is available on the USACE webpage and that hard copies have been made available upon request. The Public Notice was issued

on 11 September 2019. Any comments received will be included in Appendix II of the EA.

**Decision**

After evaluating the anticipated environmental, economic and social effects of the proposed activity, the determination has been made that the proposed construction and operation of the Next Generation Squad Weapons facility does not constitute a major federal action that would significantly affect the quality of the human environment; therefore, preparation of an EIS is not required.

*Approved by:*

\_\_\_\_\_  
Dana Crow  
TC, LG  
Commanding

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Date

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# TABLE OF CONTENTS

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<b>1.0</b>	<b>Introduction.....</b>	<b>1</b>
1.1	Purpose and Need.....	2
1.2	Public Participation.....	3
<b>2.0</b>	<b>Proposed Action and Alternatives Evaluation.....</b>	<b>4</b>
2.1	Proposed Action.....	4
2.2	Alternatives Evaluation.....	4
2.2.1	Screening Criteria.....	4
2.2.2	Alternative Considerations.....	5
2.2.3	Alternatives.....	6
<b>3.0</b>	<b>Affected Environment.....</b>	<b>9</b>
3.1	Air Quality.....	9
3.2	Noise.....	10
3.3	Water Resources.....	10
3.4	Wetlands.....	11
3.5	Land Use.....	12
3.6	Soils.....	13
3.7	Biological Resources.....	13
3.8	Socioeconomics.....	14
3.9	Cultural Resources.....	15
3.10	Infrastructure and Utilities.....	15
3.11	Transportation.....	15
3.12	Climate Change.....	15
3.13	Hazardous, Toxic and Radioactive Waste.....	16
<b>4.0</b>	<b>Environmental Consequences (Effects).....</b>	<b>19</b>
4.1	Air Quality.....	20
4.2	Noise.....	20
4.3	Water Resources.....	21
4.4	Wetlands.....	22
4.5	Land Use.....	22
4.6	Soils.....	23
4.7	Biological Resources.....	23
4.8	Socioeconomics.....	24
4.9	Cultural Resources.....	25
4.10	Infrastructure and Utilities.....	25

4.11	Transportation .....	26
4.12	Climate Change Considerations .....	27
4.13	Hazardous, Toxic and Radioactive Waste .....	27
<b>5.0</b>	<b>Cumulative Actions and Effects .....</b>	<b>28</b>
5.1	Past, Present and Reasonably Foreseeable Actions .....	28
5.2	Cumulative Impact Assessment .....	29
5.3	Preferred Alternative Summary of Cumulative Impacts .....	30
<b>6.0</b>	<b>Mitigation Measures .....</b>	<b>30</b>
<b>7.0</b>	<b>Conclusions .....</b>	<b>30</b>
<b>8.0</b>	<b>Public Coordination and Comments .....</b>	<b>30</b>
<b>9.0</b>	<b>List of Preparers .....</b>	<b>31</b>
<b>10.0</b>	<b>Agency Compliance with Other Environmental Laws .....</b>	<b>32</b>
<b>11.0</b>	<b>References .....</b>	<b>33</b>
<b>12.0</b>	<b>Appendices .....</b>	<b>35</b>

**List of Figures**

<b>Figure 1. Location of LCAAP .....</b>	<b>2</b>
<b>Figure 2. Alternative Site Options .....</b>	<b>6</b>
<b>Figure 3. Proposed NGSW-A Facility at Site Option 1. ....</b>	<b>7</b>
<b>Figure 4. Proposed NGSW-A Facility at Site Option 2. ....</b>	<b>8</b>
<b>Figure 5. Surface Water Features and Outfalls .....</b>	<b>11</b>
<b>Figure 6. Wetlands .....</b>	<b>12</b>
<b>Figure 7. HTRW Areas .....</b>	<b>18</b>

**List of Tables**

<b>Table 1. Screening Criteria .....</b>	<b>5</b>
<b>Table 2. Resource Categories Eliminated from Impacts Evaluation .....</b>	<b>9</b>
<b>Table 3. Socioeconomics - Independence, Buckner and Blue Springs Missouri. .</b>	<b>14</b>

**List of Appendices**

- Appendix I Agency and Tribal Coordination**
- Appendix II Public Notice and Comments**
- Appendix III Wetland Data**
- Appendix IV Record of Non-Applicability**

## ACRONYMS AND ABBREVIATIONS

AMC	Army Materiel Command
AR	Army Regulation
BMP	Best management practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
dBA	A-weighted decibels
DoD	Department of Defense
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
FONSI	Finding of No Significant Impact
FY	Fiscal Year
GHG	Green House Gas
GOCO	Government-Owned, Contractor-Operated
IPaC	Information for Planning and Consultation
IPCC	Intergovernmental Panel on Climate Change
IRP	Installation Restoration Program
IWOU	Installation Wide Operable Unit
JMC	Joint Munitions Command
LCAAP	Lake City Army Ammunition Plant
LUC	Land Use Controls
MAJCOM	Major Commands
MDNR	Missouri Department of Natural Resources
mm	Millimeter
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NGSW-A	Next Generation Squad Weapons - Ammunition
NOI	Notice of Intent
NRHP	National Register of Historic Places
OU	Operable Units
PAH	Polycyclic Aromatic Hydrocarbons
PCB	polychlorinated biphenyls
QD	Quantity Distance
ROI	Region of Influence
SHPO	State Historic Preservation Office
TCP	Traditional Cultural Properties
USACE	United States Army Corps of Engineers
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
USGCRP	United States Global Change Research Program
USFWS	U.S. Fish and Wildlife Service
VOC	Volatile Organic Compound
WTP	Water Treatment Plant

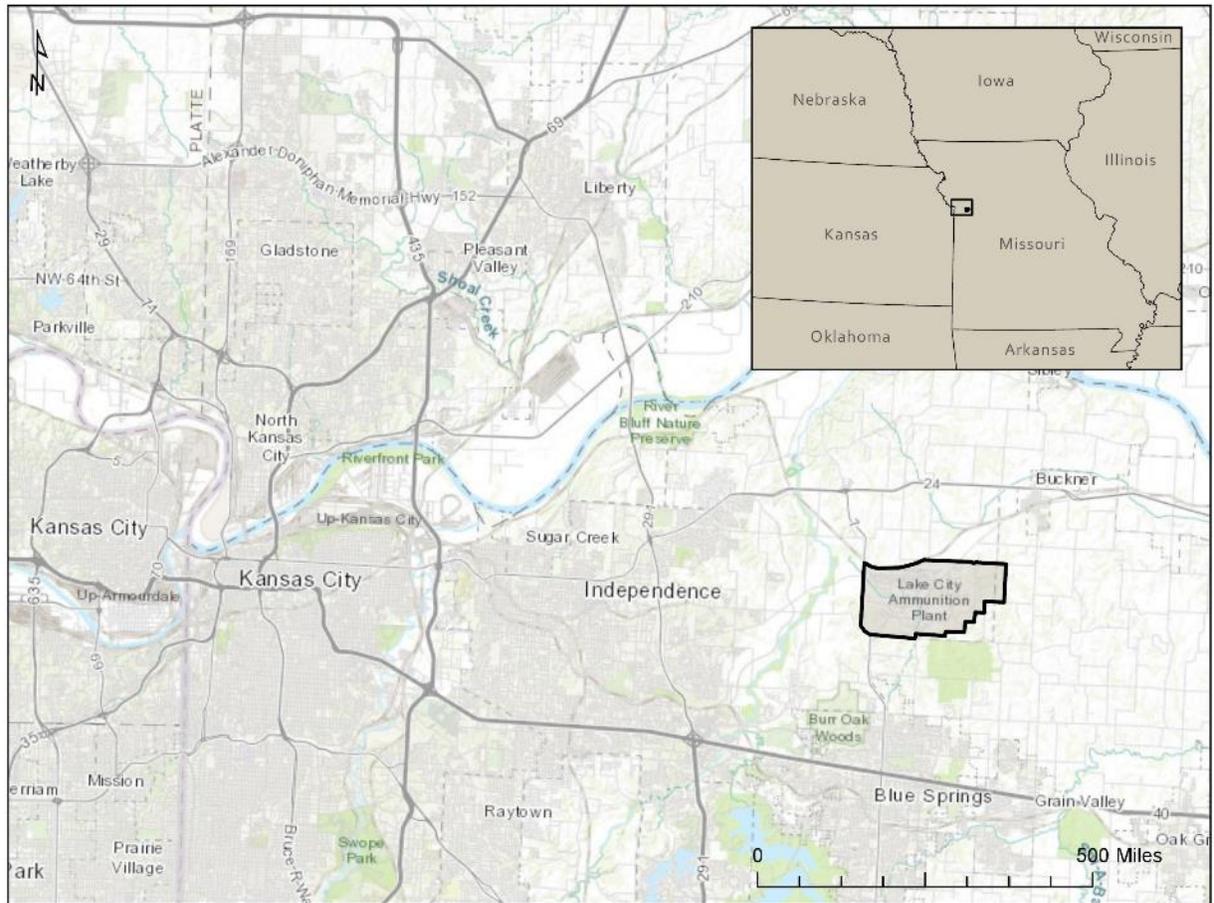
## 1.0 Introduction

The Army prepared this Environmental Assessment (EA) in accordance with requirements of Title 42 of the *United States Code* (U.S.C.) section 4321 *et seq.*, the National Environmental Policy Act (NEPA); Title 40 of the *Code of Federal Regulations* (CFR) parts 1500–1508, *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (NEPA)*; 32 CFR part 651, *Environmental Analysis of Army Actions*; and the U.S. Army Materiel Command policy. The information contained in this EA will be reviewed and considered by the U.S. Army prior to any final decision to implement a Preferred Alternative, and to determine whether a Finding of No Significant Impact (FONSI) is appropriate or whether an environmental impact statement (EIS) should be prepared.

This EA evaluates the socioeconomic and environmental impacts of constructing a Next Generation Squad Weapon - Ammunition (NGSW-A) production facility at the Lake City Army Ammunition Plant (LCAAP) in Independence, Missouri (Figure 1). The LCAAP is a U.S. Army, Government-Owned, Contractor-Operated (GOCO) facility of the Joint Munitions Command (JMC) and the U.S. Army Materiel Command (AMC). LCAAP manufactures and tests small caliber ammunition, including 5.56mm, 7.62mm, 20mm and .50 caliber rounds. Employing over 3,000 workers, LCAAP annually produces 100s of millions of rounds. In addition to the manufacturing, assembling, testing and storing of small caliber ammunition, current operations at LCAAP include primer manufacturing.

For more than 50-years the U.S. Military has used 5.56mm and 7.62mm ammunition in conflicts around the world. However, with advancing body armor technology entering the battlefield, the 5.56mm and 7.62mm rounds are becoming less effective due to the size, velocity and kinetic energy of these cartridges. To better prepare for future conflicts, the U.S. Army proposes to develop a 6.8mm NGSW-A which is lighter in weight, more accurate due to reduced recoil and has the size, velocity and energy to be effective against advancing armor technology. This high performance round is expected to provide the stopping power, lethality and accuracy needed to effectively engage and eliminate targets up to 2,000 feet away.

The Joint Chiefs of Staff and Major Commands (MAJCOMs) determined the research and development of this round is necessary to meet the National Security Strategy. The National Security Strategy is a document prepared periodically by the executive branch of the government of the United States for Congress which outlines the major national security concerns of the United States and how the administration plans to deal with them. Likewise, the U.S. Army Materiel Command has affirmed the need for a new NGSW-A facility.



