



**Environmental Assessment
for a Microgrid with Backup Power
Fort Sill, Oklahoma
EAXX-007-21-001-1737986448**

Final

August 2025



Finding of No Significant Impact Environmental Assessment for a Microgrid with Backup Power at Fort Sill, Oklahoma

United States (U.S.) Army Garrison Fort Sill has prepared an environmental assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969, Department of Defense (DoD) NEPA Implementing Procedures, and Army Regulation 200-1. This Finding of No Significant Impact (FONSI) incorporates the EA by reference. The EA presents and evaluates the alternatives, including the No Action Alternative. Though this FONSI references the EA's compliance with the DoD NEPA Implementing Procedures dated June 30, 2025, the EA released for public review was prepared in accordance with the Army's NEPA implementing regulation (32 Code of Federal Regulations 651, *Environmental Analysis of Army Actions*), which was in effect at the time of public review.

PROJECT LOCATION: The proposed location is Fort Sill, located near Lawton, Oklahoma.

PURPOSE AND NEED FOR THE ACTION: The purpose of the proposed action is to provide secure and reliable access to energy resources at Fort Sill. The proposed action is needed to sustain critical mission capabilities and mitigate risks posed by energy disruptions that could degrade Fort Sill's capabilities. The proposed action is also needed to comply with Army Directive 2020-03; meet the goals of the Army Energy Security and Sustainability strategy to invest in renewable energy; and withstand, respond to, and rapidly recover from regional energy disruptions.

PROPOSED ACTION: The proposed action includes three primary elements: (1) the construction, operation, and maintenance of solar photovoltaic (PV) arrays that would produce up to 24 megawatts (MW) of renewable electric power; (2) the construction, operation, and maintenance of overhead and/or underground tie-lines from the solar PV arrays to a Reciprocating Internal Engine Combustion (RICE) facility; and (3) the construction, operation, and maintenance of a Battery Energy Storage System (BESS) with a maximum energy storage capacity of 8 MW per hour (MWh).

ALTERNATIVES: Four alternatives and the no action alternative were considered. Descriptions of these alternatives follow.

No Action Alternative. Fort Sill would not implement the proposed action and the existing electrical infrastructure on Fort Sill would remain unchanged.

Alternative 1 – 12 MW Solar PV Array with 4 MWh BESS at Artillery Village. Alternative 1 involves the construction of up to a 12 MW solar PV array with a 4 MWh BESS that encompasses approximately 66 acres in the Artillery Village area, located east of Sheridan Road and the Fort Sill visitors center, west of Fort Sill Boulevard, directly north of U.S. Highway 62, and south of the Buffalo Soldier Acres housing complex. Figure 2-3 in the EA provides an overview of alternative 1.

Fort Sill would use approximately 66 acres for the construction, operation, and maintenance of a solar PV array with a total of 40,005 fixed tilt solar PV panels that would have the potential to

generate an annual output of up to 28,000 MWh. The solar PV array area would be accessed via Haws Street. Alternative 1 would require the construction of a 13.2-kilovolt (kV) overhead tie-line connecting the solar PV array to the RICE facility.

To achieve the energy storage capacity of 4 MWh, between four to eight BESS containers would be needed, with each container providing between 0.5 MWh and 1.0 MWh. Each BESS would be up to a 40-foot containerized design and would include the features described in Section 2.2.3 of the EA. The location of the BESS would be determined by engineers as part of the final project design process.

Alternative 2 – 12 MW Solar PV Array with 4 MWh BESS in the 3900 Area. Under alternative 2, up to a 12 MW solar PV array with a 4 MWh BESS would be constructed in the 3900 area. The solar PV array and BESS encompass approximately 65 acres and would be located west of Sheridan Road, south of Mow-Way Road, east of East Branch Wolf Creek, and north of U.S. Highway 62. Figure 2-3 in the EA provides an overview of alternative 2.

Fort Sill would use approximately 65 acres of land for the construction, operation, and maintenance of a solar PV array with a total of 40,005 fixed tilt solar PV panels that would have the potential to generate an annual output of up to 28,000 MWh. The solar PV array area would be accessed via Mow-Way Road. Two gravel roads would need to be constructed: an 18-foot-wide gravel road originating from the RICE facility and proceeding southerly for 2,452 feet along the east edge of the solar PV array and an 18-foot-wide gravel road originating from the RICE facility and proceeding easterly for 920 feet and then southerly for 2,486 feet along the west edge of the solar array.

Alternative 2 would require the construction of a 13.2-kV underground tie-line connecting the solar PV array and BESS to the switchgear in the generator building at the RICE facility. Between four to eight BESS containers would be needed to reach the total storage capacity of 4 MWh. Each BESS would be up to a 40-foot containerized design and would include the features described in Section 2.2.3 of the EA. The location of the BESS would be determined by engineers as part of the final project design process.

Alternative 3 – 12 MW Solar PV Array in Artillery Village with 4 MWh BESS in the 3900 Area. Under alternative 3, up to a 12 MW solar PV array in Artillery Village and a 4 MWh BESS in the 3900 area would be constructed. The solar PV array encompasses approximately 66 acres. Alternative 3 would also require the construction of a 13.2-kV overhead tie-line and a short underground tie-line. Figure 2-5 in the EA provides an overview of alternative 3.

Fort Sill would use approximately 66 acres for the construction, operation, and maintenance of a solar PV array with a total of 40,005 fixed tilt solar PV panels that would have the potential to generate an annual output of up to 28,000 MWh. The solar PV array area would be accessed via Haws Street. Alternative 3 would require the construction of a 13.2-kV overhead tie-line connecting the solar PV array at Artillery Village to the BESS in the 3900 area with a short underground section of tie-line from the BESS to the switchgear generator building at the RICE facility.

Between four to eight BESS containers would be needed to reach the total storage capacity of 4 MWh. Each BESS would be up to a 40-foot containerized design and would include the features described in Section 2.2.3 of the EA. The location of the BESS would be determined by engineers as part of the final project design process.

Alternative 4 – Combination of Alternative 1 and Alternative 2. This alternative combines the features of alternative 1 and alternative 2:

- Construct an up to 12 MW solar PV array at Artillery Village as described under alternative 1.
- Construct an up to 12 MW solar PV array at the 3900 area as described under alternative 2.
- Construct 13.2 kV overhead tie-line from the solar PV array at Artillery Village to RICE facility as described for alternative 1.
- Construct an underground tie-line from the BESS in the 3900 area to the switchgear in the generator building at the RICE facility as described for alternative 2.

There would be an up to 8 MWh BESS constructed under this alternative in either the Artillery Village or the 3900 area as determined in the final engineering design. Each BESS would be up to a 40-foot containerized design and would include the features described in Section 2.2.3 of the EA.

ENVIRONMENTAL CONSEQUENCES: The construction of any of the four action alternatives has the potential to result in negligible to minor, short-term impacts to air quality, biological resources, socioeconomics, traffic and transportation, and visual resources. Over the long term, the implementation of any of the four alternatives would result in beneficial impacts to air quality through a reduction in pollutant emissions and beneficial impacts on facilities and infrastructure through increased energy resilience.

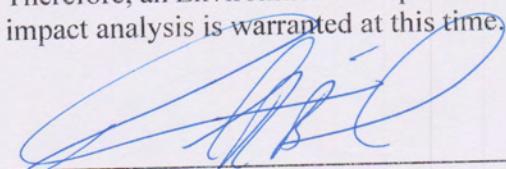
Implementation of any of the four action alternatives would result in long-term, minor impacts to visual resources but would not result in long-term impacts to biological resources, socioeconomics, or traffic and transportation. There would be no impacts to airspace, cultural resources, human health and safety from the construction or implementation of any of the four alternatives.

PUBLIC OUTREACH: The Draft EA and Draft FONSI were made available to federal, state and local agencies, Native American tribes, and the public for review and comment for a 30-day period. Fort Sill coordinated with the Oklahoma Department of Environmental Quality to address potential concerns regarding air quality, water quality, hazardous waste, and potential human health effects. Fort Sill published a Notice of Availability for the Draft EA and Draft FONSI in the *Lawton Constitution* on May 30, 2025 and made the Draft EA and Draft FONSI available for online viewing at <http://sill-www.army.mil/USAG/dpw/Environmental.html> and at the following libraries:

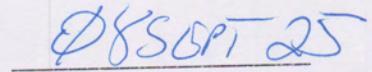
Lawton Public Library, 110 SW 4th St., Lawton, OK, 73501
Nye Library, 1640 Randolph Road, Fort Sill, OK, 73503

The public comment period ran from May 30, 2025, to June 28, 2025. Fort Sill did not receive any public comments.

FINDING: The Congressionally mandated one-year timeline started for this EA on November 25, 2024, in compliance with the Army NEPA guidance in place at that time. Accordingly, as the responsible official, I certify that this document has fulfilled NEPA's requirements within the Congressional timeline. After considering the environmental effects described in the EA and supporting documents in the project record, I have determined the proposed action will not result in significant impacts on the quality of the human environment. This analysis fulfills the requirements of NEPA, DoD NEPA Implementing Procedures, and Army Regulation 200-1. Therefore, an Environmental Impact Statement will not be prepared, and no further environmental impact analysis is warranted at this time.



Derek R. Baird
Colonel, U.S. Army
Garrison Commander
Fort Sill, Oklahoma



Date

This Environmental Assessment (EA) is provided for public comment in accordance with the National Environmental Policy Act (NEPA) and 32 CFR Part 651, Environmental Analysis of Army Actions. The Environmental Analysis of Army actions provides an opportunity for public input on Army decision-making, allows the public to offer inputs on alternative ways for the Army to accomplish what it is proposing, and solicits comments on the Army's analysis of environmental effects.

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

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

Questions can be addressed to:

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This document has been certified that it does not exceed 75 pages, not including appendices as defined in [40 CFR § 1501.5\(g\)](#). As defined in [40 CFR § 1508.1\(bb\)](#), a "page" means 500 words and does not include maps, diagrams, graphs, tables, and other means of graphically displaying quantitative or geospatial information.

This document is compliant with Section 508 of the Rehabilitation Act of 1973, 29 USC § 794d. This allows assistive technology to be used to obtain the available information from the document. Due to the nature of graphics, figures, tables, and images occurring in the document, accessibility is limited to a descriptive title for each item.

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ABBREVIATIONS AND ACRONYMS

AC	Alternating Current
AD	Army Directive
Army	United States Army
APE	Area of Potential Effect
AR	Army Regulation
ARPA	Archaeological Resources Protection Act
BESS	Battery Energy Storage System
BMP	Best Management Practice
BMS	Battery Management System
C&D	Construction and Demolition
CFR	Code of Federal Regulations
CO	Carbon monoxide
DC	Direct Current
DEQ	Department of Environmental Quality
DoD	United States Department of Defense
DoDI	Department of Defense Instruction
EA	Environmental Assessment
EMS	Electromagnetic Spectrum
EO	Executive Order
ESB	Environmental Support Branch
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
Fort Sill	United States Army Garrison Fort Sill
HMWMP	Hazardous Material and Waste Management Plan
HPAAF	Henry Post Army Airfield
HVAC	Heating, Ventilation, and Air Conditioning System
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
IPaC	Information for Planning and Consultation
kV	Kilovolt
LUC	Land Use Control
MBTA	Migratory Bird Treaty Act
MEC	Munitions and Explosives of Concern
MSW	Municipal Solid Waste
MW	Megawatt
MWh	Megawatt hour
NAGPRA	Native American Graves Protection and Repatriation Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO ₂	Nitrogen dioxide
NOx	Nitrogen oxide
NRHP	National Register of Historic Places
PCS	Power Conversion System
PM _{2.5}	Fine particulate matter less than or equal to 2.5 microns in diameter
PM ₁₀	Suspended particulate matter less than or equal to 10 microns in diameter
PSD	Prevention of Significant Deterioration
PSO	Public Service Company of Oklahoma
PV	Photovoltaic
RA	Restricted Area
RE&ER	Renewable Energy and Energy Resilience

RICE	Reciprocating Internal Combustion Engine
SHPO	State Historic Preservation Office
SO ₂	Sulfur dioxide
SPCC	Spill Prevention, Control and Countermeasures
SSC	Site Screening Criteria
SWPPP	Stormwater Pollution Prevention Plan
U.S.	United States
USC	United States Code
USACE	United States Army Corps of Engineers
USAFAFCS	United States Army Field Artillery Center Fort Sill
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UXO	Unexploded Ordnance
VEC	Valued Environmental Component
WMWR	Wichita Mountains Wildlife Refuge

1 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

This section states the purpose of and need for the proposed action and outlines the scope of the environmental analyses for the alternatives considered. This section also describes the location and land ownership of the area under consideration, as well as the timing of the proposed action. This section describes the opportunities for public participation that were conducted as part of this Environmental Assessment (EA).

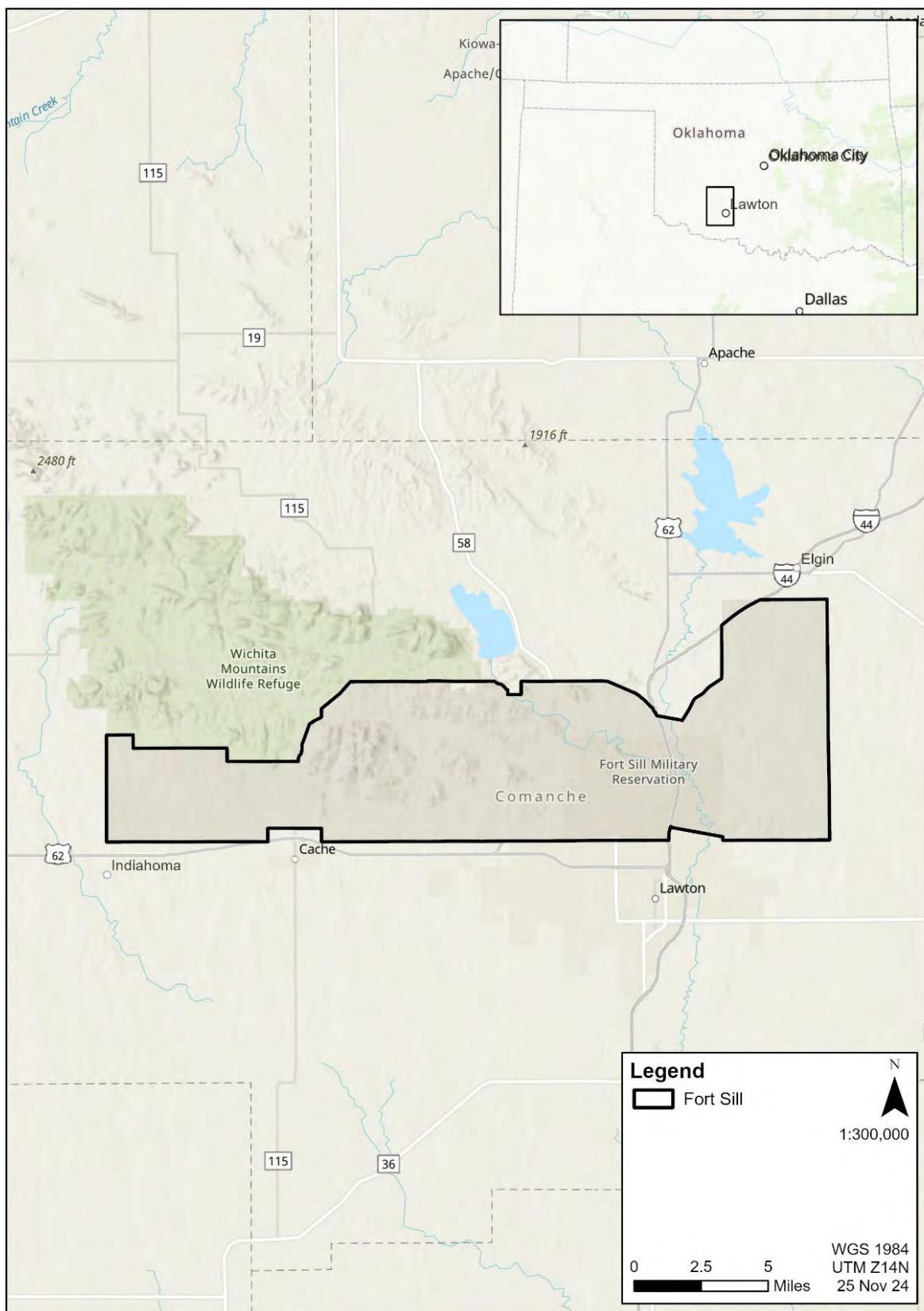
1.1 Introduction

This EA analyzes the potential environmental impacts resulting from the construction, operation, and maintenance of a proposed microgrid with backup power at the United States (U.S.) Army (Army) Garrison Fort Sill (Fort Sill), Oklahoma.