**Figure 1. Location of LCAAP**

### 1.1 Purpose and Need

The LCAAP installation has been selected for the NGSW-A project and is part of an overall larger program to create the next generation of small caliber ammunition to support the United States military. The purpose of the Proposed Action is to construct and operate a NGSW-A manufacturing facility for the production of 6.8mm general purpose and special purpose ammunition at LCAAP. The Proposed Action is needed because the Army is seeking a high performance small caliber round that is more effective, has enhanced combat and training capabilities and is composed of elements that are environmentally friendly. Successful production of this new munition would increase the effectiveness and survivability of U.S. service members around the globe in training and battlefield environments, thus sustaining the protection and national security of the United States and meeting the mission readiness requirement of the U.S. Military. For security purposes and control accessibility, the NGSW-A facility is required to be constructed within the secure inner fence area of LCAAP. The NGSW-A facility is expected to achieve initial production capability by FY 2024.

## 1.2 Public Participation

Public involvement in the EA process is conducted in accordance with NEPA, Council on Environmental Quality (CEQ) and Army implementing regulations. Public participation with respect to this EA and decision-making on the Proposed Action are guided by 32 CFR part 651.36-37 and 32 CFR 651 Subpart G. This EA, along with a draft FONSI, have been made available to the public, resource agencies and federally recognized Native American Tribes for 30-days. The following Native American Tribes will be contacted during the public review period:

- Osage Nation
- Ponca Tribe of Nebraska
- Ponca Tribe of Oklahoma
- Omaha Tribe of Nebraska
- Kaw Nation
- Prairie Band Potawatomi Nation
- Sac and Fox Nation of Missouri in Kansas and Nebraska
- Iowa Tribe of Kansas and Nebraska

A notice of availability of the EA and draft FONSI have been published in the Examiner newspaper and a physical copy of the EA and draft FONSI has been posted at Mid Continent Library-North Independence Branch, Independence, Missouri. The Draft documents for this project were made available for review at the USACE, Kansas City District office and on line at the following web page: <https://www.nwk.usace.army.mil/Media/Public-Notices/Planning-Public-Notices/>. At the end of the 30-day public review period, the Army will consider any submitted comments by individuals, agencies or organizations. As appropriate, the Army will either execute a final FONSI and proceed with implementing the Proposed Action, or publish a notice of intent (NOI) to prepare an EIS, or take other actions consistent with NEPA and its implementing regulations.

Consideration of the views and information of all interested parties promotes open communication and enables better decision-making. Agencies, organizations and members of the public having a potential interest in the Proposed Action, including Native American groups and minority, low-income and disadvantaged persons, can participate in the decision-making process through public review of the EA and draft FONSI. Coordination with the U.S. Fish and Wildlife Service (USFWS), State Historic Preservation Office (SHPO) and Native American Tribes was conducted during preparation of the EA (coordination letters and responses are included in Appendix I). A copy of the Public Notice and any comments received, to include their responses, from the public, participating agencies, and Tribes will be included Appendix II upon completion of the 30-day public review period.

## **2.0 Proposed Action and Alternatives Evaluation**

This section describes the Proposed Action, alternatives and the screening criteria used to evaluate each alternative's viability in meeting the project's purpose and need. Those alternatives that are screened out or not-viable were not carried forward for detailed analysis in Chapter 4.0, Environmental Consequences.

### **2.1 Proposed Action**

The Proposed Action is to construct and operate a NGSW-A facility within an undeveloped location on LCAAP in order to meet current and anticipated small caliber production requirements. Similar to existing legacy ammunition production facilities at LCAAP, the NGSW-A facility is required to be constructed within the secure inner fence area of LCAAP. Additionally, to accommodate the labor force needed to operate the NGSW-A facility, a parking area would be constructed outside the secure inner fence area for employees without inner fence security clearances.

### **2.2 Alternatives Evaluation**

Due to the age of the existing facilities (1940s era) and to prevent impact to legacy ammunition production capabilities and demands, any alternative to equip existing production buildings with 6.8mm NGSW-A production equipment was not considered.

#### **2.2.1 Screening Criteria**

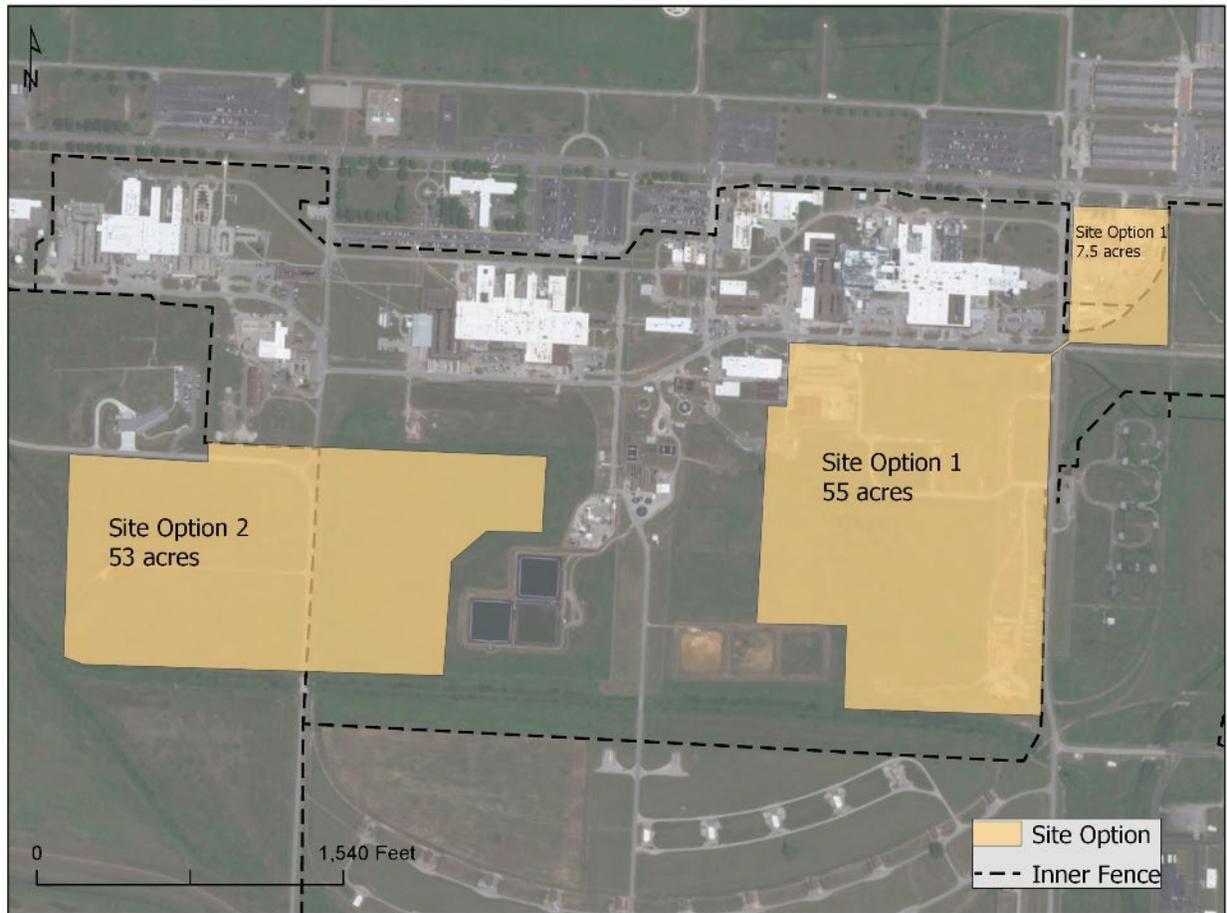
Screening Criteria (Table 1) were developed to identify viable site options to achieve the purpose and need of the proposed action. For a site option to be considered as a viable alternative and carried forward for analysis, it must meet the purpose and need of the proposed action and satisfy the screening criteria listed in Table 1.

**Table 1. Screening Criteria**

<b>Type of Criteria</b>	<b>Description</b>
1) Location to Existing Utilities and Supporting Infrastructure	Availability of ancillary support structures such as steam lines, utilities (electric, water and natural gas) and roads, and be located in close proximity to existing production facilities to allow for efficient energetic materials distribution via a restricted access road network.
2) Explosive Safety/ Quantity Distance (QD) Arcs	Explosive safety arcs show the influence of potential explosions from current operations. Arcs for the NGSW-A area must not impact other arcs or buildings, and arcs from other facilities cannot impact the NGSW-A facility. If tenant buildings exist, then tenant operations must have the capability to be relocated to another part of LCAAP.
3) Available Space	Project area must be approximately 30-acres to accommodate the facility, supporting structures, future expansion of the facility and associated blast arcs. Project area must include areas outside of the inner fence to accommodate an employee parking lot.

### **2.2.2 Alternative Considerations**

The No Action Alternative and two Site Options have been considered for analysis in this EA (Figure 2). The CEQ regulations (40 CFR 1502.14(d)) requires analysis of a no action alternative to provide a benchmark, enabling decision makers to compare the magnitude of potential environmental effects caused by other alternatives considered to implement the proposed action. The no action alternative is not required to be reasonable, nor does it need to meet the purpose and need described in Section 1.1. Site Option 1 and 2 are the only viable site options that meet all of the screening criteria listed in Table 1. Site Option 1 is the preferred location because it is located physically closer to existing infrastructure than Site Option 2, thus reducing the area requiring additional utility infrastructure and minimizing inefficiencies in energetic material delivery via designated restricted access roads.



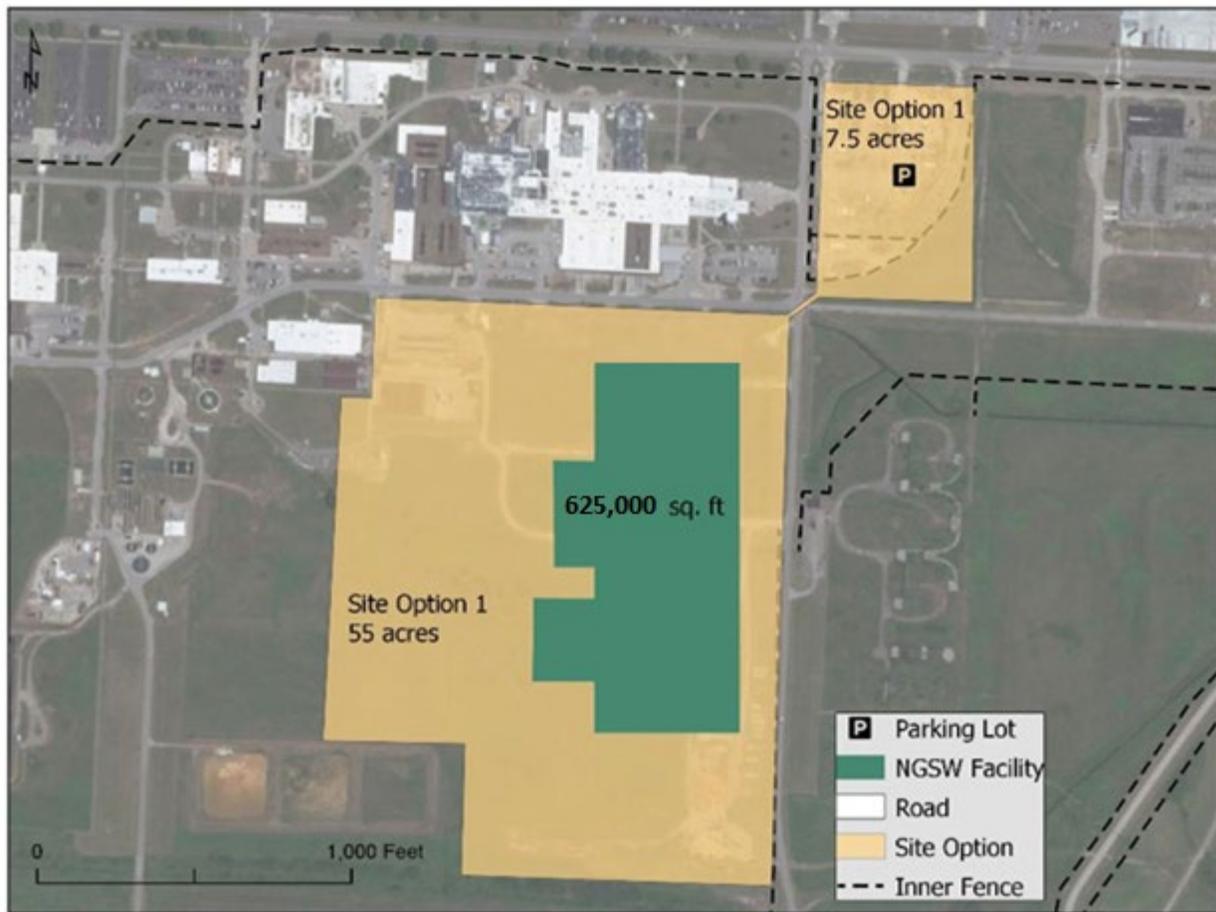
**Figure 2. Alternative Site Options**

### 2.2.3 Alternatives

**Alternative 1 – No Action Alternative:** Under the No Action Alternative, a NGSW-A facility would not be constructed or operated on undeveloped property at LCAAP. LCAAP lands would not be developed and would remain in current conditions. The Army would not meet mission readiness requirements through the production of a lighter, more environmentally-friendly next generation round, thereby continuing to use legacy ammunition currently in production and preventing improvement to the battlefield effectiveness of our troops.

**Alternative 2 – Construct and Operate a NGSW-A Facility at Site Option 1 (Preferred Alternative):** Under Alternative 2, a NGSW-A facility would be constructed within the existing secure inner fence area at Site Option 1 (Figure 3). The NGSW-A facility would consist of a single building or multiple structures equaling approximately 450,000 to 625,000 square feet and located within a 55-acre project area. The main building(s), supporting infrastructure and associated blast arcs are expected to require approximately 30-acres of the project area. An additional 2 to 4-acre parking lot would be built outside the secure inner fence within a 7.5-acre area northeast of the constructed NGSW-A facility. This location would also be used as a contractor material staging area. Road

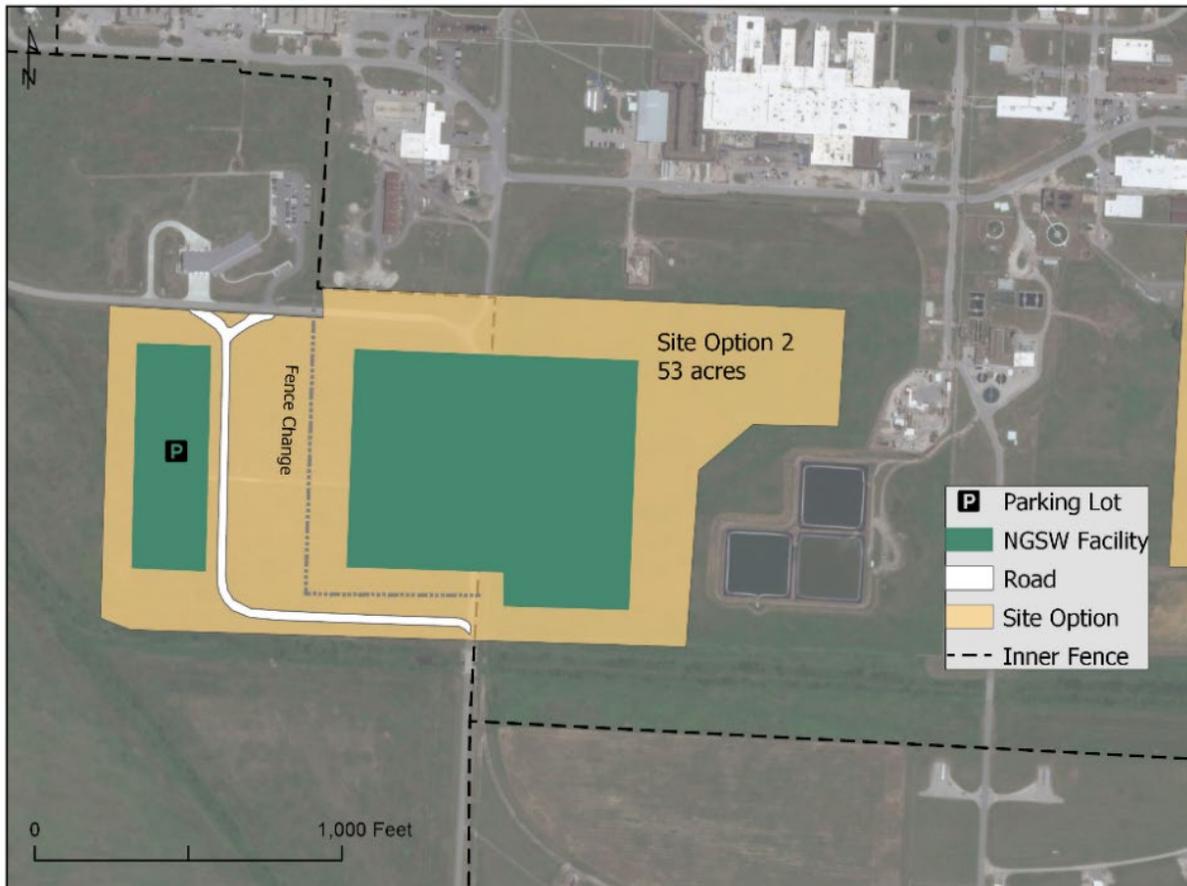
improvements and storm water drainage structures would also occupy a portion of the project area and would be integrated into LCAAP's infrastructure. Existing abandoned utility structures within the project area would be removed and minor ground grading and contouring would occur as needed. Five World War II era general storage buildings and two semi-permanent storage buildings equaling approximately 18,000 square feet are located within the northwest corner of the project area and could be demolished if required by facility designs. Utility lines, such as electrical lines, would be rerouted or integrated within the facilities infrastructure. Construction within existing QD Arcs would be avoided to adhere to DoD safety regulations (DESR 6055.09). Existing Installation Restoration Program (IRP) sites are known to occur within and adjacent to the project area. If unknown contamination is identified during construction, then the contractor would contact LCAAP Environmental Engineering for appropriate guidance and instruction. The contractor is required to follow all applicable federal, state, local and LCAAP regulations, plans and environmental policy; to include applicable permits.



**Figure 3. Proposed NGSW-A Facility at Site Option 1.**

**Alternative 3 – Construct and Operate a NGSW-A Facility at Site Option 2:** Under Alternative 3, a NGSW-A facility would be constructed within the existing secure inner fence area at Site Option 2 (Figure 4). The NGSW-A facility would consist of a single building or multiple structures equaling approximately 450,000 to 625,000 square feet

and located within a 53-acre project area. The main building(s), supporting infrastructure and associated blast arcs are expected to require approximately 30-acres of the project area within the inner fence. Due to the size of the building(s) a section of the inner fence within the project boundary would be moved westward to enclose the facility. A 2- to 4-acre parking lot would be built outside the secure inner fence in the western 23-acre portion and would also serve as the project's material staging area. Road improvements, to include possibly rerouting Commander's Ridge Road and storm water drainage structures would also occupy a portion of the project area and would be integrated into LCAAP's infrastructure. Minor ground grading/leveling would occur as needed. Utilities, such as electrical lines, would be rerouted or integrated within the facilities infrastructure. Construction within existing QD Arcs would be avoided to adhere to DoD safety regulations (DESR 6055.09). Existing IRP sites are known to exist within and adjacent to the project area. If unknown contamination is identified during construction, then the contractor would contact LCAAP Environmental Engineering for appropriate guidance and instruction. The contractor is required to follow all applicable federal, state, local and LCAAP regulations, plans and environmental policy; to include applicable permits.



**Figure 4. Proposed NGSW-A Facility at Site Option 2.**

### 3.0 Affected Environment

The following sections discuss the affected environment associated with the proposed action. Army NEPA Regulations (32 CFR §651.14) state that the NEPA analysis should reduce or eliminate discussion of minor issues to help focus analyses. This approach minimizes unnecessary analysis in the document and discussion during the NEPA process. The CEQ regulations for implementing NEPA (40 CFR 1500.4(g)) emphasizes using the scoping process not only to identify significant environmental issues deserving of study, but also to de-emphasize insignificant issues, narrowing the scope of the environmental assessment process. After consideration of the anticipated impacts associated with the proposed alternatives, resource topics listed in Table 3 were considered, but eliminated from discussion within this Chapter.

**Table 2. Resource Categories Eliminated from Impacts Evaluation.**

<b>Resource Categories</b>	<b>Reason for Elimination</b>
Airspace	The project is not located within a designated restricted airspace. Project construction heights would not exceed heights greater than existing structures found on LCAAP.
Aesthetics/Visual	The project is located on a restricted Army installation and not open to public access. The open grass lots are periodically maintained with little to no aesthetic value.
Environmental Justice	LCAAP is a restricted military installation and no Environmental Justice tracts are present as defined under Executive Order 12898. The project would not adversely impact any eligible Environmental Justice tracts in the vicinity of LCAAP.
Floodplain/Flooding	The project is not located within a 100-year floodplain due to the Big Ditch Project in 1985; which involved the construction of levees along flood prone areas of LCAAP.
Geology	The project does not involve activities that interact with geologic features, such as bedrock or stream geomorphology.
Protection of Children	LCAAP is a restricted military installation. No schools, residential areas, or other types of facilities where children are typically present are in close proximity to the project.

### 3.1 Air Quality

Air pollution is the presence in the atmosphere of one or more contaminants (for example, dust, fumes, gas, mist, odor, smoke and vapor) that may be harmful to human, plant, or animal life. Air quality, as a resource, incorporates several components that describe the levels of overall air pollution within a region, sources of air emissions and regulations governing air emissions. Most construction activities produce some level of fugitive dust from dirt work and combustion based emissions from equipment.

The county in which LCAAP is located was reviewed on the United States Environmental Protection Agency (USEPA) website for National Ambient Air Quality Standards (NAAQS). The USEPA online report indicated that Jackson County, Missouri is in non-attainment for Sulfur Dioxide (USEPA 2010). All other NAAQS are in attainment for the project area (USEPA 2018). Additionally, LCAAP as a whole, is classified by Missouri Department of Natural Resources (MDNR) as a major source of air emissions, requiring monitoring and has a Title V Air Quality Permit.