Fort Sill is located approximately 90 miles southwest of Oklahoma City. The city of Lawton borders Fort Sill on the southeast and the city of Cache borders the installation to the southwest. Nearby communities include Elgin and Indiana, along with the Wichita Mountains Wildlife Refuge (WMWR) (Figure 1-1). The installation spans approximately 93,670 total acres, composed of approximately 7,066 acres of cantonment area (military quarters), approximately 85,985 acres of training lands, and approximately 628 acres dedicated to open space and other ancillary uses.

The mission of Fort Sill is to train, educate, and develop soldiers and leaders; create and develop capabilities; provide a Fires Force to support the Joint Warfighting Commander across the spectrum of operations in Joint and Multinational environments; and engage, collaborate, and partner with stakeholders (Fort Sill, 2020).

To meet its renewable energy mandates and goals, the Army needs to develop and implement large-scale renewable and alternative energy projects at its installations. Projects that improve energy resilience will allow Army installations to meet operational commitments through a wider range of contingencies. Fort Sill has identified the need for renewable energy projects based on its mission, facilities, and weather. This proposed project is one of two renewable energy projects that the Fort Sill is currently evaluating or implementing on Fort Sill (the other being the Renewable Energy and Energy Resiliency (RE&ER) project (U.S. Army Corps of Engineers [USACE], 2019).

Figure 1-1: Fort Sill Vicinity Map

1.2 Summary of Renewable Energy Policies, Strategies and Goals

Multiple federal statutes, strategies, and goals define RE&ER requirements. Pursuant to these goals and mandates, the Army must enhance energy resiliency and increase renewable energy use. The following provides a summary of federal goals and mandates affecting RE&ER relevant to the proposed action.

1.2.1 2015 Army Energy Security and Sustainability Strategy

In 2015, the Army adopted the Army Energy Security and Sustainability Strategy, which requires efforts to enhance energy resiliency on Army installations. This strategy allows the Army to continue to conserve energy, assure access to reliable energy supplies, and invest in renewable energy on its installations (Army, 2015 and cited in USACE, 2019).

1.2.2 Energy Policy Act of 2005

The Energy Policy Act of 2005 (42 U.S. Code [USC] 13201 et seq.) mandated federal facilities use at least 5 percent renewable energy by 2010 and 7.5 percent in 2013 and thereafter.

1.2.3 Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (42 USC 17001 et seq.) was enacted to enhance energy efficiency, reduce dependence on fossil fuels, and promote sustainability in federal facilities, including military installations. The law also requires agencies, including the U.S. Army, to implement energy and water conservation measures, integrate high-performance sustainable building practices, and prioritize renewable energy sources.

1.2.4 National Defense Authorization Act of 2007

The 2007 National Defense Authorization Act of Congress mandated that the Federal Government acquire 25 percent of its energy needs through renewable sources by 2025 (10 USC 2911 (e)). In response to this mandate, the Secretary of the Army, John McHugh, established the Army Energy Initiatives Task Force (now named U.S. Army Office of Energy Initiatives).

1.2.5 Army Directive 2020-03, Installation Energy and Water Resilience Policy

This directive supersedes Army Directive (AD) 2017-07 (*Installation Energy and Water Security Policy*). This directive issues policy to strengthen energy and water resilience to reduce the risk to Army missions posed by utility disruptions affecting installations in support of the 2018 National Defense Strategy and Army Vision. To reduce mission risk, the Army will prioritize providing resilient energy and water supplies, facilities, and infrastructure that support critical missions (Army, 2020).

1.3 Purpose and Need

The purpose of the proposed action is to provide secure and reliable access to energy resources at Fort Sill. The proposed action is needed to sustain critical mission capabilities and mitigate risks posed by energy disruptions that could degrade Fort Sill's capabilities. The

proposed action is also needed to comply with AD 2020-03; meet the goals of the 2015 Army Energy Security and Sustainability Strategy to invest in renewable energy; and withstand, respond to, and rapidly recover from regional energy disruptions.

1.4 Scope and Content of the Environmental Assessment

This EA, along with a draft finding of no significant impact (FONSI), has been prepared in compliance with the National Environmental Policy Act of 1969 (NEPA) (Title 42 of the USC 4321 et seq.) and the Army's NEPA -implementing regulation (32 Code of Federal Regulations [CFR] 651, *Environmental Analysis of Army Actions*). This EA considers the potential impacts of the proposed action and alternatives on the potentially affected environment and the degree of the effects or impacts of the action. Effects or impacts means changes to the human environment from the proposed action or alternatives that are reasonably foreseeable.

The analysis is based upon impacts to environmental resource areas. Specific environmental resource areas or valued environmental components (VECs) analyzed in detail within this EA are listed in Section 1.4.1. The analysis uses existing survey data (biological, cultural, and geological) and incorporates by reference the descriptions and analysis in the previous NEPA documents listed in Section 1.5.

1.4.1 Valued Environmental Components Carried Forward for Detailed Analysis

As described and evaluated in Chapter 3, this EA analyzes the following VECs in detail:

- Air Quality
- Airspace
- Biological Resources
- Cultural Resources
- Facilities and Infrastructure
- Human Health & Safety
- Socioeconomics
- Transportation and Traffic
- Visual Resources
- Hazardous Materials & Waste

1.4.2 Valued Environmental Components Not Carried Forward for Detailed Analysis

Several other VECs typically assessed in environmental documents were considered but not carried forward for detailed analysis in this EA. This is because any potential impacts to these resource areas from the action alternatives would be either non-existent or considered negligible at most. The reasons for not analyzing the following VECs in detail are presented below.

1.4.2.1 Electromagnetic Spectrum

Army access to or use of Electromagnetic Spectrum (EMS) within the U.S. must comply with the policies and regulations for the use of the spectrum by all federal agencies, as prescribed by the *National Telecommunications and Information Administration Manual of Regulations and*

Procedures for Federal Radio Frequency Management and the Provisions of the Policy and Procedures for Management and Use of the Electromagnetic Spectrum, U.S. Department of Defense (DoD) Instruction (DoDI) 4650.01 (DoD, 2017 and National Telecommunications and Information Administration, 2023). Organizations, activities, and individuals are assigned responsibility for performing technical research, development engineering, allocation, allotment, and assignment missions that support Army EMS management. The proposed photovoltaic (PV) systems, tie-lines, and battery energy storage system (BESS) would operate within allowable and mandated EMS frequencies. Therefore, impacts to EMS would be non-existent and are dismissed from further analysis.

1.4.2.2 Geological and Soil Resources

The geological characteristics of the project area largely consists of disturbed soils with very little relief. The Artillery Village area is fairly level and composed of nearly all Foard and Tillman soils with 1 to 3 percent slopes. The 3900 area is craggier and composed of Foard and Tillman soils along the top, Vernon-Knoco complex with 5-12 percent slopes in the middle, and Vernon-Clairemont complex with 0 to 12 percent slopes towards the south. No unique topographic features exist in the project area. No prime farmland soils are within the project area.

Implementation of any of the action alternatives would temporarily disturb soils within the project area, resulting in an increased potential for erosion and fugitive dust. Prior to starting construction, a Storm Water Construction Permit (OKR10) would be obtained and would be issued by the Oklahoma Department of Environmental Quality (DEQ). The permit would require the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) to minimize erosion and prevent sediment and pollutants from entering nearby water bodies during construction. The SWPPP would specifically include an Erosion Control Plan that identifies appropriate measures (for example, silt fences, siltation basins, gravel bags) necessary to stabilize the soil in denuded or graded areas during construction. Soils would be maintained to the extent feasible during grading via implementation of the SWPPP/Erosion Control Plan and associated best management practices (BMPs). The proposed action alternatives would result in minor and localized impacts to soils. However, erosion and sediment control BMPs would be employed to minimize this potential.

As the proposed action alternatives do not include the construction of regularly occupied structures, there would be no potential seismic-related safety concerns. Further, geologic and soil resources related in the project area were analyzed for the *Environmental Assessment for Renewable Energy and Energy Resiliency at Fort Sill, Oklahoma* (USACE, 2019). The analysis yielded that activities in this area would have minimal, minor, and insignificant impacts based on solar related construction and implementation (USACE, 2019). Therefore, impacts to geological and soil resources from implementation of any of the alternatives would be anticipated to be negligible and are dismissed from further analysis.

1.4.2.3 Noise

The noise generated from the Reciprocating Internal Combustion Engine (RICE) facility was analyzed in the 2019 EA, therefore, noise from the RICE facility is not analyzed in this EA. The 2019 EA assumed the RICE facility would be operated at full power, 24 hours a day for 365

days per year but the day-night average sound level at all noise-sensitive receptors would remain below 65 A-weighted decibels. Construction and operation of the RICE facility would not result in significant impacts to noise.

Noise would be generated during construction of the solar PV arrays. In addition, truck traffic delivering the solar array equipment would increase (see Section 3.9 for *Transportation and Traffic* analysis). Although noise levels would slightly increase during construction, they would be short-term and would cease once construction is completed. Furthermore, there is an existing concrete wall on the east portion of Artillery Village and a wooden fence on the south side adjacent to a housing neighborhood that would serve as a noise barrier from construction-related noise. Once construction is completed, operations of the solar PV arrays would be passive, and no noise would be generated.

During construction of the BESS, noise would be generated from heavy machinery, trucking, deliveries, and on-site assembly, though this would be temporary. Once operational, the main noise sources would include the cooling systems, which emit a low-level hum, and the inverters or transformers, which would produce minor operational sounds. Routine maintenance, such as inspections and repairs, would generate minimal and intermittent noise, with occasional noise from service vehicles or equipment testing. Noise mitigation measures, such as sound-insulated enclosures, scheduling noisy activities during daylight hours, and placing BESS installations within the RICE facility footprint would help minimize impacts. Overall, while there is some noise associated with the construction, operation, and maintenance of a BESS, it is generally low and would not result in significant impacts. Therefore, impacts on noise would be negligible and is dismissed from further analysis.

1.4.2.4 Water Resources

No wetlands are within the project area. EO 11988 *Floodplain Management* directs federal agencies to minimize flood risks by avoiding development in floodplains when practicable, mitigating unavoidable impacts, and complying with National Flood Insurance Program regulations, with a focus on protecting the natural and beneficial functions of the 100-year floodplain (FEMA, 2024). The project area is not located within a FEMA 100-year floodplain (FEMA, 2024). Implementation of any of the action alternatives would not alter existing surface water features.

The proposed action alternatives are designed to be outside existing and known water resources. A SWPPP would be prepared to include standard erosion control measures (e.g., silt fencing) to reduce potential impacts (e.g., soil loss and sedimentation) to surrounding areas, including water resources during construction. Refer to Section 1.4.2.2 *Geological and Soil Resources* for more details. No use or impact to groundwater would occur from the construction or operation of any of the proposed action alternatives.

Implementation of any of the action alternatives would have a minimal decrease in surface permeability, but these impacts related to solar activities were analyzed, along with all aspects of water resources for the proposed action area in the 2019 EA (USACE, 2019). The analysis yielded that activities in this area would have minimal, minor, and insignificant impacts to water

resources based on related construction and implementation activities where the actions in this EA are proposed (USACE, 2019).

In addition, the installation and operation of the BESS would have minimal impact on surface and groundwater resources as the BESS would be located outside the FEMA 100-year floodplain. The BESS would not require water for operation and standard erosion control measures, such as silt fencing, would be implemented during construction to prevent soil erosion and sedimentation in nearby areas. The BESS design also ensures that groundwater contamination is highly unlikely, as the risk of leaks or spills is minimal (Refer to Section 3.11 for Hazardous Materials & Wastes). Therefore, impacts to water resources would be negligible and are dismissed from further analysis.

1.4.2.5 Land Use

Impacts on land use are considered significant if actions (1) change the suitability of a location for its current or planned use (e.g., noise exposure in residential areas); (2) cause conditions that are unsafe for range and training area usage and the public welfare; (3) conflict with the current and planned use of the area based on current zoning, amendments, agreements, regulatory restrictions, management, and land use plans; or (4) displace a current use with use that does not meet the goals, objectives, and desired use for an area. The degree of land use effects (negligible, minor, moderate, or significant) is based on the level of land use sensitivity in areas affected by a proposed action, the magnitude of change, and the compatibility of a proposed action with existing or planned land uses.

Per Section 2.3.1 of this EA (*Site Screening Criteria*), proposed solar PV and BESS project locations must be compatible with the military missions, including training and testing, occurring at the installation. Proposed sites must also not conflict with military training activities or jeopardize the personal safety of those constructing or operating the facilities. Fort Sill plans to have no net loss of training or operational capability as a result of any of the proposed action alternatives.

Construction and operation of the solar PV array, BESS, and overhead tie-line under any of the action alternatives would not change the suitability of the locations for their current or planned land use, conflict with other existing land uses, or displace the current land uses with one that does not help the Army meet its goals and objectives. In addition, the proposed construction and operation would not divide any communities or existing land uses. Therefore, there would be no impacts on land use from the construction and operation of the solar PV array, BESS, and tie-line at Artillery Village or the 3900 area and land use is dismissed from further analysis.

1.5 Previous Documentation

Key documents are sources of information incorporated into this EA. Documents are considered to be key because of similar actions, analyses, or impacts that may apply to this proposed action. Documents incorporated by reference in part or in whole include the following:

1.5.1 Final Environmental Assessment for Renewable Energy and Energy Resilience at Fort Sill, Oklahoma

In 2019, Fort Sill prepared an EA (USACE, 2019) analyzing the environmental consequences that could result from the implementation of an RE&ER project on Fort Sill. On May 10, 2019, Fort Sill signed a FONSI (USACE, 2019) for American Electric Power/ Public Service Company of Oklahoma (PSO) to construct and operate a solar PV array at Site 5, Artillery Village, and a RICE facility at Site 1, Southwest Cantonment. This EA herein incorporates the 2019 EA and FONSI by reference where applicable.