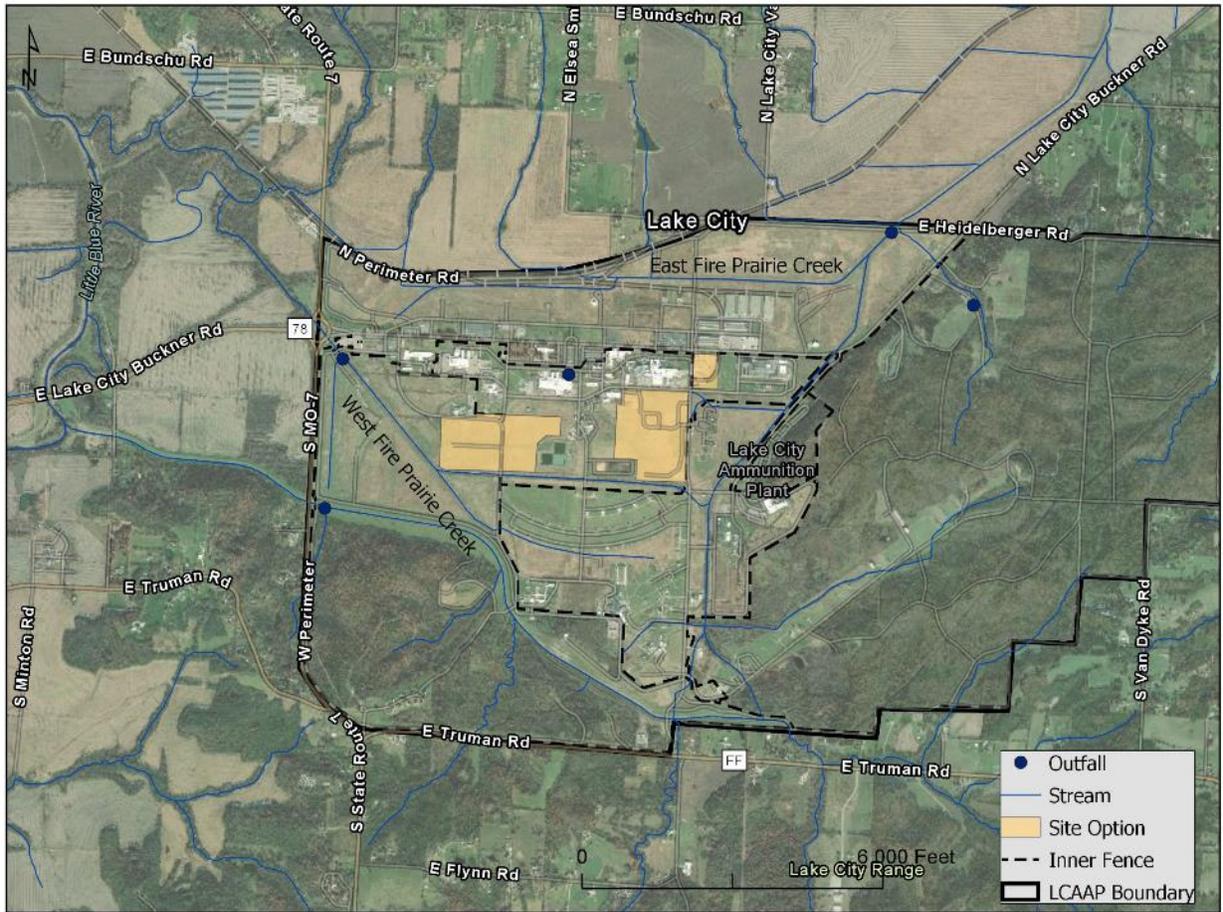
### **3.2 Noise**

Sound is a physical phenomenon consisting of vibrations that travel through a medium such as air and are sensed by an ear. Sounds that disrupt normal activities or otherwise diminish the quality of the environment are designated as noise. Noise is defined as any sound that is undesirable because it interferes with communication, intense enough to damage hearing, or otherwise intrusive. Noise can be stationary or transient and intermittent or continuous. Human response to noise varies depending on the type and characteristics of the distance between the noise source and the receptor, receptor sensitivity and time of day. Sensitive noise receptors may include animals sensitive to noise such as nesting eagles and to human activities/places such as churches, libraries, daycares, or schools. No sensitive noise receptors are known to occur in the vicinity of the project area. The closest possible sensitive noise receptor is a church located more than 1-mile away.

Existing sources of noise at and around LCAAP include commercial and private aircraft overflights, railroad and vehicle traffic, lawn maintenance equipment and construction. Other noise sources on the installation include operation of manufacturing facilities, munitions testing and heavy equipment use. Occasional complaints have been received from adjacent residents regarding munition testing activities.

### **3.3 Water Resources**

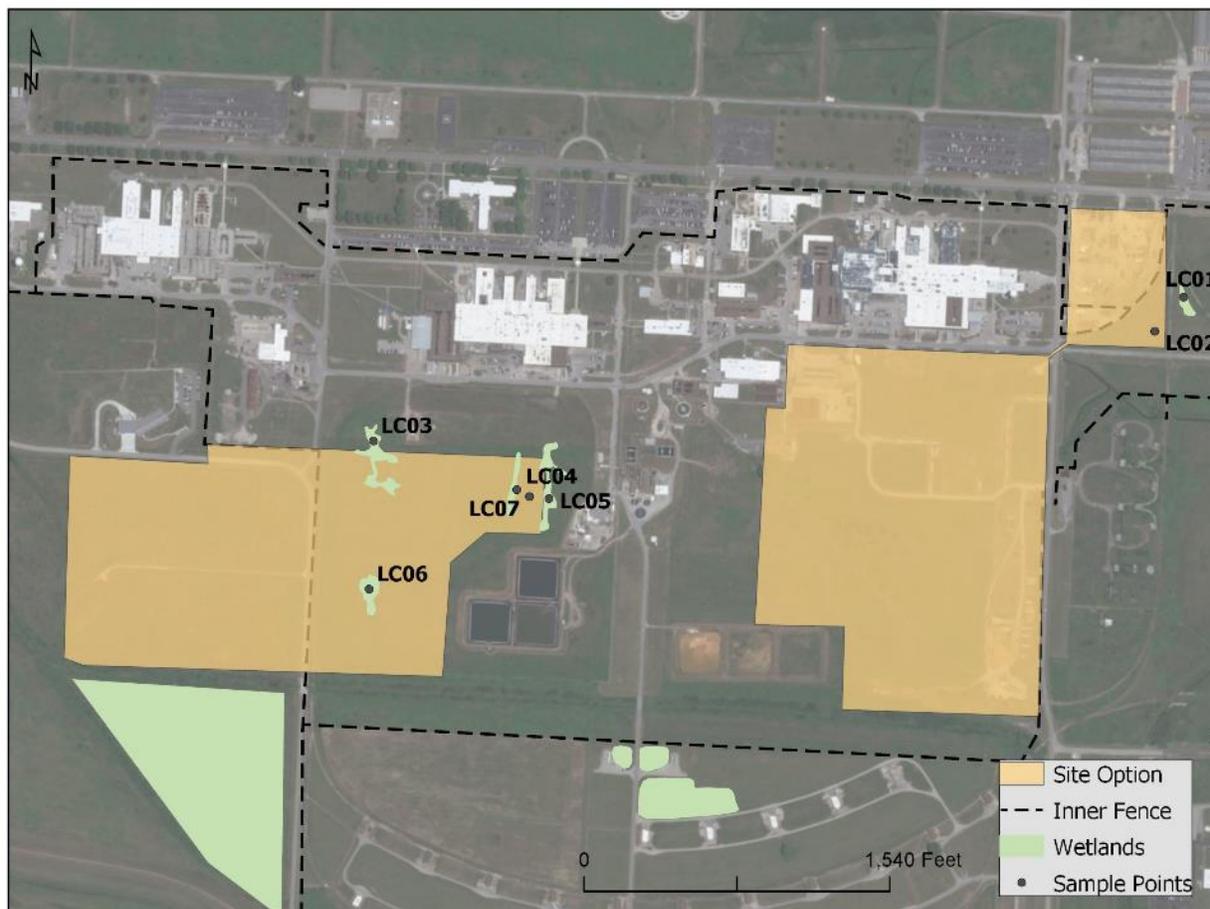
Stormwater runoff within the project area is diverted into local stormwater drains and ditches. These drainages are connected to tributaries or larger drainage ditches of East and West Fire Prairie Creek (Figure 5). East Fire Prairie Creek generally flows northeast connecting with Fire Prairie Creek, whereas West Fire Prairie Creek generally flows westward connecting the Little Blue River. Both of these water bodies are tributaries to the Missouri River, which is less than 10-miles from LCAAP. Neither East nor West Fire Prairie Creek are on the MDNR 303(d) list for impairments. LCAAP operates under MDNR permit MO-0004880 and has five active outfall locations to monitor for state water quality standards. The operations permit, which included locations of outfalls is found on the MDNR website at <https://dnr.mo.gov/env/wpp/permits/issued/docs/0004880.pdf>. No lakes or impoundments are located within the vicinity of the project area. Groundwater is monitored near the project area for contaminants; however, Section 3.13 further discusses ground water contamination related to the project area.



**Figure 5. Surface Water Features and Outfalls**

### 3.4 Wetlands

LCAAP conducted a wetland delineation in 2015 (LCAAP 2015) and 19 sample points were collected. However, there were no sample points collected within proposed project areas. Therefore, additional project-specific wetland delineation points were collected to confirm boundaries within and adjacent to the proposed project areas. In March of 2019, USACE personnel conducted delineations in accordance with the Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Regional (Version 2.0) (USACE 2010) at potential wetland areas within and adjacent to the project areas. Approximately 1-acre of wetlands were identified within the area of Site Option 2. In addition, approximately 0.6-acres of wetlands were identified to be connected to and outside of the Site Option 2 project area. Refer to Appendix III for wetland data sheets and findings. Refer to Figure 6 for a map of wetlands based on those findings.



**Figure 6. Wetlands**

### 3.5 Land Use

LCAAP's principal mission is the manufacturing and packaging of small caliber ammunition. Excluding the road network, land use within the proposed project boundaries includes staging/storage of equipment and that land is maintained through routine mowing activities. Areas currently being used for stage/storage of equipment are located in the southeast corner and the proposed parking area of Site Option 1 (Figure 3). The proposed project areas are adjacent to a highly industrial area of LCAAP; located in the Installation Wide Operable Unit (IWOU) Areas 7, 21 and 24. Contamination and hazardous waste is further described in Section 3.13. Land Use Controls (LUCs) are in effect within the project area, as identified in the IWOU Land Use Control Implementation Plan (ARCADIS 2008). This Plan, in accordance with DoD and USEPA guidance, specifies the LUCs that are implemented through LCAAP Regulation 200-02 and include:

- Land use must remain classified as industrial.
- Prohibit the accessing or use of untreated contaminated groundwater except for limited use for remedial activities and investigative monitoring only.

- Prohibit the development of the IWOU for residential housing, schools (K-12), child care facilities, playgrounds and any other uses inconsistent with the assumptions used in the risk assessments.
- Prohibit actions that will damage the monitoring wells or impair groundwater remediation equipment such as well heads, vaults, casing, piping and storage tanks.
- Prohibit activities that will disturb the vegetative covers (such as, drilling, boring, digging, construction, or earth moving) without the appropriate approval and use of proper protection for human health and the environment.
- Prohibit activities that will result in unacceptable vapor exposure without appropriate protection. Within the delineated boundaries of the volatile organic compound (VOC) plumes, new buildings require a vapor barrier protection as part of the construction and intrusive work requires air monitoring and use of appropriate personal protection equipment as necessary.

### 3.6 Soils

The project area is relatively flat and lies directly above one of the deepest portions of a paleochannel. Above the alluvial sands and gravels is a silt and clay unit ranging in thickness from approximately 10 to 15-feet throughout the project area. The depth to groundwater varies from approximately 15 to 27-feet below ground surface.

LCAAP Excavation Waste Management Guidelines (LC-4367D) require a permit for interior and exterior excavation work conducted on LCAAP in order to check for utilities and other environmental concerns; such as the presences of contaminated soils. Excavated soils at LCAAP are required to be reincorporated within 50-feet of the excavated area footprint. If soil cannot be reincorporated, then soil testing is required to ensure soil is at or below Background Upper Tolerance Limits (UTLs) for Soil for LCAAP. Soil disposal outside of the 50-foot excavation area requires written permission from LCAAP Environmental Engineering (LCAAP 2018a). Excess soil from excavations are not allowed to be stockpiled for future project borrow use. Furthermore, soil investigations during wetland and cultural resource surveys indicate that soils have been highly disturbed through the proposed project areas.

### 3.7 Biological Resources

Native or naturalized vegetation, wildlife and the habitats in which they occur are collectively referred to as biological resources. Very little habitat and wildlife exists in the project area. The project area is primarily open grass lots, which include organisms such as toads, field mice, rabbits, differential grasshoppers, various other insects and birds, among others. Open grass lots on LCAAP are periodically maintained through mowing activities. Less than 50 trees of various sizes are scattered across the area of Site Option 1. Nearly all the trees are honey locust, with the exception of a few ash trees.

**Special Status Species.** The gray bat, Indiana bat and northern long-eared bat are the only federally protected species under the Threatened and Endangered Species Act

known to potentially occur within the project area. The USFWS was consulted through their online Information for Planning and Consultation (IPaC) process regarding the project area. The IPaC fulfills the requirements under section 7(c) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (IPaC 2019). Informal consultation was initiated in February 2019 and was completed on 15 August 2019. The USFWS concurred with the determination that the proposed project is not likely to adversely affect federally listed species. A copy of the IPaC and informal consultation with USFWS is provided in Appendix I.

In addition to the bats, the IPaC also identified six migratory birds that have the potential to be in the area. These six birds include the bald eagle, eastern whip-poor-will, prothonotary warbler, red-headed woodpecker, rusty blackbird and the wood thrush. Most of the breeding season for these migratory birds occur from May to September; except for the bald eagle which can breed from late October to the end of August. The bald eagle is also protected under the Bald and Golden Eagle Protection Act. No eagles are known to inhabit the installation. Habitat potentially conducive for eagles within the boundaries of LCAAP is located more than 1.5-miles from the project area.

**Invasive Species.** Invasive species have the potential to displace native plants and animals. According to Executive Order 13122, federal agencies may not authorize, fund or carry out actions that are likely to cause or promote the introduction or spread of invasive species. Invasive terrestrial species often flourish on land that has recently been disturbed. They may also be transported to new locations on construction equipment. Examples of invasive terrestrial species of concern in Missouri that may be present in the project area include Johnson grass, musk and Canada thistle, purple loosestrife and crown vetch. Johnson grass is known to occur within the project areas.

### 3.8 Socioeconomics

This section describes the economy and sociological environment of the region of influence (ROI) surrounding LCAAP. The socioeconomic ROI is defined as Jackson County, Missouri and contains the three neighboring cities: Independence, Blue Springs and Buckner. Major employers include local school districts, medical centers, Northrop Grumman, Independence Regional Innovation Center, Blue River Community Colleges, Fike Corporation World Headquarters, Haldex Corporation, Kohl’s Distribution Center, Smurfit-Stone Container Corporation and Kansas City Power and Light, among others. Socioeconomics for the ROI is summarized in Table 3.

**Table 3. Socioeconomics - Independence, Buckner and Blue Springs Missouri.**

City	Population	Race (%)					Median Household Income (\$)	Poverty (%)
		White	Black	Native Am.	Hispanic/Latino	Asian		
Independence	117,306	83	7.3	0.6	9.3	1.1	44,415	17.8
Buckner	3,076	95.6	0.4	0.4	3.4	0.1	47,628	23.5
Blue Springs	54,945	85	7.7	0.4	4.3	1.8	65,773	9.2

Information included on this table was taken from the U.S. Census Bureau website (2017). Last recorded data was from 2010-2014.

### **3.9 Cultural Resources**

Cultural resources include archaeological sites, architectural historic resources in the built environment such as buildings and structures 50-years or older (or otherwise potentially eligible for the National Register of Historic Places [NRHP]), Native American traditional cultural properties (TCPs) and other historic resources (for example cemeteries and historic sites or districts). Section 106 of the NHPA requires federal agencies to consider the impact of their actions on historic properties and to consult with the State Historic Preservation Office (SHPO) as required. Federally recognized Native American Tribes were also contacted as part of cultural resources coordination for the project.

No sites or structures considered eligible for inclusion on the NRHP are located within the proposed construction boundaries of the project area. USACE contacted the SHPO with the determination that no historic properties will be affected by the project activities in a letter dated May 1, 2019. A concurrence letter from SHPO was received on 4 June 2019 (Appendix I). However, during the project design process project boundaries were expanded and additional consultation commenced. Re-consultation letters were sent back out the Missouri SHPO (Appendix I) and Tribes on 4 September 2019.

### **3.10 Infrastructure and Utilities**

Infrastructure and utilities within the project area primarily consist of roads, steam utility conduits and various other utility lines such as power, water, communication and so on that are both above and below ground. A total of ten semi-permanent buildings/structures are located within potential project areas. These structures are mostly abandoned or are periodically used for general storage. Five of which are World War II era and are in various stages of disrepair. Additionally, LCAAP has a number of facilities that support operations at the installation; in particular, the water treatment plant and waste water treatment facilities. Water is used during the ammunition manufacturing process and is produced on LCAAP from groundwater sources. LCAAP receives its power supply through a local off-site provider.

### **3.11 Transportation**

Road and sidewalks are intermixed throughout LCAAP. Interstate 70 (both east and west bound) provides regional access. State routes that provide access to the installation include Missouri Highway 7 and Highway 24. Public transportation is provided to the Independence area by Metro Bus for public transit servicing Jackson County. LCAAP is outside the transit limits and the Metro Bus does not provide direct bus service to the installation. Other methods of transportation includes the Charles B. Wheeler Downtown Kansas City Airport, the Kansas City International Airport and Union Pacific Railroad. LCAAP has one inactive rail spur slated for future tenant use.

### **3.12 Climate Change**

The science of climate change has continued to evolve since the 1970s and global atmospheric greenhouse gas (GHG) emission concentrations are significantly affecting the Earth's climate. These conclusions are built upon a scientific record that has been

created with substantial contributions from the United States Global Change Research Program (USGCRP), formerly the Climate Change Science Program, which informs responses to climate and global change through coordinated federal programs of research, education, communication and decision support. Broadly stated, the effects of climate change observed to date and projected to occur in the future include more frequent and intense heat waves, more severe wildfires, degraded air quality, more heavy downpours and flooding, increased drought, greater sea-level rise, more intense storms, harm to water resources, harm to agriculture and harm to wildlife and ecosystems (Intergovernmental Panel on Climate Change (IPCC) 2014).

USGCRP (2014) discusses effects of climate change for different regions of the United States including the mid-west region where LCAAP is located. The report identifies direct effects of increased heat stress, flooding, drought and late spring freezes on natural and managed ecosystems. These effects may be multiplied by changes in pests and disease prevalence, increased competition from invasive species or opportunistic native species, ecosystem disturbances, land-use change, landscape fragmentation, atmospheric pollutants and economic shocks such as crop failures or reduced yields due to extreme weather events (USGCRP 2014). Key messages from this report that are relevant to the proposed project area are: variable water cycle and increases in rainfall and flooding-related damages and repairs (USGCRP 2014).

### **3.13 Hazardous, Toxic and Radioactive Waste**

Due to the complexity and to facilitate management of contaminants at LCAAP, the installation has been divided into five Operable Units (OU). OU1, the Installation-Wide Operable Unit (IWOU), consists of 30 sites and all LCAAP Areas, with the exception of Areas 10, 11, 16, 17, 18 and 83. The proposed project areas are located within the boundaries of Area 7, 21 and 24 (Figure 7); which are adjacent to Areas 14, 19, 20, 23 and 33.

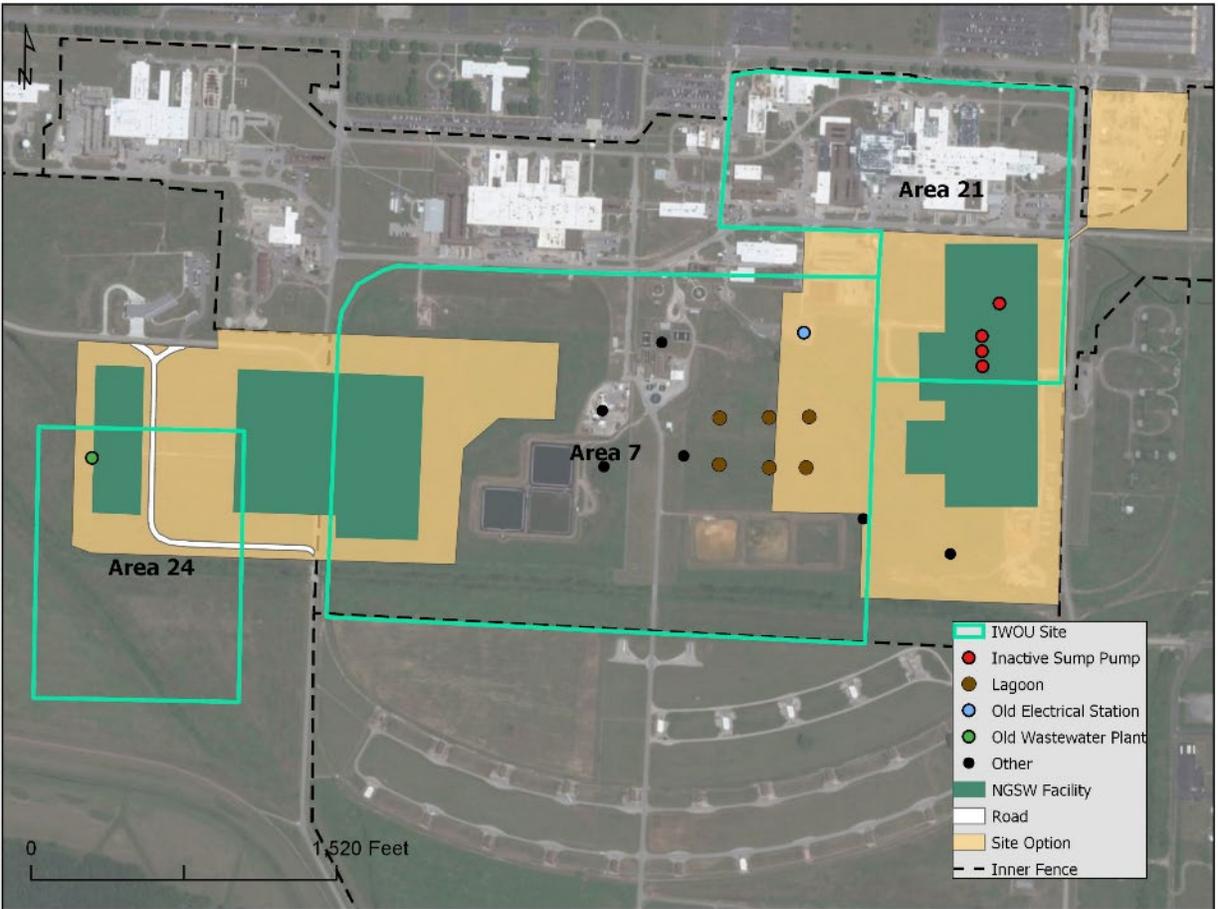
Area 7 occupies approximately 110-acres and contains nine areas of interest, which are made up of historic inactive lagoons, a fuel spill area, a solvent pit area, a burn area, a container cleanup area, an electrical substation and inactive sumps. A remedial investigation was conducted at Area 7 as part of the IWOU Remedial Investigation/Feasibility Study to determine the nature and extent of contamination. The investigation found that various metals, explosives, polycyclic aromatic hydrocarbons (PAH), polychlorinated biphenyls (PCB) and volatile organic compounds (VOC) are present in the soil and sediment. Although contamination is present at the site, the Remedial Investigation ultimately determined that no potentially unacceptable risk may result from exposure to constituents in soil and recommended no further action for soils. However, specific contaminated areas within Site Option 1 and Area 7 include a former electrical substation location, which is known to contain PCBs, and historic lagoons, which have been capped. Groundwater remedies for Area 7 were evaluated as part of the Site-Wide Groundwater Remedial Investigation/Feasibility Study and are further discussed later in this section. Two other locations were sampled in 2001 near the southeast corner of Area 7 as part of the original investigation (Figure 7).