1.5.2 Programmatic Environmental Assessment for Construction and Operation of Solar Photovoltaic Renewable Energy Projects on Army Installations

In 2016, the Army prepared a Programmatic EA (Army, 2016) analyzing the environmental consequences that could result from the construction, operation, and maintenance of solar PV projects on previously developed sites, greenfield sites, and existing impervious surfaces on Army installations. On March 2, 2017, the Army signed a FONSI for the construction and operation of solar PV renewable energy projects on Army installations (Army, 2017a). This EA herein incorporates the 2016 EA and FONSI by reference where applicable.

1.6 Public Involvement and Agency and Tribal Coordination

To facilitate the analysis and the decision-making process, Fort Sill maintains a policy of open communication with interested parties. The installation invites public participation and review and urges all federal and state agencies, public and private organizations, and members of the public that have a potential interest in the proposed action to engage in the process. This includes minority, low-income, disadvantaged, and Native American tribes. Fort Sill's NEPA and decision-making processes are guided by Army Regulation (AR) at 32 CFR Part 651.

1.6.1 National Historic Preservation Act

In adherence to the National Historic Preservation Act (NHPA), which is governed by the implementing regulations outlined in 36 CFR 800, and DoDI 4710.02, *DoD Interactions with Federally Recognized Tribes* (DoD, 2018), Fort Sill has engaged in coordination with several key state agencies and Native American tribes to consider the effects of the proposed action on historic properties. Collaboration with the Oklahoma State Historic Preservation Office (SHPO) and the Oklahoma Archeological Survey along with engaging federally recognized tribes, acknowledging their sovereign status and consulting them on matters relevant to their cultural heritage and interests are prioritized to safeguard historical and cultural resources. The results of this coordination and consultation are incorporated into this EA where relevant and Appendix A includes representative notification correspondence and documentation of the Section 106 consultation with the Oklahoma SHPO, Oklahoma Archeological Survey, and federally recognized tribes.

1.6.2 Endangered Species Act

In accordance with Section 7 of the Endangered Species Act of 1973, as amended, and its implementing regulations (50 CFR 402), consultation with the U.S. Fish and Wildlife Service

(USFWS) when federal actions have the potential to impact listed, threatened, or endangered species or their critical habitat, as well as species or their critical habitat proposed for listing or candidacy, is required.

Considering the anticipated listing of the tricolored bat, Fort Sill is currently developing an installation-wide biological assessment and will engage in consultation with the USFWS as appropriate to assess the potential impacts of the proposed action on this species. The results of this informal consultation will be reviewed, and any pertinent information will be incorporated into this EA where relevant, ensuring compliance with regulatory requirements and proactive conservation efforts.

1.6.3 Public Involvement

The Final EA and Draft FONSI was made available to federal, state and local agencies, Native American tribes, and the public for review and comment for a 30-day public review period. Communication with the Oklahoma DEQ was also initiated to address potential concerns regarding air quality, water quality, hazardous wastes, and potential human health effects. Fort Sill published a Notice of Availability for the Final EA and Draft FONSI in the Lawton Constitution (Appendix A) and also made the Final EA and FONSI available for online viewing at <http://sill-www.army.mil/USAG/dpw/Environmental.html> and at the following libraries:

- Lawton Public Library, 110 SW 4th St., Lawton, OK, 73501
- Nye Library, 1640 Randolph Road, Fort Sill, OK, 73503

Following the 30-day public review period, no public comments were received. Coordination conducted under Section 106 of the NHPA is documented in Appendix A. If any significant impacts had been identified during the review period that could not be mitigated, a Notice of Intent would have been issued, and the Environmental Impact Statement process initiated. However, as no significant impacts were identified, a FONSI will be signed.

2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This chapter describes the proposed action and the alternatives. This chapter also describes the location and area under consideration, as well as the timing of the proposed action. This chapter also provides the screening criteria used by Fort Sill to develop the range of considered alternatives and concludes with identifying the decision Fort Sill will make.

To address the purpose and need, this EA analyzes four alternatives, one of which is the no action alternative. Section 2.2 describes the proposed action and Section 2.4 presents the alternatives, including the no action alternative. Section 2.5 discusses those alternatives considered but eliminated from detailed analysis.

2.1 Reciprocating Internal Combustion Engine Facility

The construction, operation, and maintenance of an up to 15-acre RICE facility was analyzed in detail in the 2019 EA and the details of it are incorporated here by reference. The RICE facility is integral as it provides the connection from the solar PV array to the grid via its connection to the Mow-Way Substation. Under each alternative proposed in this EA, Fort Sill would construct and operate tie-lines that would tie the solar PV array to a BESS, as well as to the switch gear co-located within the RICE facility.

The RICE facility site is located west of Sheridan Road, south of Mow-Way Road, east of East Branch Wolf Creek, and north of U.S. Highway 62 in the 3900 area. Consistent with the analysis in the 2019 EA, Fort Sill currently plans to construct a 5-acre RICE facility with up to 21 megawatts (MW) of generation of backup power (with capacity for additional generators) in Fiscal Year 2026. The RICE facility is designed to start during power outages or blackout conditions and is capable of starting without external grid power (USACE, 2019). The natural gas, water and electric power used at the RICE facility is metered at the RICE facility. Electric power supplied to the RICE facility by the proposed solar PV and/or BESS would also be metered at the RICE facility.

2.2 Description of Proposed Action

The proposed action is to construct, operate, and maintain a microgrid with backup power on Fort Sill. Fort Sill would own and be responsible for all electrical generation assets and related equipment associated with the construction, operation and maintenance of this action; this includes the financing, installation, permitting, operation, and maintenance of the utility system.

The proposed action includes three primary elements:

- (1) The construction, operation, and maintenance of solar PV arrays that would produce up to 24 MW of renewable electric power.
- (2) The construction, operation, and maintenance of overhead and/or underground tie-lines from the solar PV arrays to the RICE facility.
- (3) The construction, operation, and maintenance of a BESS that would store up to 8 MW hours (MWh) of energy and deliver up to 8 MW of power.

Fort Sill would own the infrastructure and the electricity generated within its premises. To ensure seamless integration with the grid, Fort Sill would establish an interconnection agreement with the Public Service Company of Oklahoma, enabling the power generated on-site to connect to the wider electrical grid. During a major power outage, isolation breakers would be opened at the Sheridan Road and Mow-Way Road substations. Electric power generated by the microgrid facility would then be supplied to the Fort Sill electric distribution system.

Other infrastructure, either existing or proposed with the action, would be required to support the project, including but not limited to, natural gas and electrical interconnections, sub or switching stations, water and sewer lines, access roads, parking, fire protection, tanks, exterior lighting, and security fencing. Although the sections below generally describe the infrastructure requirements for the project, additional details of the site-specific existing and new infrastructure requirements are provided in the detailed alternative descriptions in Section 2.4.

2.2.1 Solar PV Array

A solar PV system consists of all components needed to generate and transmit solar-generated power. This includes solar PV array, overhead tie-lines or transmission lines, and supporting infrastructure such as switching stations. The following describes the solar PV array proposed for Fort Sill based on the description of solar PV array from the 2019 EA (USACE, 2019).

Specifically for the Artillery Village area, the solar PV array would be located in a secure, fenced area due to the proximity of housing. The solar PV array in the 3900 area would be completely enclosed by a chain link fence with 3 strands of barbed wire at the top. The solar PV array would be mounted on the ground with poured concrete footings that would require excavation or ground penetration approximately 3 to 6 feet deep depending on the solar PV array manufacturer specifications and soil conditions. The array would be mounted at a fixed angle facing the sun to optimize and increase power production.

In addition to the solar PV array mounting system, the site would require the construction of an onsite electrical collection system, inverters, transformers, switchgear, road access, and may require other infrastructure such as outdoor cabinets designed for exterior environmental conditions for the inverters, security fencing and distribution and transmission utility lines.

These infrastructure components would require ground disturbance. Existing interior roads would be reused to the greatest extent possible. All new interior roads would be gravel. A detailed description of the ground disturbance is discussed under each alternative in Section 2.4.

The solar PV array would be designed in accordance with industry standards and guidelines. The exterior color appearance of the support facilities would be designed to blend into the surrounding area. The Fort Sill Installation Design Guide would be used in determining the exterior color appearance of the facility.

The solar PV array construction requirements described above would generally be divided into two phases. The first phase, site preparation, would include necessary clearing and grading. The second phase would include assembly, testing, and start-up of the solar PV array.

To support construction activities, trucks and vehicles would be required to transport construction equipment, solar PV components, and installation equipment to the site; construction and demolition (C&D) waste and construction/installation equipment from the site; and construction workers and appropriate inspectors to and from the site.

After construction is complete, routine maintenance (e.g., vegetation control, snow removal, and periodic module/other equipment repair or replacement) would be required. The infrastructure would be monitored on a regular basis and repairs would be conducted as needed. The frequency of some of these actions would be influenced by atmospheric conditions (e.g., rainfall, snowfall, dust, etc.). Monitoring of the solar PV array, site, and associated transmission corridors would also involve checking for potential soil erosion caused by system maintenance or natural processes. Fort Sill would ensure that a vegetation and/or gravel cover is maintained under and around the solar PV array as much as possible to reduce any runoff or soil erosion.

2.2.2 Overhead and Underground Tie-Line(s)

The proposed action involves constructing both overhead and underground tie-line(s) to connect the BESS and the switchgear, which is co-located within the RICE facility. The overhead lines would likely require electric transmission poles (40 to 80 feet tall) to support the line. The lines are needed to transmit the solar-generated energy to the RICE facility in order to connect to the larger electrical grid through the Mow-Way substation for distribution and use. Section 2.4 provides specific details for the tie-line associated with each alternative.

2.2.3 Battery Energy Storage System

In the case of solar PV arrays, without some form of energy storage, the electricity from a solar PV array may only be produced and used during times when incident solar radiation is sufficient to produce electricity. A BESS is defined both by its energy storage capacity (MWh) and by its maximum power output (MW). The utilization of a BESS would augment the daylight-only limitation by converting solar derived from electrical energy into another form that retains its energy content for long periods of time (Army, 2016). The BESS also stabilizes power fluctuations from the solar PV array to prevent distribution system disruptions in the event of an emergency. Each BESS container is typically 1 MWh or less.

The BESS (Figure 2-1) would be a modular, containerized design up to 40 feet long, complete with a battery management system (BMS), a power conversion system (PCS), heating, ventilation, and air conditioning system (HVAC), a fire suppression system, and a local controller. A 6-foot-high chain link fence made of galvanized metal with 3 strands of barbed wire on top would be constructed around the BESS.

Figure 2-1: Example Image of Modular BESS

2.2.3.1 Battery and Battery Management System

The BESS would contain an intelligent BMS that would provide all around, real-time monitoring and protection of the lithium batteries within the BESS. It would provide data on cell voltage, cell temperature, cable terminal temperature, battery string voltage, current, state of charge and state of health.

2.2.3.2 Power Conversion System

Due to the battery system within the BESS storing and delivering electricity as direct current (DC), a PCS would be required to convert the power to alternating current (AC) power for use with grid or electrical loads, and AC power can be converted to DC power to charge the battery. The PCS would give the BESS an ability to both charge and discharge.

2.2.3.3 Heating, Ventilation, and Air Conditioning System

The operation of the HVAC system within the BESS would be fully automatic and respond to the internal temperature of the container to maintain an optimal operating temperature and air distribution.

2.2.3.4 Fire Suppression System

In the event of a thermal runaway, the fire suppression system would be an additional layer of protection. The system includes fire detectors, audible and visual alarm, emergency start/stop button, gas release indicator, gas extinguishing controller, etc., and would be designed according to the container size.

2.2.3.5 Local Controller

The local controller is a dedicated controller which has been developed specifically for energy storage systems. It would control, protect, communicate with and schedule the BESS subsystems (BMS, HVAC, fire suppression, etc.).

2.2.4 Laydown Area

A laydown area would also be used during construction for the temporary storage of materials and equipment and would be covered by the OKR10 permit. The laydown area would be located within the footprint of each project component for each alternative. For all alternatives, any additional laydown areas, if needed, would be located within the 3900 area, north of the RICE facility.

2.3 Alternatives Development

Fort Sill initially identified potential alternatives that exhibited suitable land area for development and compatibility with surrounding land use along with the proximity to existing electric transmission infrastructure. Fort Sill then compared the geographic locations against the screening criteria to identify feasible alternatives for detailed analysis. The potential geographic areas considered for implementation of the proposed action are provided on Figure 2-2 and consist of the following:

2400 Area. This area is located in the west cantonment area. This area is comprised of approximately 90 acres and is bounded by the Ammunition Supply Point on the north, Miner Road on the south, Hanson Road on the west, and Sitting Bear Creek on the east.

3900 Area. This area is located in the southwestern portion of the cantonment area. This area is comprised of approximately 80 acres and is located west of Sheridan Road, south of Mow-Way Road, east of East Branch Wolf Creek, and north of U.S. Highway 62.

Artillery Village. This area is located east of Sheridan Road and the Fort Sill Visitor Control Center, west of Fort Sill Boulevard, north of U.S. Highway 62, and south of Buffalo Soldier Acres housing complex. Artillery Village is a former housing neighborhood in the 6600-6900 areas of Fort Sill and is comprised of approximately 66 useable acres.

7000 Area. This area is bounded by U.S. Highway 62 on the south, Mow-Way Road on the north, North 52nd Street on the west and extends past the East Branch Wolf Creek on the east. This area is approximately 146 acres.

Figure 2-2: Geographic Locations Considered



2.3.1 Site Screening Criteria

As part of the alternative development process, Fort Sill developed eight Site Screening Criteria (SSC) to identify reasonable sites that could meet the purpose and need of the project. The SSC are:

1. **Mission Compatibility.** Sites must be compatible with the military missions and training occurring at Fort Sill. Site development and operations should not adversely impact military training or future planned development activities on Fort Sill.
2. **Efficient Grid Access and Electrical Tie-in Potential.** Sites must be close to transmission facilities or have technical viability and economic justification for building new electrical lines for interconnection to the Fort Sill distribution system or the grid. The grid infrastructure must be capable of transporting, or being upgraded to transport, electricity generated at the site(s).
3. **On-Installation Energy Generation Potential for Increased Energy Security.** Sites must allow Fort Sill to have greater control of and access to its energy supplies while reducing the possibility of external distribution failures. The site(s) must be located within the boundaries of Fort Sill.
4. **Acreage, Topographic, and Soil Factors.** Sites must have adequate acreage of appropriate topography, aspect, slope, and soils to be compatible with the proposed infrastructure. Sites must be large enough to provide necessary energy per AD 2020-03.
5. **Environmental Factors.** Sites must minimize environmental impacts and allow acceptable accommodation of socioeconomic, cultural, or sensitive natural resources.
6. **Munitions and Explosives of Concern (MEC).** Sites must minimize exposure to MEC and potential damage from munitions. Sites must not conflict with military training activities or jeopardize personal safety of those constructing or operating the facilities. Ongoing operational needs must not adversely impact traffic safety or security risk.
7. **Cost Feasibility and Use of Proven Technologies.** Sites must be able to support proven renewable energy and resiliency technologies that can be economically built, owned, operated, and maintained.
8. **Compliance with Federal Mandates and U.S. DoD or Army Goals.** Sites must enhance compliance with government mandates and DoD and Army goals and objectives regarding renewable energy production, energy security, increased energy efficiency, water conservation, and waste reduction.

Fort Sill then evaluated each of the geographic location alternatives against the screening criteria to identify which potential alternatives were carried forward for analysis in this EA.