Area 21 occupies approximately 47-acres and contains three areas of interest, which include a former underground storage tank, building sumps and a drainage ditch. A remedial investigation was conducted at Area 21 as part of the IWOU Remedial Investigation/Feasibility Study to determine the nature and extent of contamination. The investigation found that various metals, explosives, PAHs, PCBs and VOCs are present in the soil and sediment. Although contamination is present at the site, the Remedial Investigation ultimately determined that no potentially unacceptable risk may result from exposure to constituents in soil and recommended no further action for soils. A building within Area 21 was known to contain depleted uranium. The building was removed and sampling indicated no further action for depleted uranium in soils was required. There are 11 inactive sump locations in Area 21; six of the inactive sumps were removed as part of previous removal actions, but four sumps still remain. Groundwater remedies for Area 7 were evaluated as part of the Site-Wide Groundwater Remedial Investigation/Feasibility Study and are further discussed later in this section.

Area 24 occupies approximately 25-acres and is the location of a former sanitary wastewater treatment plant, which began operation in 1941 and subsequently closed in 1990. Several remnant structures associated to the sewage treatment process still remain within the site. Area 24 was investigated in 2000 and 2004 for VOCs, Semi Volatile Organic Compounds (SVOCs), PAHs, metals and explosives. Results indicated the presence of VOCs, SVOCs and explosives; however, levels were below screening level criteria. Arsenic was the only metal detected; however, arsenic levels were determined to be below site-specific background concentration levels. Although contamination is present in Area 24, the historical investigations ultimately determined that no potentially unacceptable risk may result from exposure to constituents in soil and recommended no further action for soils. No remedial action is required for soil within this area. Groundwater remedies for Area 24 were evaluated as part of the Site-Wide Groundwater Remedial Investigation/Feasibility Study and are further discussed later in this section.

The selected remedy in the 2008 Record of Decision for Remedial Actions at IWOU for IWOU-Wide Groundwater includes long-term monitoring and attenuation monitoring, and the implementation of LUCs. Groundwater monitoring is conducted semi-annually at the site. LUCs for groundwater have been established and implemented in accordance with the 2008 ROD and the Land Use Control Implementation Plan (ARCADIS 2008) as described in Section 3.5. These restrictions apply to the entire IWOU and include a 10-foot buffer beyond the extent of the IWOU. The restrictions also extend vertically to all groundwater systems. The proposed project area is within the limits of IWOU-Wide Groundwater LUC boundary; requiring the controls to be followed during construction.

Contamination is present in soil, sediment and groundwater in Area 7, 21 and 24. Although the IWOU Remedial Investigation recommended no further action for soils and sediment for these areas, there was limited investigation in the areas proposed for the NGSW-A site location. Therefore, previously unidentified contamination within the soils could be encountered.



**Figure 7. HTRW Areas**

## 4.0 Environmental Consequences (Effects)

This Chapter discusses the potential environmental impacts associated with the No Action Alternative as well as with implementation of Alternative 2 and Alternative 3.

The Army took context and intensity into consideration in determining potential impact significance, as defined in 40 CFR part 1508.27. The intensity of a potential impact is the impact's severity and includes consideration of beneficial and adverse effects, the level of controversy associated with a project's impacts on human health, whether the action establishes a precedent for future actions with significant effects, the level of uncertainty about project impacts and whether the action threatens to violate federal, state, or local laws established for the protection of the human and natural environment. The severity of an environmental impact is characterized as none/negligible, minor, moderate, significant, or beneficial. The impact may also be short-term or long-term in nature.

- **None/negligible** – No measurable impacts are expected to occur.
- **Minor** – A measurable and adverse effect to a resource. A slight impact that may not be readily obvious and is within accepted levels for permitting, continued resource sustainability, or human use. Impacts should be avoided and minimized if possible, but should not result in a mitigation requirement.
- **Significant** – A measurable and adverse effect to a resource. A major impact that is readily obvious and is not within accepted levels for permitting, continued resource sustainability, or human use. Impacts likely result in the need for mitigation.
- **Beneficial** – A measurable and positive effect to a resource. May be minor to major, resulting in improved conditions, sustainability, or viability of the resource.
- **Short-Term** – Temporary in nature and does not result in a permanent long-term beneficial or adverse effect to a resource. For example, temporary construction-related effects (such as, an increase in dust, noise, traffic congestion) that no longer occur once construction is complete. May be minor, significant, adverse or beneficial in nature.
- **Long-Term** – Permanent (or for most of the project life) beneficial or adverse effects to a resource. For example, permanent conversion of a wetland to a parking lot. May be minor, significant, adverse or beneficial in nature.

The Army used quantitative and qualitative analyses, as appropriate, to determine the level of potential impact from proposed alternatives. Based on the results of the analyses, this EA identifies whether a particular potential impact would be adverse or beneficial, and to what extent. CEQ regulations require that a proposed action's cumulative impact be addressed as part of a NEPA document. Cumulative impacts are discussed in Chapter 5.

## 4.1 Air Quality

**Alternative 1 – No Action Alternative:** No air quality impacts would occur under Alternative 1 because no new project actions would be taken. No changes to the existing non-attainment status for Sulfur Dioxide would occur for Jackson County, Missouri. No changes to existing air emissions, monitoring and Title V air quality permitting at LCAAP would occur under the No Action Alternative.

**Alternative 2 – Construct and Operate a NGSW-A Facility at Site Option 1 (Preferred Alternative):** Minor short-term and construction-related impacts to air quality are expected. Minor amounts of fugitive dust and emissions from construction equipment are expected during the building of the NGSW-A facility. Fugitive dust is likely to result from digging foundations, grading, demolition activities and other related earthwork. Emissions would primarily be associated with the combustion of fossil-fuels to power equipment and vehicles. During construction activities, contractors will be required to comply with all state and federal air quality laws and regulations, as applicable. Reasonable measures that could reduce fugitive dust impacts include truck-mounted water spraying systems, movement on paved roads, covering open equipment and trailers during transport and keeping roads or parking areas clean of dirt. LCAAP would continue to operate under its MDNR Title V air quality permit with no foreseeable effect from the construction and operation of the NGSW-A Facility. The project is not expected to contribute to Sulfur Dioxide emissions because proposed actions are not related to coal burning activities (USEPA 2019). In accordance with Department of the Army guidelines, a Record of Non-Applicability (RONA) stating the project is below de minimis levels has been completed and is provided in Appendix IV.

**Alternative 3 – Construct and Operate a NGSW-A Facility at Site Option 2:** Impacts to air quality as a result of Alternative 3 are expected to be similar to those described under Alternative 2. Alternative 3 and the Preferred Alternative are similar in design and construction with no substantial difference regarding emissions or fugitive dust. Construction contractors will be required to comply with all state and federal air quality laws and regulations, as applicable. LCAAP would continue to operate under its MDNR Title V air quality permit with no foreseeable effect from the construction and operation of the NGSW-A Facility. Alternative 3 would not emit Sulfur Dioxides.

## 4.2 Noise

**Alternative 1 – No Action Alternative:** No noise impacts would occur under Alternative 1 because no actions would be taken. Ongoing operations are not expected to impact any sensitive noise receptors.

**Alternative 2 – Construct and Operate a NGSW-A Facility at Site Option 1 (Preferred Alternative):** The Preferred Alternative is expected to result in minor short-term construction-related noise impacts. Noise from construction equipment is expected to occur during normal business hours. Based on the types of construction equipment likely to be used, the noise levels are not anticipated to exceed 90 weighted decibels (dBA) at 50-feet from the project area (FHA 2017). Short-term increases in traffic to construct the

NGSW-A facility is expected to indirectly contribute to traffic noise associated with the movement of equipment and haul trucks throughout the local road network. However, traffic-related noise is expected to be negligible because movement of tractor trailers and other construction equipment is fairly common throughout the Kanas City metro area and the majority of equipment movement would take place on LCAAP. Live fire activities are not expected as part of the NGWS facility operation; however, if live fire activities are conducted, then live firing activities would be conducted inside and within sound-limiting areas. Furthermore, the project area is located within 3,000 feet of the installation's boundary and no sensitive noise receptors are known to exist within 1-mile of the installation. Noise effects would not result in the violation of applicable federal noise regulations or create land-use incompatibilities.

**Alternative 3 – Construct and Operate a NGSW-A Facility at Site Option 2:** Noise associated to Alternative 3 are expected to be similar to those described under the Preferred Alternative, therefore no significant impacts are expected.

### 4.3 Water Resources

**Alternative 1 – No Action Alternative:** No water resource impacts would occur under Alternative 1 because no actions would be taken. Ongoing operations are not expected to impact any water resources.

**Alternative 2 – Construct and Operate a NGSW-A Facility at Site Option 1 (Preferred Alternative):** The Preferred Alternative is expected to result in negligible impacts to water resources. The project area is relatively flat with no streams or other jurisdictional waters of the U.S. within or adjacent to the projects boundary. The construction contractor would be required to implement BMPs throughout the project area and comply with State Clean Water Act regulations and permits as well as applicable LCAAP stormwater water runoff polices/permits. BMPs would maximize the reduction of sediments and turbidity levels within drainages and tributaries to West and East Fire Prairie Creeks. Additionally, as part of LCAAPs MDNR permit MO-0004880, five active outfalls monitor for State water quality standards. The Preferred Alternative is not expected to exceed any State water quality standards or result in any water quality impairments to streams/rivers downstream of the project area. Furthermore, the project is primarily vertical construction and is not likely to impact groundwater.

**Alternative 3 – Construct and Operate a NGSW-A Facility at Site Option 2:** Impacts to water resources would be similar to Alternative 2; however, wetlands are located within the project area. Refer to Section 4.4 for wetland impacts. The project area is relatively flat with no streams within or adjacent to the projects boundary. The construction contractor would be required to implement BMPs throughout the project area and comply with State Clean Water Act regulations and permits as well as applicable LCAAP stormwater water runoff polices/permits. BMPs would maximize the reduction of sediments and turbidity levels within drainages and tributaries to West and East Fire Prairie Creeks. The Preferred Alternative is not expected to exceed any State water quality standards or result in any water quality impairments to streams/rivers downstream

of the project area. Furthermore, the project is primarily vertical construction and is not likely to impact groundwater.

#### 4.4 Wetlands

**Alternative 1 – No Action Alternative:** No wetland impacts would occur under Alternative 1 because no actions would be taken.

**Alternative 2 – Construct and Operate a NGSW-A Facility at Site Option 1 (Preferred Alternative):** There are no wetlands within the project area. However a small, 0.15-acre wetland is located directly east of the proposed parking area. This wetland is not hydrologically connected to the project area and is separated by a raised road. Other wetlands are located within a half-mile of the project area, however these wetlands are separated from the project area by upland elevations, roads and lack of hydrologic connections. BMPs would be implemented during construction to minimize and reduce any erosion that might incur during construction. Examples of BMPs include water trucks to reduce fugitive dust, silt fences and planting vegetation on exposed soil. Therefore, it is unlikely that project activities would impact wetlands in the vicinity.

**Alternative 3 – Construct and Operate a NGSW-A Facility at Site Option 2:** There are four small wetlands within the project area. Approximately 1-acre of these wetlands are within the project area and approximately 0.6-acres of these wetlands extend into areas adjacent to the project area. Other wetlands are located within a half-mile of the project area, however the project area is separated from these wetlands by upland elevation, roads and lack of hydrologic connections. In the event this project area is selected for construction, USACE Regulatory permitting may be required if these wetlands are determined to be jurisdictional waters of the U.S. and subject to protection under the Clean Water Act. Wetland impacts, to include hydrology effects, would be subject to compensatory mitigation requirements; such as In-lieu fees for mitigation banking or onsite/in kind mitigation. Mitigation for wetland losses would comply with all state and federal regulations and compliance. Additionally, BMPs would be implemented during construction to minimize and reduce any erosion that might incur during construction. With any potentially required mitigation, no significant wetland impacts are expected.