2.4 Alternatives Carried Forward for Detailed Analysis

After screening the geographic alternatives against the SSC, Fort Sill identified four action alternatives for analysis in this EA. The four action alternatives and the no action alternative were developed and carried forward for detailed analysis and are described below.

2.4.1 No Action Alternative

Under the no action alternative, Fort Sill would not implement the proposed action. The no action alternative would not meet the purpose and need for the action; however, this EA carries the no action alternative forward for analysis to provide a baseline for measuring the environmental consequences of the proposed action and alternatives.

Under the no action alternative, all actions at Fort Sill would continue to comply with federal, state, and local laws, regulations, and policies. However, Fort Sill would not comply with AD 2020-03.

2.4.2 Alternative 1 – 12 MW Solar PV Array with 4 MWh BESS at Artillery Village

Alternative 1 involves the construction of an up to 12 MW solar PV array with a 4 MWh BESS that encompass approximately 66 acres in the Artillery Village area and are located east of Sheridan Road and the Fort Sill Visitor Welcome Center, west of Fort Sill Boulevard, directly north of U.S. Highway 62, and south of Buffalo Soldier Acres housing complex. Figure 2-3 provides an overview of alternative 1.

Alternative 1 meets the SSC described in Section 2.3.1. The location of the proposed solar PV array and BESS would comply with federal mandates and DoD/Army goals for renewable energy production, energy security, increased energy efficiency, water conservation, and waste reduction.

2.4.2.1 Solar PV Array

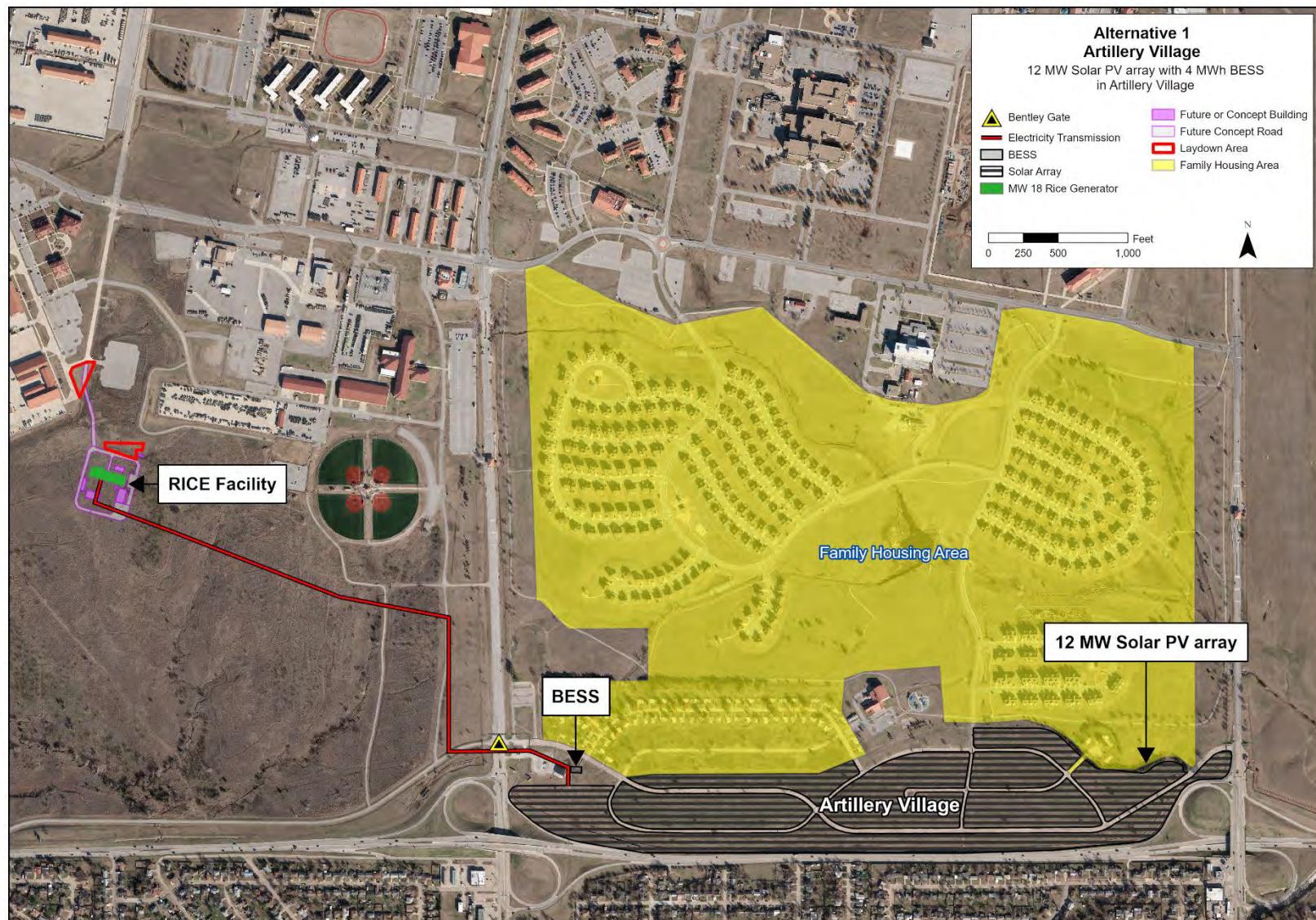
Construction of the solar PV array would include the infrastructure described in Section 2.2.1. Fort Sill would use approximately 66 acres for the construction, operation, and maintenance of a solar PV array with a total of 40,005 fixed tilt solar PV panels that would have the potential to generate an annual output of up to 28,000 MWh. The solar PV array area would be accessed via Haws Street. The proposed solar PV array for alternative 1 is depicted on Figure 2-3.

2.4.2.2 Overhead Tie-Line

Alternative 1 would require the construction of a 13.2-kilovolt (kV) overhead tie-line connecting the solar PV array to the RICE facility. The proposed overhead tie-line for alternative 1 is depicted on Figure 2-3.

2.4.2.3 Battery Energy Storage System

To achieve a total storage capacity of 4 MWh, approximately four to eight BESS containers would be required, with each container providing between 0.5 MWh and 1.0 MWh, depending on the specifications chosen by the design engineers. Each BESS would be up to a 40-foot containerized design complete with a BMS, a PCS, HVAC, a fire suppression system, and a local controller. The BESS would include the features described in Section 2.2.3 and may be located adjacent to the solar PV array (refer to Figure 2-3). The location of the BESS would be determined by engineers as part of the final project design process.

Figure 2-3: Overview of Alternative 1

2.4.3 Alternative 2 – 12 MW Solar PV Array with 4 MWh BESS in the 3900 Area

Under alternative 2, an up to 12 MW solar PV array with a 4 MWh BESS would be constructed in the 3900 area. The solar PV array and BESS encompass approximately 65 acres and would be located west of Sheridan Road, south of Mow-Way Road, east of East Branch Wolf Creek, and north of U.S. Highway 62. Figure 2-3 provides an overview of alternative 2.

Alternative 2 meets the SSC described in Section 2.3.1. The location of the proposed solar PV array and BESS would comply with federal mandates and DoD/Army goals for renewable energy production, energy security, increased energy efficiency, water conservation, and waste reduction.

2.4.3.1 Solar PV Array

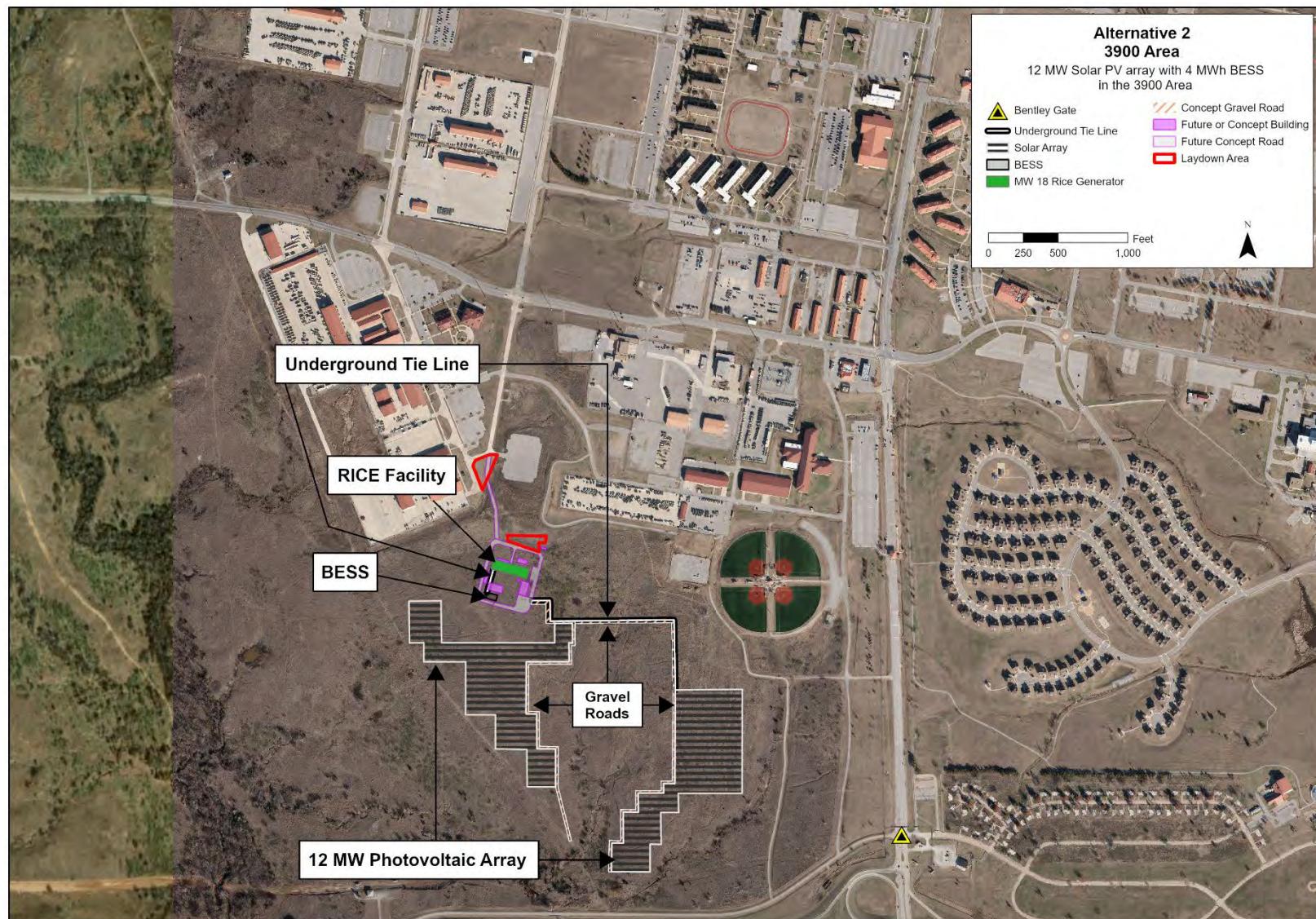
Construction of the solar PV array would include the infrastructure described in Section 2.2.1. Fort Sill would use approximately 65 acres of land for the construction, operation, and maintenance of a solar PV array with a total of 40,005 fixed tilt solar PV panels that would have the potential to generate an annual output of up to 12 MW. The solar PV array area would be accessed via Mow-Way Road. Two gravel roads would need to be constructed: an 18-foot-wide gravel road originating from the RICE facility and proceeding southerly for 2,452 feet along the east edge of the solar PV array and an 18-foot-wide gravel road originating from the RICE facility and proceeding easterly for 920 feet and then southerly for 2,486 feet along the west edge of the solar array. The proposed solar PV array for alternative 2 is depicted on Figure 2-4.

2.4.3.2 Underground Tie-Line

Alternative 2 would require the construction of a 13.2-kV underground tie-line connecting the solar PV array and BESS to the switchgear in the generator building at the RICE facility. The proposed underground tie-line for alternative 2 is depicted on Figure 2-4.

2.4.3.3 Battery Energy Storage System

To achieve a total storage capacity of 4 MWh, approximately four to eight BESS containers would be required, with each container providing between 0.5 MWh and 1.0 MWh, depending on the specifications chosen by the design engineers. Each BESS would be up to a 40-foot containerized design complete with a BMS, a PCS, HVAC, a fire suppression system, and a local controller. The BESS would include the features described in Section 2.2.3 and would be located adjacent to the solar PV array within the RICE facility footprint (refer to Figure 2-4). The location of the BESS would be determined by engineers as part of the final project design process.

Figure 2-4: Overview of Alternative 2

2.4.4 Alternative 3 – 12 MW Solar PV Array in Artillery Village with 4 MWh BESS in the 3900 Area

Under alternative 3, an up to 12 MW solar PV array in Artillery Village and a 4 MWh BESS in the 3900 area would be constructed. The solar PV array encompasses approximately 66 acres. Alternative 3 would also require the construction of a 13.2-kV overhead tie-line and a short underground tie-line. Figure 2-5 provides an overview of alternative 3.

2.4.4.1 Solar PV Array

Construction of the solar PV array would include the infrastructure described in Section 2.2.1. Fort Sill would use approximately 66 acres for the construction, operation, and maintenance of a solar PV array with a total of 40,005 fixed tilt solar PV panels that would have the potential to generate an annual output of up to 28,000 MWh. The solar PV array area would be accessed via Haws Street. The proposed solar PV array for alternative 3 is depicted on Figure 2-5.

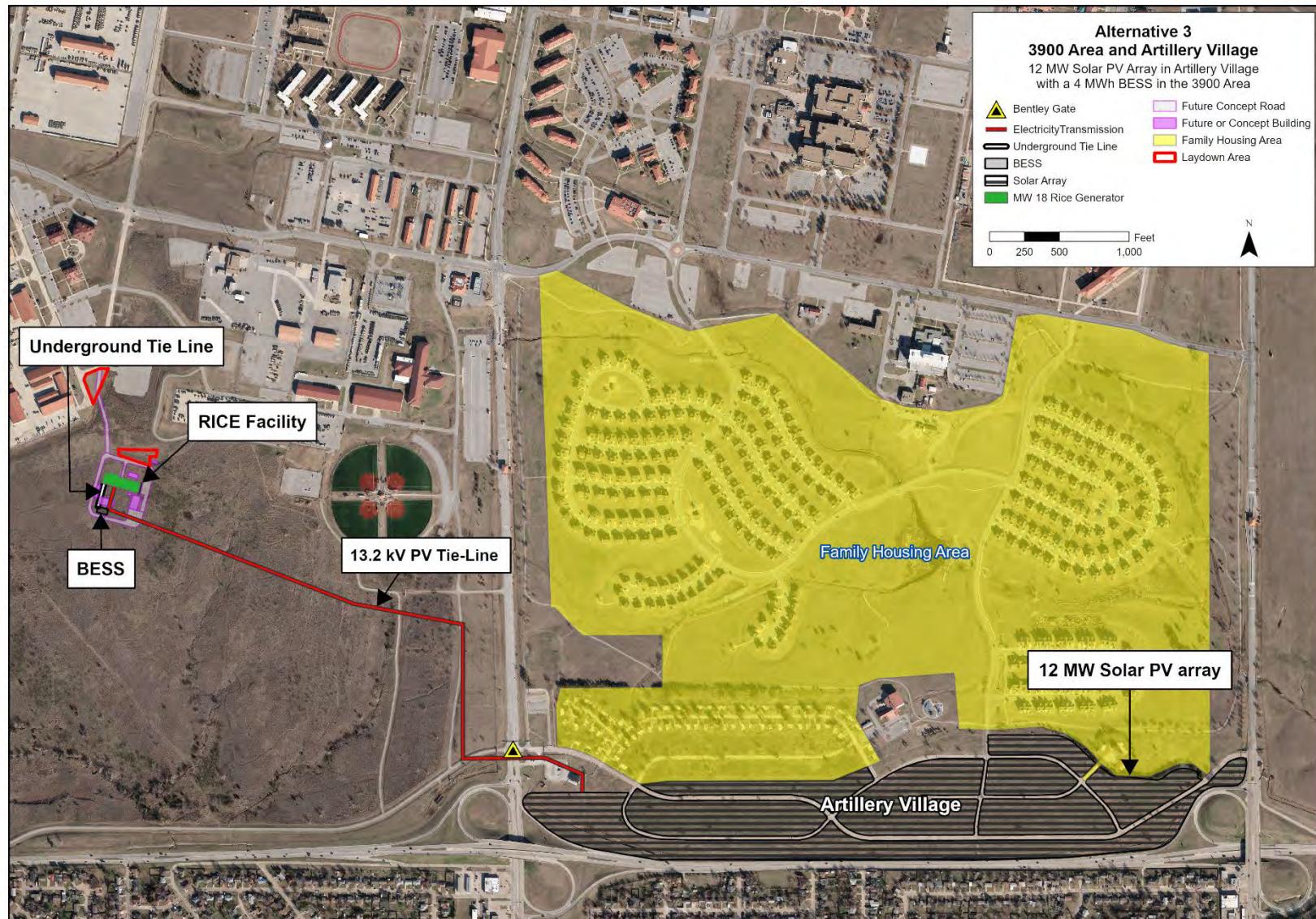
2.4.4.2 Tie-Lines

Alternative 3 would require the construction of a 13.2-kV overhead tie-line connecting the solar PV array at Artillery Village to the BESS in the 3900 area with a short underground section of tie-line from the BESS to the switchgear generator building at the RICE facility. The proposed tie-lines for alternative 3 are depicted on Figure 2-5.