#### 4.5 Land Use

**Alternative 1 – No Action Alternative:** No land use impacts would occur under Alternative 1 because no actions would be taken that would alter the existing land use classifications or uses at LCAAP.

**Alternative 2 – Construct and Operate a NGSW-A Facility at Site Option 1 (Preferred Alternative):** The industrial classification for the project area would remain the same as determined by the IWOU Land Use Control Implementation Plan. Specific land use within the project boundary would be altered from an open grass lot into a developed NGSW-A facility with maintained grassy areas. General land use would remain relatively the same, to include developed infrastructure to support the LCAAP small caliber ammunition

production mission. Alternative 2 would comply with all applicable LCAAP LUCs. Reuse of a previously developed area is expected to benefit mission capability at LCAAP.

**Alternative 3 – Construct and Operate a NGSW-A Facility at Site Option 2:** Land use impacts are expected to be similar to those described under the Preferred Alternative. General land use is not substantially different from land use at the Alternative 2 location. Both locations are primarily open areas with little to no current development. Alternative 2 would comply with all applicable LUCs and continue to be classified as industrial.

#### 4.6 Soils

**Alternative 1 – No Action Alternative:** No impacts to soils would occur under Alternative 1 because no actions would be taken. Existing, previously disturbed soils would remain in their current condition.

**Alternative 2 – Construct and Operate a NGSW-A Facility at Site Option 1 (Preferred Alternative):** The Preferred Alternative would have negligible short-term construction-related impacts to soil on LCAAP. Only minor intrusive earthwork would be conducted to place utility lines and build the necessary foundations required for the construction of the NGSW-A facility. Open areas outside of these structures would be graded for surface water drainage and comply with the IWOU Land Use Control Implementation Plan. Disturbed areas would be re-vegetated with warm season grasses to minimize erosion. Furthermore, LCAAP Excavation Waste Management guidelines would be followed regarding soil excavation and disposal. Soil not reincorporated within the 50-foot excavation area footprint would be sampled and only disposed of outside of this area upon receiving written permission from LCAAP Environmental Engineering. Section 4.12 provides additional information regarding contaminated soils if any are discovered during construction. If off-site soil is needed for fill material, then it must be tested and certified by LCAAP Environmental Manager as being below background UTLs for LCAAP.

**Alternative 3 – Construct and Operate a NGSW-A Facility at Site Option 2:** Soil impacts are expected to be similar to those described under the Preferred Alternative. Construction methods and designs for a NGSW-A facility would be similar to the Preferred Alternative. Therefore, only minor short-term construction-related impacts to soils are expected.

#### 4.7 Biological Resources

**Alternative 1 – No Action Alternative:** No impacts to biological resources would occur under Alternative 1 because no actions would be taken. The existing open grassland habitat would remain in place with continued maintenance through periodic mowing.

**Alternative 2 – Construct and Operate a NGSW-A Facility at Site Option 1 (Preferred Alternative):** The Preferred Alternative would have negligible impacts to biological resources. A majority of the effects to wildlife in the project area would be short-term and construction-related. Portions of the project area would be converted from maintained grassy areas to a NGSW-A facility. Areas outside of the NGSW-A facility footprint would be returned to near pre-existing conditions, such as maintained grassy areas. Once

grassy areas are restored, various insects, birds, and mammals, such as rabbits, are expected to return. Less than 50 trees are located throughout the project area and tree clearing would be avoided and minimized to the extent practical. These tree species are not conducive to protected bat species; however, to avoid and minimize any possible impacts to bats as well as migratory birds, clearing of trees would occur during 1 November to 1 April. As such, the Preferred Alternative is not expected to impact migratory birds.

The Preferred Alternative is not likely to adversely affect the gray bat, Indiana bat, or the northern long eared bat as well as any other special status species. No suitable habitat exists in or adjacent to the project area for any special status species of concern. An impacts determination request regarding federally listed species was sent to the USFWS, Columbia Field Office on 08 February 2019. The USFWS reviewed the IPaC and concurred with this determination in an email on 15 August 2019 (Appendix I).

The Preferred Alternative is not expected to introduce invasive species to the project site, nor contribute to the spread of invasive species. The construction contractor would be required to ensure that all construction equipment has been cleaned and is free from soil residuals, egg deposits from plant pests, noxious weeds, plant seeds and aquatic nuisance species prior to its use on the project. Disturbed land areas would be replanted with native plant species to minimize the likelihood that invasive plants would become established. No large stands of invasive species would be disturbed that would further their spread within the project area.

**Alternative 3 – Construct and Operate a NGSW-A Facility at Site Option 2:** Biological impacts from Alternative 3 are expected to be similar to those described under the Preferred Alternative because habitat conditions are similar, with the exception of trees. No trees exist within the project boundaries of Alternative 3. Thus, Alternative 3 is not likely to adversely affect federally protect bats or migratory birds as a result of tree removal. Similarly, Alternative 3 is not expected to introduce or spread invasive species within the project area. The construction contractor would be required to ensure that all construction equipment has been cleaned and is free from soil residuals, egg deposits from plant pests, noxious weeds, plant seeds and aquatic nuisance species prior to its use on the project. Disturbed land areas would be replanted with native plant species to minimize the likelihood that invasive plants would become established. No large stands of invasive species would be disturbed that could further their spread within the project area.

#### 4.8 Socioeconomics

**Alternative 1 – No Action Alternative:** No impacts to socioeconomics would occur under Alternative 1 because no actions would be taken.

**Alternative 2 – Construct and Operate a NGSW-A Facility at Site Option 1 (Preferred Alternative):** The Preferred Alternative is expected to have substantial indirect beneficial impacts to the socioeconomics in the ROI associated with an increased labor force to produce the 6.8mm ammunition. The local economy and employment would likely

receive temporary benefits from the purchase of building materials, increased need for retail services and recreational shopping associated with implementation of the multimillion dollar project. No Environmental Justice tracts associated with minority or impoverished areas would be adversely impacted from implementation of the proposed project. Direct project construction-related actions would be located within installation boundaries.

**Alternative 3 – Construct and Operate a NGSW-A Facility at Site Option 2:** Alternative 3 impacts on socioeconomics are expected to be similar to those described under the Preferred Alternative because both alternatives have the same ROI for socioeconomics. Construction methods and materials as well as the design for the NGSW-A facility would be similar to the Preferred Alternative.

#### **4.9 Cultural Resources**

**Alternative 1 – No Action Alternative:** No impacts to cultural resources would occur under Alternative 1 because no actions would be taken that could potentially impact known or unknown cultural resources in the proposed project areas.

**Alternative 2 – Construct and Operate a NGSW-A Facility at Site Option 1 (Preferred Alternative):** The Preferred Alternative would have no effect on archaeological sites or historic structures listed or eligible for listing in the NRHP. The Missouri SHPO concurred with this determination in a letter dated 04 June 2019 (Appendix I). However, on 4 September 2019 additional coordination was sent to the Missouri SHPO and Tribes because of changes in project designs requiring the expansion of the proposed project area. Based on initial cultural resource findings and the review of all potentially affected areas, it is expected that the initial impact determination of the project area would remain the same. USACE is seeking SHPO concurrence of this determination during the 30-day Public Notice period of this EA. In the unlikely event that unknown cultural resources are discovered during project construction, the contractor would be required to stop work activities and contact the LCAAP environmental office, who would consult with Missouri SHPO and Native American Tribes.

**Alternative 3 – Construct and Operate a NGSW-A Facility at Site Option 2:** Similar to the Preferred Alternative, Alternative 3 is not expected to impact cultural resources. There are no cultural resources known to exist in the project area. Additional SHPO coordination is ongoing concurrently with the 30-day Public Notice period of this EA.

#### **4.10 Infrastructure and Utilities**

**Alternative 1 – No Action Alternative:** No impacts to infrastructure or utilities would occur under Alternative 1 because no actions would be taken that could potentially impact existing infrastructure such as roads, steam heating conduits, above and below ground utility lines and semi-permanent structures. No changes to existing power supply, water supply or wastewater discharges would occur under the No Action Alternative.

**Alternative 2 – Construct and Operate a NGSW-A Facility at Site Option 1 (Preferred Alternative):** The Preferred Alternative would benefit LCAAPs infrastructure and utilities,

with no expected adverse impacts. The NGSW-A facility would be integrated into the existing infrastructure and utility network. Specifically, water supply and wastewater treatment on LCAAP is more than adequate to support the Preferred Alternative. Power supply would continue through a local provider. Existing buildings/structures within the project area could be moved or demolished as necessary to construct the NGSW-A facility. These buildings/structures are primarily used for general storage and are in various stages of disrepair. A separate Record of Environmental Considerations would be conducted as described and required under a separate NEPA document, *Final Programmatic Environmental Assessment for the U.S. Army Material Command Building Demolition Program* (AMC 2014). Impacts are further described in the cumulative impacts section of this EA.

**Alternative 3 – Construct and Operate a NGSW-A Facility at Site Option 2:** Similar to the Preferred Alternative, Alternative 3 is expected to benefit infrastructure and utilities. Construction and design of the NGSW-A facility would be similar to the Preferred Alternative. The location and distance of utility lines connecting to the NGSW-A facility would vary; however, utility hookups would be limited within installation boundaries and negligible effects are expected. Additionally, due to the size of this facility, the road and inner fence would need to be moved approximately 300 feet westward. This infrastructure modification would not impact the function or security of the road and fencing.

#### 4.11 Transportation

**Alternative 1 – No Action Alternative:** No impacts to transportation would occur under Alternative 1 because no actions would be taken that would alter the existing roadways and transportation levels.

**Alternative 2 – Construct and Operate a NGSW-A Facility at Site Option 1 (Preferred Alternative):** The Preferred Alternative is expected to result in minor short-term impacts to roads and traffic. During the approximately 21-months to construct the NGSW-A facility, more than 500 truckloads of concrete and an unknown number of truckloads of other materials and work vehicles would utilize the road networks of Independence, Blue Springs and the Kansas City metro area. Transportation related activities are expected to occur during normal business hours. No impacts to air or railroad transportation are expected. Furthermore, the effects to the transportation network on LCAAP is expected to be negligible. Potential traffic-related delays near the installation could occur due to increased construction traffic in and out of LCAAP.

**Alternative 3 – Construct and Operate a NGSW-A Facility at Site Option 2:** Similar to impacts described under the Preferred Alternative, Alternative 3 is expected to result in minor short-term impacts to roads and traffic related to the construction of the NGSW-A facility. The transportation network on LCAAP is not expected to substantially change as a result of implementing Alternative 3, other than rerouting Commanders Ridge Road around the NGSW-A facility.

## 4.12 Climate Change Considerations

**Alternative 1 – No Action Alternative:** No impacts to climate change would occur under Alternative 1 because no actions would be taken. The potential for climate related weather changes as well as installation risk to fire, flooding and other natural events would remain the same.

**Alternative 2 – Construct and Operate a NGSW-A Facility at Site Option 1 (Preferred Alternative):** Alternative 2 is not expected to contribute to climate change. As discussed in Section 4.1, Air Quality, emissions such as GHGs would primarily be short-term and construction-related. Any other sources of emissions, as a result of NGSW-A operations, would be subject to MDNR air quality permits. The project would continue to be in attainment for all NAAQS emissions, except for Sulfur Dioxide (USEPA 2010). The project would not have activities that could contribute to increased Sulfur Dioxide emissions. Based on the facilities and materials to be used, potential emissions are expected to be negligible and similar to other vertical construction projects in the region.