2.4.4.3 Battery Energy Storage System

To achieve a total storage capacity of 4 MWh, approximately four to eight BESS containers would be required, with each container providing between 0.5 MWh and 1.0 MWh, depending on the specifications chosen by the design engineers. Each BESS would be up to a 40-foot containerized design complete with a BMS, a PCS, HVAC, a fire suppression system, and a local controller. The BESS would include the features described in Section 2.2.3. The BESS would be located within the RICE facility footprint (Figure 2-5). The location of the BESS would be determined by engineers as part of the final project design process.

Figure 2-5: Overview of Alternative 3



2.4.5 Alternative 4 – Combination of Alternative 1 and Alternative 2

This alternative combines the features of alternative 1 and alternative 2:

- Construct an up to 12 MW solar PV array at Artillery Village as described under alternative 1, Section 2.4.2.
- Construct an up to 12 MW solar PV array at the 3900 area as described under alternative 2, Section 2.4.3.
- Construct an up to 8 MWh BESS in either the Artillery Village, the 3900 area, or in both areas.
- Construct 13.2 kV overhead tie-line from the solar PV array at Artillery Village to RICE facility as presented in alternative 1, Section 2.4.2.2.
- Construct an underground tie-line from the BESS in the 3900 area to the switchgear in the generator building at the RICE facility as described in alternative 2, Section 2.4.3.2.

Figure 2-6 presents an overview of alternative 4.

2.4.5.1 Solar PV Array

Construction of the solar PV array includes the sites for alternative 1 (Section 2.4.2.1) and alternative 2 (Section 2.4.3.1) and would also include the infrastructure described in Section 2.2.1.

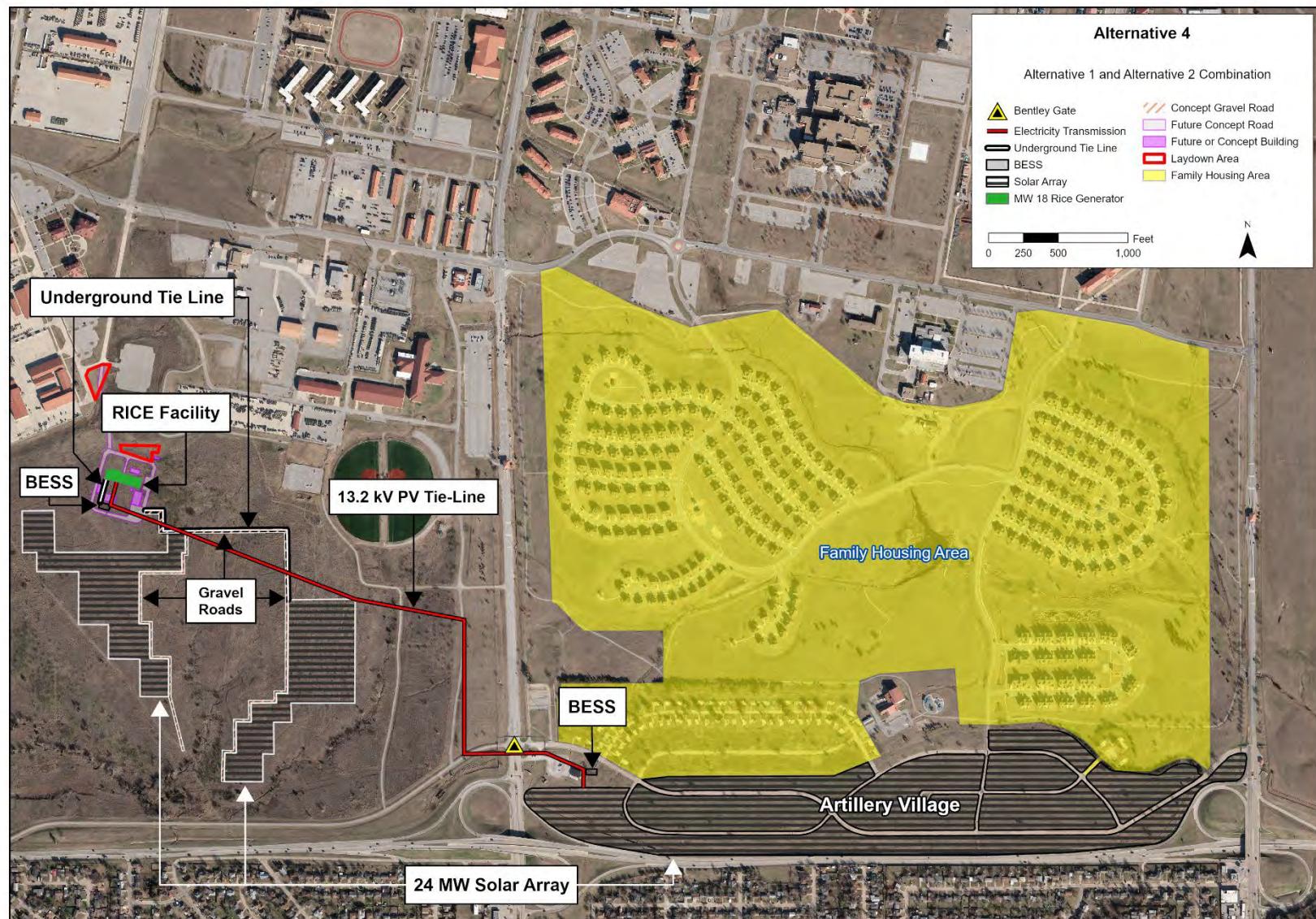
2.4.5.2 Tie-Lines

Alternative 4 would require the construction of the overhead and underground tie-lines as presented in alternative 1, Section 2.4.2.2 and alternative 2, Section 2.4.3.2. Figure 2-6 depicts the proposed tie-lines.

2.4.5.3 Battery Energy Storage System

There would be an 8-MWh BESS constructed under this alternative in either the Artillery Village or the 3900 area (Refer to Figure 2-6 for conceptual locations). To achieve a total storage capacity of 8 MWh, approximately eight to sixteen BESS containers would be required, with each container providing between 0.5 MWh and 1.0 MWh, depending on the specifications chosen by the design engineers. Each BESS would require approximately four 40-foot containers complete with a BMS, a PCS, HVAC, a fire suppression system, and a local controller and would include the features described in Section 2.2.3. The location of the BESS would be determined by engineers as part of the final project design process.

Figure 2-6: Overview of Alternative 4



2.5 Alternatives Considered but Not Carried Forward

The purpose and need statement served as a basis to identify potential alternatives to carry forward for environmental analysis. Fort Sill did not consider potential alternatives that would require a RE&ER project outside the installation boundary because such alternatives would not meet the purpose and need for the project. The following alternatives were considered but not carried forward for further analysis for the reasons listed below.

2.5.1 6600 Area Location Alternative (northern portion)

The 33 acres in the northern 6600 area have been dismissed from consideration in the environmental analysis because this potential alternative does not meet SSC 5 (Environmental Factors) and SSC 7 (Cost Feasibility and Use of Proven Technologies).

Regarding SSC 5, the site does not minimize environmental constraints or allow for acceptable accommodation of socioeconomic, cultural, or sensitive natural resources. Existing chlordane contamination presents an environmental concern, indicating potential harm to ecological systems, human health, and the surrounding environment. Given the potential risks associated with chlordane contamination, the site's suitability from an environmental perspective is compromised, as it fails to meet the requirement of minimizing environmental constraints.

Regarding SSC 7, the site's feasibility for supporting proven renewable energy and resiliency technologies is undermined by the need for chlordane remediation. Chlordane remediation involves costly processes, which could hinder the economic feasibility of developing renewable energy or resiliency technologies on the site. The resources required for chlordane remediation would increase the cost of implementing the project, making the site less financially viable for the proposed project.

Therefore, due to its failure to meet both SSC 5 and SSC 7 criteria, the 33-acre area in the northern 6600 area is not considered a suitable alternative location. Fort Sill has considered and eliminated the potential alternative in the 6600 northern area from further analysis in this EA.

2.5.2 7000 Area Location Alternative

The alternative site in the 7000 area has been dismissed from consideration in environmental analysis because it does not meet SSC 6 (Safety & MEC).

Regarding SSC 6, the presence of unexploded ordnance (UXO) poses risks to safety risks to personnel involved in constructing or operating facilities on the site. Furthermore, the need for extensive UXO surveys and possible removal actions indicates that the site would require substantial resources and time investment, making it economically infeasible or impractical for the proposed project. Therefore, due to its failure to meet SSC 6 criteria, the alternative site in the 7000 area is not considered a suitable location and was considered but dismissed from further analysis.

2.5.3 2400 Area Location Alternative

The 2400 area site location was eliminated because it does not meet SSC 2 (Efficient Grid Access and Electrical Tie-in Potential) and SSC 7 (Cost Feasibility and use of Proven Technologies).

Regarding SSC 2, the 2400 area does not provide efficient grid access for suitable electrical tie-in to the larger electrical system as the distance from existing transmission facilities and the technical challenges associated with building new electrical lines for interconnection makes the site economically unfeasible for energy development.

Regarding SSC 7, the site's lack of efficient grid access would render it economically unfeasible for supporting renewable energy projects and would likely incur substantial costs, contributing to the overall project expenses. In summary, Fort Sill has considered and eliminated the potential alternative in the 2400 area from further analysis in this EA due to the combination of inadequate grid access and cost feasibility issues.

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the existing environmental conditions and potential environmental consequences for the following VECs analyzed in detail: air quality, airspace, biological resources, cultural resources, facilities and infrastructure, human health and safety, land use, socioeconomics, transportation and traffic, and visual resources.

3.1 Approach for Analyzing Impacts

The introduction for each section defines the VEC. The affected environment section for each VEC generally describes the past and present conditions that have created the existing conditions for each VEC. The environmental consequences sections for each VEC begins with a description of the no action alternative as the baseline for the particular VEC. The environmental consequences of implementing each alternative are then described separately in subsections for each VEC. In addition, because the four action alternatives are comprised of different combinations of sites and infrastructure, the environmental consequence descriptions for some alternatives refer the reader to previous consequence descriptions where the consequences have already been described.

3.2 Air Quality

Air quality is defined as the concentration of various pollutants in the atmosphere in a given location. Every location lies within a region, or air basin, that shares climate and air movement similarities. Many factors influence a region's air quality, including the type and quantity of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions.

Most air pollutants originate from human-made sources, including mobile sources (for example, cars, trucks, buses) and stationary sources (for example, factories, refineries, power plants), as well as indoor sources (for example, some building materials and cleaning solvents). Natural sources such as dust storms and forest fires also release pollutants.

Both the Federal Government and states have enacted legislation designed to improve or protect air quality. The 1970 Federal Clean Air Act (and its amendments in 1977 and 1990) allows individual states to set stronger air quality standards, but states cannot have weaker air quality standards than those set forth under the Clean Air Act.

3.2.1 Affected Environment

3.2.1.1 Climate

Fort Sill is located in Comanche County, in the interior climate region of southwestern Oklahoma. Southwest Oklahoma has been experiencing warmer temperatures in recent years from the 1990s to present versus historical data collected since 1985 (Oklahoma Climatological Survey, 2024a). Annual precipitation has varied between wetter and drier periods in the same period (Oklahoma Climatological Survey, 2024b). Projected changes in the Southern Great Plains are described in the Fourth National Climate Assessment as including more intense rainfall and warming-related intense droughts (U.S. Department of Agriculture, 2024).

3.2.1.2 Air Quality - National Ambient Air Quality Standards and Applicable Regulations and Standards

The Federal Clean Air Act is the primary federal statute governing the control of air quality. The Clean Air Act designates six pollutants as “criteria pollutants” for which the U.S. Environmental Protection Agency (USEPA) has established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. The criteria pollutants are carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), ozone, suspended particulate matter less than or equal to 10 microns in diameter (PM₁₀), fine particulate matter less than or equal to 2.5 microns in diameter (PM_{2.5}), and lead. CO, SO₂, NO₂, lead, and some particulates emit directly into the atmosphere from emissions sources. Ozone and some NO₂ and particulates form through atmospheric chemical reactions from other pollutant emissions (called precursors).

The USEPA classifies the NAAQS as primary or secondary. Primary standards protect against adverse health effects; secondary standards aim to protect public welfare, such as prevent damage to farm crops, vegetation, and buildings. Areas that meet the NAAQS are classified as attainment areas or attainment/unclassifiable. Unclassifiable just means that the monitoring data shows the area likely meets the standard or that the USEPA has determined the available data indicates the area is likely to be meeting the standard and not contributing to a nearby violation of NAAQS. Areas that do not meet NAAQS for criteria pollutants are “nonattainment areas” for that pollutant.

The USEPA classifies areas that have transitioned from nonattainment to attainment as “maintenance areas.” These areas are required to adhere to USEPA approved maintenance plans to ensure continued attainment standards. On February 7, 2024, the USEPA strengthened the NAAQS for particulate matter. The USEPA is reviewing data to determine if each area meets the new standard (USEPA, 2024).

Fort Sill is in Comanche County, Oklahoma. Comanche County is part of Southwestern Oklahoma Intrastate Air Quality Control Region (40 CFR 81.125). Southwestern Oklahoma Intrastate Air Quality Control Region is designated as attainment/unclassifiable for all criteria pollutants (40 CFR 81.337). Air quality permitting programs for New Source Review that apply are prevention of significant deterioration (PSD) and Title V programs.

The WMWR is located along the northwest boundary of Fort Sill. The WMWR is designated as a Mandatory Class I Federal Areas where Visibility is an Important Value (40 CFR 81.424). WMWR is an area specially protected by the Clean Air Act to avoid any deterioration of air quality. This means that air pollutants that affect visibility (ozone and particulate matter) need consideration. Class I Federal Areas are primarily protected by the PSD that applies to major stationary sources (constructed non movable equipment with criteria emissions greater than 100 tons per year or greater than 250 tons per year, depending on type). PSD is usually managed through permitting.

3.2.1.3 Oklahoma Regulations

Fort Sill holds an air permit for stationary sources that includes the major source determination of a “synthetic minor,” not a major source, because the controlled emissions of each of the

criteria pollutants are below the major source threshold of 100 tons per year (Oklahoma DEQ, 2022). The air permit is issued by Oklahoma DEQ Air Quality Division under Permit Number 97-373-O. The Air Quality Division of the Oklahoma DEQ handles enforcing air pollution regulations in Oklahoma. Any new or modified stationary sources would be subject to applicable permitting programs, including PSD and Title V.

3.2.2 Environmental Consequences

Implementation of any of the four action alternatives could result in impacts to air quality. The impact to air quality is based on estimated projected emissions from the proposed action alternatives in the construction and operational phases. This analysis qualitatively evaluates impacts of emissions from the proposed construction and operational activities by determining their magnitudes and persistence of operation and the potential for the emissions to contribute to an exceedance of an ambient air quality standard.

Similar activities were analyzed in the 2019 *Environmental Assessment for Renewable Energy and Energy Resiliency at Fort Sill, Oklahoma* (USACE, 2019). The 2019 EA included construction of solar PV arrays larger than the solar arrays proposed in this EA; therefore, the analyses for 2019 are used to evaluate air quality impacts.

Temporary air quality impacts that could result from the proposed construction activities would result from:

- Emissions from the combustion of fossil fuels (diesel and gasoline) in construction equipment, deliveries of materials, and from workers from mobile sources.
- Fugitive dust ($PM_{2.5}$ and PM_{10}) emissions from earth moving and construction activities on exposed soil.

Longer term air quality impacts that could result from the proposed operational activities would result from:

- Emissions from the combustion of fossil fuels in vehicles and equipment used to maintain the facility.
- Benefits from the reduction in criteria pollutants from replacing conventional generated electricity with carbon free energy from the solar PV.

The proposed action would not establish any new stationary sources of emissions. Therefore, Fort Sill would likely not need to modify their existing air permit. This understanding would be confirmed during the design phase and if a permit is needed, Fort Sill would obtain or modify their existing permit.

3.2.2.1 No Action Alternative

Under the no action alternative, the existing electrical facilities would remain unchanged, and no additional electrical generation or transmission facilities would be constructed. There would be no change to existing emissions. Implementation of the no action alternative would result in no impacts to air quality.

3.2.2.2 Alternative 1 - 12 MW Solar PV Array with 4 MWh BESS at Artillery Village

3.2.2.2.1 Construction

Criteria Pollutants

Proposed construction activities would use diesel- and gasoline-powered equipment, haul trucks, and delivery trucks. Workers would drive to the work site in mostly gasoline- or diesel-powered cars and trucks. This equipment would be operated intermittently over large areas and throughout less than a 5-year construction period, therefore, emissions would be only a temporary impact to air quality.

Dust can be controlled to minimize any impacts to air quality from increased concentrations of PM_{2.5} and PM₁₀. Dust is generated when vehicles drive across bare soil, or the soils are blown around in the wind. Construction activities can use standard measures to minimize dust generation such as:

- Enforce speed limits on work roads and open areas.
- Stop work when winds are picking up visible dust.
- Work in smaller areas of earth disturbance to reduce dust.
- Use dust suppressant or water trucks to keep work areas damp enough to reduce dust.
- Have a designated person to monitor the effectiveness of dust control measures.

Using standard dust control measures would result in the proposed construction activities not contributing to the exceedance of a PM₁₀ or PM_{2.5} air quality standard. In addition, the negligible and short-term emissions would not appreciably affect air quality within the nearby WMWR (USACE, 2019).

Overall, the construction activities in alternative 1 would not result in long term or significant impacts to air quality. The air quality analysis in the 2019 EA found a similar no impact to air quality from construction activities from a 104-acre site.

3.2.2.2.2 Operation

Criteria Pollutants

The operation of alternative 1 is evaluated for a 30-year period from the end of construction. Operation would be limited to general maintenance of the solar PV array, electrical equipment, and the BESS. This type of operational maintenance is similar in nature and intensity to the operational maintenance of solar PV arrays evaluated in the 2019 EA for Fort Sill. The BESS is all electric and would not emit any criteria pollutants.

Operations would be dispersed throughout the year. The 2019 EA determined there would be no impact to air quality from operational activities; therefore, alternative 1 would not impact air quality. Use of a solar PV array to displace use of fossil-fuel generated power would also reduce emissions of criteria pollutants. Overall, alternative 1 would reduce regional criteria pollutants emissions, resulting in a beneficial impact to air quality.

3.2.2.3 Alternative 2 - 12 MW Solar PV Array with 4 MWh BESS in the 3900 Area

The analysis presented for alternative 1 also applies for alternative 2. There would be a negligible short-term increase in pollutant emissions during construction and a long-term reduction in pollutant emissions during operations. Therefore, alternative 2 would result in beneficial impacts to air quality.

3.2.2.4 Alternative 3 - 12 MW Solar PV Array in Artillery Village with 4 MWh BESS in the 3900 Area

The analysis presented for alternative 1 also applies for alternative 3. There would be a negligible short-term increase in pollutant emissions during construction and a long-term reduction in pollutant emissions during operations. Therefore, alternative 3 would result in beneficial impacts to air quality.

3.2.2.5 Alternative 4 - Combination of Alternative 1 and Alternative 2

Construction activities under alternative 4 would be twice as much as alternative 1. However, the analyses in 2019 of construction of similar amounts and types of electrical infrastructure determined there would not be any long term or significant impact to air quality.

There would be a short-term increase in pollutant emissions during construction and a long-term reduction in pollutant emissions during operations.

Therefore, alternative 4 would result in beneficial impacts to air quality.

3.3 Airspace

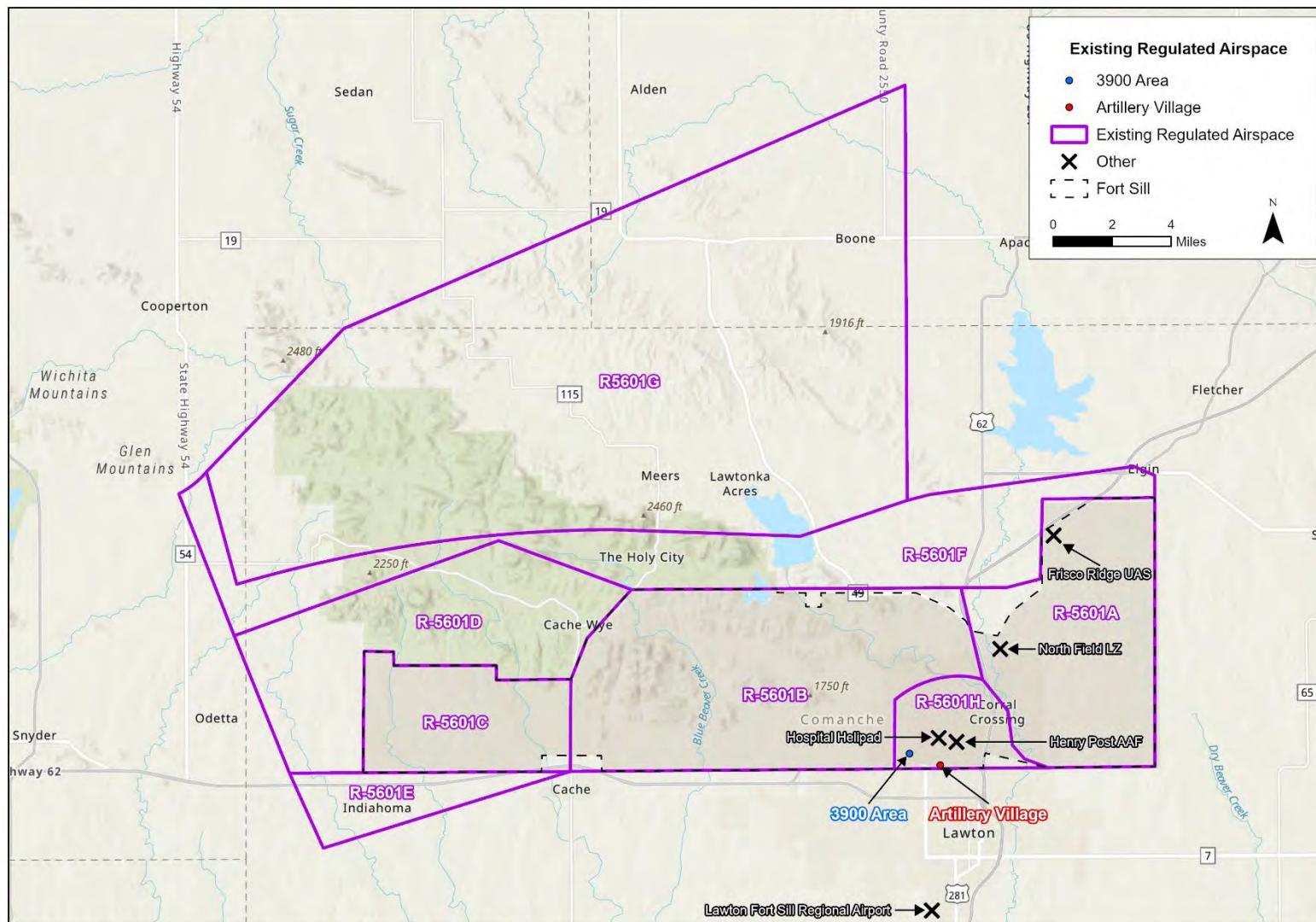
The current affected environment and effects from the proposed action alternatives on airspace were analyzed in detail in the 2019 EA (USACE, 2019) and the details of it are incorporated in this section by reference.

3.3.1 Affected Environment

At Fort Sill, all airspace is controlled and classified by the Federal Aviation Administration (FAA) as Restricted Areas (RAs). R-5601H is located above the 3900 area and the Artillery Village area. The nearby Military Operations Areas include Sheppard 1, Sheppard 2, Hollis, and Washita. Fort Sill's aviation facilities in the R-5601H include the Henry Post Army Airfield (HPAAF) and a hospital helipad. Nearby in the R-5601A is the Frisco Ridge Unmanned Aircraft System airfield, and North Field Landing Zone (Figure 3-1).

Artillery Village is located approximately 1,500 feet from the HPAAF runway's edge. The hospital helipad is 0.8 miles north of Artillery Village. Fort Sill Regional Airport is located 4 miles south of Artillery Village and the 3900 area. The 3900 area is located approximately 1 mile from the HPAAF runway's edge. The hospital helipad is 0.6 miles northeast of the 3900 area.

Figure 3-1: Existing RA Airspace Above Fort Sill



In 2016, the Army completed a glare study to evaluate potential glare impacts to the HPAAF control tower and arriving and departing aircraft for the RE&ER project (USACE, 2019). The glare study resulted in “no glare” determinations for the Air Traffic Control tower and Runway 17. For Runway 35, the study resulted in “minor glare” determinations from 1 mile to 0.25 mile, from March to October from 4:30 P.M. to 6:40 P.M. Most of the glare was reported beyond 50 degrees from pilot line-of-site. This site is located outside of any-federally-obligated airport boundaries and outside of any of the Clear Zones or Accident Potential Zones associated with HPAAF (USACE, 2019).

Fort Sill is the using agency for the airspace above Fort Sill, while the Directorate of Plans, Training, Mobilization, and Security manages local airspace with the FAA’s Fort Worth Air Route Traffic Control Center. Construction near airfields requires FAA notification and review to avoid impacting airspace (USACE, 2019).

3.3.2 Environmental Consequences

3.3.2.1 No Action Alternative

Under the no action alternative, the existing electrical facilities would remain unchanged, and no additional electrical generation or transmission facilities would be constructed. There would be no change to the existing airspace. Implementation of the no action alternative would result in no impacts to airspace.

3.3.2.2 Alternative 1 - 12 MW Solar PV Array with 4 MWh BESS at Artillery Village

Alternative 1 is located under RA, R-5601H. R-5601H extends down to the ground surface area over the cantonment area. Although this site is not located within any of the Accident Potential Zones or Clear Zones associated with HPAAF, per FAA 14 CFR 77, this site is less than 5,000 feet from the nearest point edge of the HPAAF runway which means that the site is located in the 25 to 1 imaginary surface. Thus, FAA notification under 14 CFR 77 would be required prior to construction by submitting FAA Form 7460-1.

During construction the tallest piece of equipment that would be installed would be approximately 75 feet high. In addition, the 13.2-kV overhead tie-line would require electric transmission poles (approximately 40 to 80 feet above ground level) to support the line extending from this site to the connection point. Construction and operation of the solar PV array would not violate any height restrictions related to HPAAF and would not interfere with aircraft operations or require any changes to Special Use Airspace (USACE, 2019). If it is determined that use of this equipment or the transmission poles would violate any of the regulated surfaces, Fort Sill would work with the FAA to obtain the proper clearances for construction and, if necessary, Fort Sill would issue Notices to Airman to make pilots aware of height obstructions during construction.

The lateral distance between the proposed construction and Lawton-Fort Sill Regional Airport is greater than 20,000 feet and flight patterns to and from the Lawton-Fort Sill Regional airport do not overfly this site. No impacts from construction and operation of the solar PV array to aircraft operations or airspace associated with the Lawton-Fort Sill Regional Airport would occur. Fort

Sill would notify and coordinate with the FAA prior to construction. Therefore, implementation of alternative 1 would not result in significant impacts to airspace.

3.3.2.3 Alternative 2 - 12 MW Solar PV Array with 4 MWh BESS in the 3900 Area

The 3900 area is also located under the RA, R-5601H. The impacts to airspace would be the same as discussed under alternative 1 with the exception that the 13.2-kV tie-line would be underground and therefore reducing potential vertical obstructions.

The site is located within 10,000 feet from the nearest point of the edge of the HPAAF runway which means that the site is located in the 50 to 1 imaginary surface. In addition, this site is located immediately north of the Goodyear Air Corridor to HPAAF (USACE, 2019). Thus, project construction would require FAA notification under 14 CFR §77 as described under alternative 1. Fort Sill would notify and coordinate with the FAA prior to construction. Therefore, implementation of alternative 2 would not result in significant impacts to airspace.

3.3.2.4 Alternative 3 - 12 MW Solar PV Array in Artillery Village with 4 MWh BESS in the 3900 Area

Effects from alternative 3 would be as described under alternative 1. However, there would be no effects from the BESS in the 3900 area or the short underground section of tie-line from the BESS to the switchgear generator building as it would be constructed within the existing RICE facility footprint. Fort Sill would notify and coordinate with the FAA prior to construction.

Therefore, implementation of alternative 3 would not result in significant impacts to airspace.

3.3.2.5 Alternative 4 - Combination of Alternative 1 and Alternative 2

Alternative 4 is a combination of alternatives 1 and 2 as described in Section 2.4.5. Effects from alternative 4 would be as described under alternative 1 and alternative 2. Therefore, implementation of alternative 4 would not result in significant impacts to airspace.