**Alternative 3 – Construct and Operate a NGSW-A Facility at Site Option 2:** Alternative 3 is not expected to contribute to climate change for the similar reasons described under the Preferred Alternative. The construction methods and facility designs would be similar and subject to the same state and federal Clean Air Act laws and regulations. Potential emissions are expected to be negligible and similar to those in Alternative 2.

## 4.13 Hazardous, Toxic and Radioactive Waste

**Alternative 1 – No Action Alternative:** No impacts to hazardous, toxic and radioactive waste would occur under Alternative 1 because no new actions would be taken that could potentially disturb any known or unknown contaminants at proposed NGSW-A sites.

**Alternative 2 – Construct and Operate a NGSW-A Facility at Site Option 1 (Preferred Alternative):** A total of four sumps and two historic lagoons are located in IWOU Area 7 within the project area. The Preferred Alternative is likely to remove the four sumps. The two former lagoons are located in the south west corner of the project area and are not likely to be disturbed during project construction. The contents of the sumps would be sampled to determine if contamination exists. Similarly, if previous lagoon areas are to be disturbed, samples would also be collected. If contaminated, the sumps and their contents would be removed and appropriately handled, transported and disposed. A former electrical substation site exists in IWOU Area 21; which has documented PCBs. If this area is disturbed as a result of the projects construction, then similar contamination testing and disposal procedures would be initiated by the project contractor. Additionally, a total of ten semi-permanent buildings/structures are located throughout proposed project areas and no known contamination is associated with these ten structures.

If additional unknown contaminated soils or material are encountered during construction, then the project contractor would be required to stop all work activities at that location and coordinate with the LCAAP Environmental Manager for proper assessment and handling

of encountered materials in accordance with the LCAAP environmental management plan. Contaminated materials and areas would be protected from human contact and work would resume once cleared by the LCAAP Environmental Manager. Any contaminated waste or material, to include sumps, would be disposed in accordance with applicable army, state and federal regulations/laws as well as LCAAP environmental management plan. LUCs for IWOU Area 7 and 21 would be in effect for the construction of the project.

**Alternative 3 – Construct and Operate a NGSW-A Facility at Site Option 2:** Similar to the Preferred Alternative, no impacts to or from hazardous, toxic and radioactive waste is expected. However, Alternative 3 is located in IWOU Area 7 and 24 and the possibilities of site specific soil contamination or other HTRW materials could be found. Historic sources of soil contamination have been avoided at this location and subsurface disturbance would be limited to the NGSW-A facility site. In the event that contaminated soils or other hazardous, toxic, or radioactive waste are encountered during the construction of the project, the project contractor would stop work and contact the LCAAP Environmental Manager. Furthermore, the parking area is planned to be constructed in the vicinity of the former sanitary wastewater treatment plant. The parking area would not impact or contribute to the spread of contamination. Two parking areas may be constructed around the contamination or in such a way to allow future access for monitoring. An impervious surface, such as parking lot, would reduce precipitation from contacting the contaminated site. Therefore, reducing the spread of contamination through localized ground water flow. Disturbed soil in this location would remain in place and applicable LUCs would be followed.

## **5.0 Cumulative Actions and Effects**

The CEQ Regulations define cumulative impacts as the impact on the environment, which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (CEQ, 1997). The cumulative impacts addressed in this document consist of the impacts of multiple actions that result in similar effects on the natural resources. Actions located adjacent to and on LCAAP were considered under this cumulative analysis.

### **5.1 Past, Present and Reasonably Foreseeable Actions**

**Past Actions:** Within the last 10-years a number of small caliber ammunition production line buildings that did not previously have building cooling capabilities received air conditioning units. In 2017, an Emergency Service Center was built to consolidate and upgrade emergency response capabilities on LCAAP. The Emergency Service Center was designed to function as an energy efficient fire station, security office and emergency medical response service center. The Emergency Service Center was built with full living quarters for its personnel as well as a drive-through 4-bay equipment/vehicle storage area and workspace.

**Present and Future Actions:** Along with the Preferred Alternative, as described in this EA, three other reasonably foreseeable future projects include the construction of a new water treatment plant (WTP), replacement of warehouse facilities and the demolition of up to 27 buildings/structures within the plant's residential area. The existing WTP was built in the 1940s and is beyond its service life. As a result, a project is underway to replace the WTP and demolish the existing WTP. The modernized WTP facility recently began construction activities and is scheduled to be completed in 2021. The project area is approximately 6-acres and adjacent to the existing WTP. The project will utilize some of the existing facility structures that are serviceable. The modernized WTP would process between 2.2 and 3.0 million gallons of water per day from groundwater sources located on LCAAP. The WTP project is located directly west of the Recommended Plan's project location.

Similarly, nine existing warehouse buildings were built in the 1940s and are beyond their expected service life. The warehouse replacement project is currently in the feasibility phase with a projected construction start date in 2022. It is anticipated that the replacement warehouse would be a single structure constructed south of the main gate; which is directly west of the NGSW-A facility Alternative 3 location. Furthermore, within the next 5-years up to 27 buildings/structures within the residential area of the installation, as well as ten additional buildings/structures within the proposed project area, are expected or could be demolished. These buildings/structures would be demolished because of their dilapidated status or lack of further use by the installation. Demolition projects on LCAAP are covered under the Program Environmental Assessment (PEA) (AMC 2014) and would be demolished and properly disposed in accordance with installation Hazardous and Solid Waste Management Plans DCR 180257 and 180721 (LCAAP 2018b, 2018c). The quantity of demolished material removed from either of these projects are unknown at this time.

## **5.2 Cumulative Impact Assessment**

Only resource categories that would result in at least minor impacts (beneficial or adverse) as a result of implementing the Preferred Alternative are considered for the cumulative impact assessment.

**Socioeconomics.** Cumulative impacts of the ongoing operations at LCAAP are substantially beneficial to the surrounding ROI. The Proposed Action, demolition project and water treatment plant project would provide addition jobs, tax revenues and economic growth within the ROI. The demolition project would also reduce potential human health and safety risks associated with buildings on LCAAP that are prone to deterioration/contamination, pest infestation and fire, which are common with dilapidated structures. No significant adverse cumulative impacts to socioeconomics are expected.

**Infrastructure and Utilities.** The Preferred Alternative would result in cumulative beneficial impacts to infrastructure at LCAAP, with negligible short-term impacts to utilities. The projects would result in the consolidation of infrastructure and utilities within proposed project areas, resulting in decreased operation and maintenance costs, more usable space and synergy between multiple projects that support LCAAP missions.

Potential minor adverse cumulative impacts to utilities could occur due to construction-related disturbances utilities within LCAAP.

### **5.3 Preferred Alternative Summary of Cumulative Impacts**

Overall, the Preferred Alternative would not result in any significant cumulative impacts to resources based on the assessment of the projects impacts and other known past, present or future projects. In fact, the Preferred Alternative is expected to result in long-term benefits to LCAAP and the economy of surrounding communities.

### **6.0 Mitigation Measures**

Areas on or adjacent to the proposed project footprint that contain wetlands, arsenic, or an explosive arc were avoided through the site selection process described in Section 2.2. Through avoidance and proposed remediation, BMPs and restoration actions described in Section 4.0, no mitigation measures are required with implementation of the Preferred Alternative.

### **7.0 Conclusions**

The Preferred Alternative was evaluated for environmental, economic and social effects. The Preferred Alternative was the only practical and cost effective plan with the least environmental impacts. The Preferred Alternative would have no impacts to federally listed threatened or endangered species, or their designated critical habitat and would not have adverse impacts to species of concern, migratory birds or eagles. The Preferred Alternative would not likely adversely impact sites listed, or eligible for inclusion, on the National Register of Historic Places. The Preferred Alternative would result in minor short-term construction-related impacts to air quality, noise, soils, biological resources and transportation. Long-term beneficial impacts include utility and infrastructure improvements at LCAAP and stimulated economies in the surrounding area related to new jobs with NGSW-A facility construction and long-term small caliber ammunition production. Approximately 30-acres would be disturbed to construct the NGSW-A facility, however, non-developed areas would be restored back to manicured grass lots. No waters of the U.S. or wetlands would be impacted. The Preferred Alternative would not result in any significant, long-term adverse impacts to the human environment.

### **8.0 Public Coordination and Comments**

The USACE circulated a Public Notice for the EA and draft FONSI dated 11 September 2019, for a thirty-day public comment period. This Public Notice is being e-mailed to individuals, agencies and businesses listed on a USACE e-mail distribution list. The Public Notice will be published in the Examiner newspaper and a physical copy of the EA and draft FONSI will be posted at Mid Continent Library-North Independence Branch, Independence, Missouri. Letters are being distributed to federally recognized Tribes notifying them of the Public Notice. Hard copies are available on request.

## **9.0 List of Preparers**

This EA and FONSI was prepared by Mr. Chris Name, Biologist (USACE), and Ms. Sara Clark (LCAAP Environmental Manager), with cultural resource assistance provided by Mr. Timothy Meade (Archeologist). Technical assistance regarding HTRW was provided by Ms. Jean Schumacher (USACE). The address of the preparers is: U.S. Army Corps of Engineers, Kansas City District; PMP-R, Room 529, 601 E. 12<sup>th</sup> Street, Kansas City, Kansas 64106.

## 10.0 Agency Compliance with Other Environmental Laws.

Compliance with other environmental laws is listed below.

<b>Federal Polices</b>	<b>Compliance</b>
Archeological Resources Protection Act, 16 U.S.C. 470, et seq.	In-Progress
Clean Air Act, as amended, 42 U.S. C. 7401-7671g, et seq.	Full Compliance
Clean Water Act (Federal Water Pollution Control Act), 33 U.S.C. 1251, et seq.	Full Compliance
Coastal Zone Management Act, 16 U.S.C. 1451, et seq.	Not Applicable
Endangered Species Act, 16 U.S.C. 1531, et seq.	Full Compliance
Environmental Justice (Executive Order 12898)	Full Compliance
Estuary Protection Act, 16 U.S.C. 1221, et seq.	Not Applicable
Farmland Protection Policy Act, 7 U.S.C. 4201, et. seq.	Not Applicable
Federal Water Project Recreation Act, 16 U.S.C. 4601-12, et seq.	Full Compliance
Fish and Wildlife Coordination Act, 16 U.S.C. 661, et seq.	Full Compliance
Floodplain Management (Executive Order 11988)	Full Compliance
Invasive Species (Executive Order 13122)	Full Compliance
Land and Water Conservation Fund Act, 16 U.S.C. 4601-4, et seq.	Not Applicable
Marine Protection Research and Sanctuary Act, 33 U.S.C. 1401, et seq.	Not Applicable
Migratory Bird Treaty Act, 16 U.S.C. 703 – 712, et. seq.	Full Compliance
National Environmental Policy Act, 42 U.S.C. 4321, et seq.	In-Progress
National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470a, et seq.	In-Progress
Protection & Enhancement of the Cultural Environment (Executive Order 11593)	In-Progress
Protection of Wetlands (Executive Order 11990)	Full Compliance
Rivers and Harbors Act, 33 U.S.C. 403, et seq.	Full Compliance
Watershed Protection and Flood Prevention Act, 16 U.S.C. 1001, et seq.	Full Compliance
Wild and Scenic River Act, 16 U.S.C. 1271, et seq.	Not Applicable

### NOTES:

- a. Full compliance. Having met all requirements of the statute for the current stage of planning (either preauthorization or post authorization).
- b. In-Progress. Not having met some of the requirements that normally are met in the current stage of planning.
- c. Noncompliance. Violation of a requirement of the statute.
- d. Not applicable. No requirements for the statute required; compliance for the current stage of planning.

## 11.0 References

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## 12.0 Appendices