3.4 Biological Resources

Biological resources include sensitive and protected plant and animal species and associated habitats that are federally (USFWS), or state (Oklahoma Department of Wildlife Conservation) listed for protection. The Region of Influence for biological resources includes the habitats within and immediately surrounding the areas of Fort Sill. The action area is defined by federal regulation (50 CFR 402.02) as all areas to be affected directly or indirectly by the action and not merely the immediate area involved in the action. For the purposes of this EA, the action area is defined as the area subject to disturbance under the alternatives.

Biological resources are comprised of the collective native vegetation, wildlife, and their associated habitats. Existing information on vegetation and wildlife and their associated habitat types in the vicinity of the proposed sites were reviewed, with particular emphasis on the presence of any species listed as threatened or endangered by federal or state agencies to assess their sensitivity to the effects of the proposed action or alternatives. For this EA, biological resources are divided into three areas: vegetation communities, wildlife communities, and protected species under the following regulations:

- Bald and Golden Eagles, as protected under the Bald and Golden Eagle Protection Act (16 USC 17 668 [1972]);
- Protected species under the Migratory Bird Treaty Act (MBTA) (16 USC 703-712 [2004]);
- Threatened or endangered species under the Federal Endangered Species Act of 1973 (16 USC 9 1531 et seq.) administered by USFWS.

The following criteria were evaluated when determining the significance of an effect on biological resources resulting from implementation of the alternatives:

- The direct impact or taking of a protected special-status species, including habitat alteration.
- The importance (legal, commercial, ecological, or scientific) of the resource.
- The relative sensitivity of biological resources to potential effects of the actions.
- The quantity or percentage of biological resources affected by the actions relative to overall abundance in the action area.
- The expected duration of potential impacts resulting from implementation of the actions.

3.4.1 Affected Environment

Fort Sill is located in an ecological transition area where tall-grass prairie merges with short-grass prairie and soil variation has created diverse plant communities. For the purposes of this EA, the action area is defined as the various areas of disturbance proposed under the action alternatives.

3.4.1.1 Vegetation Communities

Table 3--1 presents the four vegetation communities and acreage that are found within the action area. Complete descriptions of vegetation communities at Fort Sill are provided in the Integrated Natural Resources Management Plan (INRMP) (U.S. Army Field Artillery Center Fort Sill [USAFACFS], 2020).

Table 3-1: Vegetation Communities within the Action Area

Vegetation Community	Description	Acreage
Mixed Grass	Vegetation comprised of a mix of grass species within the prairie habitat that may include little bluestem (<i>Schizachyrium scoparium</i>), switchgrass (<i>Panicum virgatum</i>), Indian grass (<i>Sorghastrum nutans</i>), blue grama (<i>Bouteloua gracilis</i>), and sideoats grama (<i>B. curtipendula</i>).	25.81
Mosaic	A transitional area between various vegetation communities occurring on Fort Sill where realistic military training scenarios can be carried out.	6.14
Mesquite savanna	Scattered grassland area dominated by mesquite shrubs (<i>Prosopis glandulosa</i>).	4.64
Maintained, Built-up, and Disturbed Areas	The areas are developed, low-habitat value areas consisting primarily of hard manmade surfaces (e.g., pavement or concrete).	85.83

Source: USAFACFS, 2020

3.4.1.2 Wildlife Communities

A brief description of the general wildlife communities at Fort Sill is presented below. Given wildlife movement, the communities across the entirety of Fort Sill and adjacent areas are provided for analysis. Fort Sill has a diversity of habitats that support a variety of wildlife, including mammals, birds, fish, reptiles, and amphibians. Detailed descriptions of wildlife documented at Fort Sill are included in the INRMP (USAFACFS, 2020).

Mammals – The diversity of natural environments at Fort Sill provides suitable habitat for a wide variety of mammal species. Frequently encountered mammal species include coyote (*Canis latrans*), bobcat (*Lynx rufus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), cottontail rabbit (*Sylvilagus floridanus*), fox squirrel (*Sciurus niger*), beaver (*Castor canadensis*), opossum (*Didelphis virginiana*), prairie vole (*Microtus ochrogaster*), deer mouse (*Peromyscus maniculatus*), and white-footed mouse (*P. leucopus*). Less frequently encountered are large herbivores such as mule deer (*Odocoileus hemionus*) and elk (*Cervus elaphus*), and large carnivores such as mountain lions (*Felis concolor*). Bison (*Bison bison*) inhabit the WMWR and have on occasion been found on Fort Sill. Game species include white-tailed deer (*Odocoileus virginianus*), elk, raccoons, feral pigs (*Sus scrofa*), and coyotes. Common bat species potentially occurring on Fort Sill include silver-haired bat (*Lasionycteris noctivagans*), Mexican free-tailed bat (*Tadarida brasiliensis*), eastern red bat (*Lasiurus borealis*), and the hoary bat (*Lasiurus cinereus*) (USAFACFS, 2020).

Birds – The state of Oklahoma is within the Central Flyway migration corridor. This migration corridor is utilized by over 400 avian species. Fort Sill provides suitable stopover or resident habitat for many of these species. Bird species commonly observed at Fort Sill include American crow (*Corvus brachyrhynchos*), black-capped vireo (*Vireo atricapillus*), common grackle (*Quiscalus quiscula*), European starling (*Sturnus vulgaris*), turkey vulture (*Cathartes aura*), bobwhite quail (*Colinus virginianus*), mourning dove (*Zenaida macroura*), ring-necked pheasants (*Phasianus colchicus*), and several species of swallows (*Hirundo* spp.). Avian game species on the installation include bobwhite quail, mourning dove, and waterfowl species such as mallard (*Anas platyrhynchos*), teal (*Anas crecca*), and Canada geese (*Branta canadensis*) and Snow/Blue geese (*Anser caerulescens*). Several natural areas providing habitat and refuge for birds, as well as many other wildlife species, have been established on the installation (USAFACFS, 2020).

Fish – Aquatic habitat on Fort Sill includes several creeks and associated tributaries and ponds. Common fish species that could inhabit these waters include largemouth bass (*Micropterus salmoides*), bluegill (*Lepomis macrochirus*), redear sunfish (*L. microlophus*), green sunfish (*L. cyanellus*), and channel catfish (*Ictalurus punctatus*) (USAFACFS, 2020).

Reptiles and Amphibians – A herpetological survey documenting species observations for the installation was performed at Fort Sill in 1991. A total of 45 species were either collected or verified by sightings (Caldwell et al. 1992 as cited in USAFACFS, 2020). More recent observations have indicated a total of 54 known species, including a sighting of cottonmouth snakes (*Agkistrodon piscivorus*) in Cache Creek (USAFACFS, 2020). Reptile species with potential to occur within Fort Sill could include a wide variety of turtles, lizards, and snakes.

Amphibians could also be present, including salamanders, frogs, and toads (USAFACFS, 2020).

3.4.1.3 Protected Species

Six federally listed, proposed, or candidate species have the potential to be present within the action area (Table 3-2). Of the four federally listed migratory bird species (Table 3-2) identified as having the potential to occur in Comanche County, none have been documented nesting at Fort Sill (USAFACFS, 2020). Migratory routes for the piping plover (*Charadrius melanotos*) and whooping crane (*Grus americana*) do occur in the vicinity of Fort Sill and it is possible these species could occur during migration periods but neither species has been documented at the installation (USAFACFS, 2020). The red knot (*Calidris canutus rufa*) has never been observed at Fort Sill as of 2022. The yellow-billed cuckoo (*Coccyzus americanus*) has been documented twice in Comanche County, however, both occurrences were outside of the installation at the WMWR (Oklahoma Natural Heritage Inventory, 2022).

Other bird species under federal protection at Fort Sill include any other species listed under the MBTA (16 USC 703-712). Migratory birds are protected by federal law and managed by the USFWS. The MBTA prohibits actions resulting in the pursuit, capture, killing, and/or possession of any protected migratory bird, nest, egg, or parts thereof. Approximately 400 species of birds protected by the MBTA are known to occur on Fort Sill. Protection for these species is mandated through the MBTA, EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, and Final Rule – Migratory Bird Permits; Take of Migratory Birds by the Armed Forces (50 CFR 21.42).

Table 3-2: Special Status Species with Potential to Occur within Fort Sill

Common Name	Scientific Name	Protection Status*	Habitat	Potential to Occur within Fort Sill
Mammals				
Tricolored bat	<i>Perimyotis subflavus</i>	Proposed Endangered	Roosts primarily among live and dead leaf clusters of live or recently dead deciduous hardwood trees. May roost in artificial structures or rocky crevices. During winter, species hibernate. This species is known to occur on WMWR.	Yes
Birds				
Piping plover	<i>Charadrius melanotos</i>	Threatened	Found on mudflats, sandy beaches and shallow wetlands with sparse vegetation. Might be found along the margins of lakes and large rivers where there is exposed (bare) sand or mud.	Yes, rare migrant
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Threatened	Woodlands, thickets, orchards, streamside groves. Breeds mostly in dense deciduous stands, including forest edges, tall thickets, dense second growth, overgrown orchards, scrubby oak woods. Often in willow groves around marshes.	Yes
Whooping crane	<i>Grus americana</i>	Endangered	Pass through Oklahoma during spring and fall migration. Stopover habitat includes shallow wetlands, marshes, margins of ponds and lakes, sandbars, and shorelines of shallow rivers, wet prairies and crop fields near wetlands. Critical habitat for the whooping crane is located approximately 150 miles north of Fort Sill near the Oklahoma/Kansas border.	Yes, rare migrant
Red knot	<i>Calidris canutus rufa</i>	Threatened	Migrates annually between its breeding grounds in the Canadian Arctic and wintering regions, including the southeast U.S., the northwest Gulf of Mexico, northern Brazil and the southern tip of South America. Might pass through Oklahoma during migration.	Yes, rare migrant
Insects				
Monarch butterfly	<i>Danaus plexippus</i>	Candidate	Open areas with milkweed and flowering plants.	Yes

Notes: *Federal

Sources: Oklahoma Department of Wildlife Conservation, 2022; Oklahoma Natural Heritage Inventory, 2022; USFWS 2022a

The tricolored bat (*Perimyotis subflavus*) has a federal status of proposed endangered as of November 2022 (Proposed Rule 87 Federal Register 56381). While the tricolored bat has never been documented on the installation, records exist for the species at the WMWR. The refuge possesses a winter hibernaculum, making the occurrence of the species at Fort Sill possible. Fort Sill could potentially offer additional foraging habitat for tricolored bats. These foraging areas could include areas such as riparian zones along creek drainages and forest edges.

In the 2022 proposal to list the tricolored bat as endangered, the USFWS proposed that the primary factor influencing its viability is white-nose syndrome (*Pseudogymnoascus destructans*), a disease of bats caused by a fungal pathogen. Other tricolored bat population stressors include those from wind-energy related mortality, habitat loss, and effects from climate change (Proposed Rule 87 Federal Register 56381).

During a 12-month finding published on December 17, 2020 (85 Federal Register 81813), the USFWS determined that the monarch butterfly (*Danaus plexippus*) warranted listing as an endangered or threatened species under the Endangered Species Act. However, that listing was precluded by higher priority listing actions (i.e., species then determined to be at greater or more immediate risk). The primary threats to the monarch's biological status include habitat loss and degradation, herbicide use, drought, exposure to insecticides, and various effects of climate change (85 Federal Register 81813). The monarch butterfly is anticipated to be listed as threatened or endangered.

3.4.1.4 Natural Resource Areas of Concern

The USFWS Information for Planning and Consultation (IPaC) system was accessed to identify any National Refuge lands and invasive species management practices with potential to be affected by the action alternatives. The IPaC system identified the WMWR as a Natural Resource Area of Concern (USFWS, 2022a). The 59,020-acre WMWR is located directly northwest of the installation (see Figure 1-1 in Chapter 1). The WMWR provides mixed-grass prairie, granite mountain, and freshwater lake and stream habitat to wildlife (USFWS, 2022b). The WMWR is an ecosystem management partner of Fort Sill, collaborating on black-capped vireo management, wildfire protection, fish stocking, and trespass issues (USAFACFS, 2020).

Bald eagles utilize WMWR lakes for feeding and secluded WMWR sites for roosting during winter months. The number of wintering eagles, both bald and golden, varies from three to six in most years. Refuge management for this species is primarily protection from harassment, providing habitat, and active fishery management to ensure an adequate food supply for the eagles. Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act, which prohibits take of individual birds and their parts (feathers, skins, etc.), eggs, or nests (USAFACFS, 2020).

The USFWS Environmental Conservation Online System was accessed to determine if designated critical habitat was present on or near Fort Sill. No critical habitat for the species referenced in Table 3-2 is present in Comanche County (USFWS, 2022c). Currently, there is no formally designated critical habitat for the tricolored Bat, but this could change once USFWS finalizes the rule. There is some habitat for the tricolored bat on Fort Sill on the western side of the installation (USFWS, 2024). This habitat is approximately seven and a half miles from the proposed activities under the action alternatives and therefore is unlikely to be impacted by any of the proposed activities.

3.4.2 Environmental Consequences

No federally listed, proposed, or candidate species or their critical habitat have been documented within the action area as proposed under the four alternatives. The existing

disturbance within the action area is relative to the habitat associations for the species identified in Table 3-2, make it unlikely that any would be present in the project area. If individuals were in the area, it would likely be as accidental and temporary vagrants. Specifically related to the known habitat for the tricolored bat, the USFWS notes that the current range is over seven miles to the west of the action area (USFWS, 2024) and, therefore, unlikely to be impacted by actions related to this project. Federally listed species are not analyzed further in this EA.

Implementation of any of the four action alternatives would result in varying levels of disturbance that could impact biological resources. Wildlife would be temporarily disturbed by an increase in noise and human activity associated with construction activities. Noise related to construction activities would be anticipated to be short-term and would only temporarily affect wildlife in the immediate vicinity of the construction activities.

Table 3-3 provides an overview of the acreage of each vegetation community found within the action area that would be disturbed from implementation of the alternatives.

Table 3-3: Acreage of Vegetation Disturbed by Each Action Alternative

Vegetation Community	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Total Acreage on Fort Sill
Mixed Grass	2.88	19.63	2.88	20.15	35,501
Mosaic	0.26	1.91	0.26	2.21	4,680
Mesquite savanna	1.06	1.36	1.06	1.57	5,348
Maintained, Built-up, and Disturbed Areas	59.03	6.89	59.03	65.93	6,686
Total	63.23	29.79	63.23	89.86	-

Implementation of any of the four action alternatives are not anticipated to impact special status species. However, the areas proposed for construction could be used by migratory birds protected by the MBTA. Fort Sill is dedicated to protecting Birds of Conservation Concern, migratory birds and their habitats, with particular conservation emphasis directed toward protection of species identified as declining or sensitive by the USFWS and Oklahoma Department of Wildlife Conservation. As outlined in the INRMP, Fort Sill would continue to operate in accordance with the MBTA through the various natural resource programs. Fort Sill would only conduct mowing, land clearing, tree trimming, and grading of any vegetated areas outside of the migratory bird breeding season (September through February) (Wampler, 2018 as cited in USACE, 2019). Nesting bird surveys would be conducted at project sites in accordance with existing procedures identified in the INRMP. No significant impacts are anticipated to occur to special status species, including migratory birds, from implementation of any of the four proposed alternatives.

The INRMP describes the active invasive plant species program. To reduce the potential establishment of invasive plant species, disturbed areas would be reseeded using approved, site-specific seed mixes after construction. Fort Sill would continue to control invasive species per the goals described in the INRMP. The invasive weed program at Fort Sill is part of the Pest

Management Section, guided by the Natural Resources and Enforcement Branch. Per EO 13112, *Invasive Species*, Fort Sill must be proactive in the effort to prevent the introduction of invasive species, as well as provide for their control.

Ultimately, implementation of the installation INRMP and consultation, when necessary, with the USFWS would ensure that the proposed action avoids or has minimal impact on listed species and their habitat within the action area. Existing disturbances would minimize any potential adverse effects of the action on listed species and their habitat. The areas to be impacted by the proposed action fall within existing mission footprints. Therefore, impacts are expected to be less than significant.

3.4.2.1 No Action Alternative

Under the no action alternative, the existing electrical facilities would remain unchanged, and no additional electrical generation or transmission facilities would be constructed. There would be no change to existing biological conditions. Implementation of the no action alternative would result in no impacts to biological resources.

3.4.2.2 Alternative 1 - 12 MW Solar PV Array with 4 MWh BESS at Artillery Village

Under alternative 1, impacts to biological resources would be within the Artillery Village. The vegetation within the Artillery Village is primarily mowed grass with residential style landscaping trees as it is a former housing area. The area is designated as maintained, built-up and disturbed areas. The existing disturbed nature of this area, along with the surrounding housing and roads, make it unlikely habitat for most wildlife and is generally not conducive for unique floral habitat or wildlife movement. Refer to Table 3-3 for acreages of specific vegetation communities that would be disturbed by alternative 1.

The 13.2-kV overhead tie-line from the solar PV array to the RICE facility is within land designated as mosaic and mixed grass. Ground disturbance within the installation of the tie-line would be minimized by constructing the new line across previously disturbed areas or in existing utility easements.

Although impacts to vegetation and wildlife in the form of habitat degradation or loss could result, impacts would not be considered significant because similar habitat is available nearby.

Implementation of alternative 1 would not result in significant impacts to biological resources.

3.4.2.3 Alternative 2 - 12 MW Solar PV Array with 4 MWh BESS in the 3900 Area

Under alternative 2, impacts would primarily occur from the construction of the solar PV Array. The vegetation is primarily classified as mixed grass, maintained, built-up, and disturbed areas, as well as some mosaic. Impacts to habitat resulting from degradation or loss, could occur, however, they would not be considered significant because similar habitat is available nearby. Refer to Table 3-3 for acreages of specific vegetation communities that would be disturbed by alternative 2.

Within the proposed action area under this alternative, wildlife species would likely vacate areas temporarily when human activity levels are high during construction, instrumentation

emplacement, and test preparation. Small mammals, rodents, and reptiles would likely withdraw to burrows during these same activities. When construction activities and personnel are not operating, open trenches associated with the construction of the underground tie-line could potentially allow for an animal to fall in and become trapped. Trenching guidelines and BMPs would be used to minimize these impacts.

The underground tie-lines from the solar PV array to the RICE facility and from BESS to the switchgear are within disturbed areas within the RICE facility and gravel roads respectively, therefore, ground disturbance would be expected to be minimal.

Implementation of alternative 2 would not result in significant impacts to biological resources.

3.4.2.4 Alternative 3 - 12 MW Solar PV Array in Artillery Village with 4 MWh BESS in the 3900 Area

Impacts to biological resources through the implementation of alternative 3 would result in largely the same impacts discussed in alternative 1. The underground tie-line from the BESS to the switchgear is within a disturbed area within the RICE facility and therefore, ground disturbance would be expected to be minimal.

Refer to Table 3-3 for acreages of specific vegetation communities that would be disturbed by alternative 2. Implementation of alternative 3 would not result in significant impacts to biological resources.

3.4.2.5 Alternative 4 - Combination of Alternative 1 and Alternative 2

Alternative 4 is a combination of alternatives 1 and 2. Alternative 4 would have the greatest overall impact to biological resources given the full complement of proposed solar PV arrays at the Artillery Village and in the 3900 Area. Refer to Table 3-3 for acreages of specific vegetation communities that would be disturbed by alternative 4. The same impacts described in alternative 1 and 2 would be anticipated through the implementation of alternative 4.

Implementation of alternative 4 would not result in significant impacts to biological resources.

3.5 Cultural Resources

The current affected environment and effects from the proposed action alternatives on cultural resources were analyzed in detail in the 2019 EA and the details of it are incorporated in this section by reference. The results from the Section 106 consultation for the 2019 EA resulted in a *no historic properties affected* finding.

As defined by Fort Sill, and as used in the 2013 Fort Sill Integrated Cultural Resources Management Plan (ICRMP) (Fort Sill, 2013a) cultural resources consist of and include the following:

- Historic properties as defined in 36 CFR 800.16(l) pursuant to the NHPA (54 USC 300308) and including artifacts, records, and material remains related to such resources;

- Archeological resources, as defined in the Archaeological Resources Protection Act (ARPA) (54 USC 302107) and the Archeological and Historic Preservation Act (54 USC 469);
- Archeological artifact collections and associated records as defined in 36 CFR 79;
- Sacred sites under EO 13007, *Indian Sacred Sites*, and the American Indian Religious Freedom Act (42 USC 1996 and 1996a); and,
- Native American remains, objects of cultural patrimony, and cultural items as detailed in the Native American Graves Protection and Repatriation Act (NAGPRA) (25 USC 3001 et seq.) and as updated on December 6, 2023.

Responsibilities of the Fort Sill cultural resources management program are outlined in the ICRMP, which covers a wide diversity of cultural resources on the installation in compliance with ARs, federal legislation, and applicable guidelines. The Environmental Support Branch (ESB) has responsibility for oversight of cultural resources management at Fort Sill and for advising the Garrison Commander concerning cultural resources management protocols and appropriate courses of action.

The management of cultural resources is guided by Chapter 6 of AR 200-1. As outlined in AR 200-1, the cultural resources management program at Fort Sill has responsibility for compliance with Sections 106 and 110 of the NHPA, as well as ARPA, Archeological and Historic Preservation Act, NAGPRA, American Indian Religious Freedom Act, EO 13007, and EO 13175, *Consultation and Coordination with Indian Tribal Governments*.

3.5.1 Affected Environment

At Fort Sill, cultural resources are identified and managed under the ICRMP. All standing buildings and structures constructed in or prior to 1974, and nearly 200 archaeological sites, have been evaluated for eligibility for listing on the National Register of Historic Places (NRHP). The archaeological site evaluations are ongoing, and the structures will continue to be evaluated for eligibility when they reach the 45-year mark from the year of construction.

There are no historic properties located near the proposed action alternatives or within the line of site of the proposed project features.

3.5.1.1 Area of Potential Effect

The area of potential effect (APE) is defined as “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist” (36 CFR 800.16(d)). For this analysis, the APE is defined by the area subject to direct or indirect impacts. The direct APE is the combined footprint of the all the proposed facilities (to include construction area, laydown area, new utilities, etc.) under the action alternatives (refer to the figures for each alternative in Section 2.4). There is no indirect APE for the project because the height of the solar PV arrays and BESS containers would not exceed the height of buildings in adjoining areas, and there are no historic properties within the direct line of sight of the project areas.

3.5.1.1.1 All Alternatives

Archaeological surveys of the Artillery Village area were conducted in 1978 (Ferring, 1978), 2008 (Wright and McCurdy 2008 as cited in USACE, 2019), 2009 (Raab, Goodwin & Associates, 2010), and 2014 (RCCG&A 2014 as cited in USACE, 2019). No archaeological sites were identified. No historic buildings, structures, landscape sites or objects are located within the Artillery Village area (USACE, 2019).

Based on previous surveys in the 3900 area there is one archaeological site (Site 34CM471), located in the area (Ferring, 1978; Weston et al, 1995; Meyer, 2008). In 2008, the site was evaluated and determined not to be eligible for listing in the NRHP; the SHPO and Oklahoma Archaeological Society concurred with the determination (Meyer, 2008).

3.5.1.2 Tribal Coordination

In adherence to the NHPA and DoDI 4710.02, *DoD Interactions with Federally Recognized Tribes* (DoD, 2018) and state regulations, Fort Sill has coordinated with Native American tribes, the SHPO, and the Oklahoma Archeological Survey to gather information concerning any potential resources of interest. This specific Tribal coordination is in addition to the other stakeholder outreach and coordination Fort Sill performed as described in Section 1.6.3.

3.5.1.3 Unanticipated Discoveries

Unanticipated discoveries are handled in accordance with the NHPA, ARPA, NAGPRA, and their implementing regulations. Fort Sill recognizes that unanticipated discoveries can occur in multiple circumstances including, but not limited to, construction projects. Fort Sill defines the term “unanticipated discovery” as the unintentional and/or unanticipated detection of cultural materials and/or cultural resources.

Should an unanticipated discovery of cultural items/resources occur, all work with the potential to impact the discovery would immediately stop and reasonable efforts would be taken to protect the cultural materials from further impact. The Fort Sill ESB would be contacted at the earliest possible opportunity and a qualified individual from the ESB would visit the location of the discovery and provide an initial assessment concerning the presence of cultural items and/or resources. If cultural items in accordance with the provisions of NAGPRA are present, NAGPRA compliance procedures would be followed. If cultural items are not present, the ESB would determine if the discovery is an isolated find or an archeological site. The discovery would be documented according to the determination of type discovery. If the historic property involved is one defined by the NHPA, then the appropriate parties would then be informed and/or consulted concerning a determination of NRHP eligibility. If necessary, measures would be implemented to avoid, minimize, or mitigate adverse effects to cultural resources (Fort Sill, 2013a).

Cultural materials may include cultural items as defined under NAGPRA and/or cultural resources. Cultural resources found as a result of inadvertent discovery may consist of building foundations and other historical structural remains; broken glass; metal objects; ceramics; concentrations of stone, charcoal, ash, bone, and/or burned bone; and other objects that do not occur naturally in soil. When an inadvertent discovery occurs during implementation of an

undertaking previously consulted pursuant to Section 106 of the NHPA, Fort Sill complies with 36 CFR 800.13(b) (Fort Sill, 2013a).

3.5.2 Environmental Consequences

There are no known archaeological sites or historic properties within the APE. Thus, the operation of the proposed action alternatives would have no direct or indirect impact on cultural resources given the location of the alternatives and lack of historic resources in the area. Under any of the action alternatives, while the discovery of cultural materials is not anticipated, should an unanticipated discovery of cultural items/resources occur, all work with the potential to impact the discovery would immediately stop and reasonable efforts would be taken to protect the cultural materials from further impact.

3.5.2.1 No Action Alternative

Under the no action alternative, the existing electrical facilities would remain unchanged, and no additional electrical generation or transmission facilities would be constructed. There would be no change to existing conditions. Implementation of the no action alternative would result in no impacts to cultural resources.

3.5.2.2 All Alternatives

Based on previous surveys in the 3900 area there is one archaeological site located in the APE. The site was evaluated and determined not to be eligible for listing in the NRHP. There are no other known archaeological sites, historic properties, landscapes sites or objects located within the direct APE. Post-construction, the solar PV array would have a relatively low visual profile, and view of the solar PV array would be obstructed by existing buildings and infrastructure.

Appendix A includes documentation of the Section 106 consultation with the Oklahoma SHPO, Oklahoma Archeological Survey, and federally recognized tribes. Implementation of any of the alternatives would not result in direct or indirect adverse effects or significant impacts to cultural resources.

3.6 Facilities and Infrastructure

Facilities and infrastructure refer to the physical systems and structures available on or near Fort Sill to support implementation of any of the action alternatives on Fort Sill. The relevant systems and associated infrastructure considered in this EA are electricity, potable and service water, wastewater, stormwater, and solid waste (USACE, 2019).

As the focus of the action alternatives includes the construction, operation, and maintenance of a microgrid with backup power, this section primarily discusses electricity and electrical facilities but also considers water supply and use. Impacts are considered in terms of increases in demands on the systems and the ability of existing systems to meet those demands. The current affected environment and effects from the proposed action on utilities, infrastructure, and facilities at Fort Sill were analyzed in detail in the 2019 EA and the details of it are incorporated in this section by reference.

3.6.1 Affected Environment

Electricity

All of the primary electric power used by Fort Sill is supplied from PSO, as a subsidiary of American Electric Power, that provides electricity to approximately 547,000 customers across southwestern Oklahoma. Electric power is distributed throughout the installation via a government-owned distribution system. Some building-specific emergency generators that are already located on the installation provide backup power for emergency and essential loads. Resiliency loads were determined by what is needed to support current critical missions and potential future growth in the event of a major power outage (USACE, 2019). The peak energy demand usually occurs during the summer.

Wind energy makes up approximately 11 percent of the Comanche County energy profile while natural gas contributes the other approximately 89 percent (Find Energy, 2024).

In 2019, Fort Sill authorized the construction, operation, and maintenance of an up to 15-acre RICE facility. The RICE facility provides the connection from the solar PV array to the grid via its connection to the Mow-Way Substation. Under each alternative proposed in this EA, Fort Sill would construct and operate tie-lines that would tie the solar PV array to a BESS, as well as to the switch gear co-located within the RICE facility.

Potable Water Supply and Use

American Water Enterprises Incorporated owns and operates all the potable water at Fort Sill. Fort Sill receives potable water from the city of Lawton under a contract that stipulates a supplied pressure independent of volume or flow (USACE, 2019). Lake Lawtonka is the primary source of water for Fort Sill, the city of Lawton, and surrounding rural areas (City of Lawton, 2024).

Wastewater

Wastewater generated at Fort Sill is delivered to the Fort Sill wastewater treatment system, which is owned and operated by American Water Enterprises. American Water Enterprises is responsible for maintaining all lift stations, making improvements to the sewer system, reporting violations, and strengthening controls. The Fort Sill wastewater treatment plant discharges treated wastewater to East Cache Creek under a National Pollutant Discharge Elimination System permit (USACE, 2019).

Stormwater

The stormwater system at Fort Sill consists of storm drains, underground piping, and various surface water features (i.e., ditches, creeks, swales, retention basins). Stormwater from the cantonment area drains into 30 major outfalls that subsequently discharge to Medicine Creek, Sitting Bear Creek, Wolf Creek, Mission Creek, and Cache Creek (USACE, 2019).

Solid Waste

Fort Sill currently utilizes the 370-acre Dodge Hill Landfill located on the east range of the installation. This landfill includes a municipal solid waste (MSW) unit, a C&D debris unit, and a permitted composting facility. MSW (or residential, commercial, or institutional solid wastes) generated at the installation are disposed of at the MSW landfill unit. As of 2015, the Dodge Hill Landfill had approximately 15 years of capacity remaining. Off-site recycling facilities are also available (USACE, 2015).

C&D waste typically includes lumber, reinforcing steel, pipes, wires, asphalt, and other debris generated by demolition of old buildings, renovation, and new construction. If C&D waste cannot be reused or recycled, it is disposed of in the C&D landfill unit. Loads that contain large amounts of recyclable waste are transported to the recycling center for additional processing. Debris not utilized for erosion control would be sent to the Fort Sill C&D landfill unit.

3.6.2 Environmental Consequences

3.6.2.1 No Action Alternative

Under the no action alternative, the existing electrical facilities would remain unchanged, and no additional electrical generation or transmission facilities would be constructed. There would be no change to existing facilities and utilities and Fort Sill would continue to receive power from PSO with no additional electricity produced.

While Fort Sill would continue to receive power from PSO and maintain compliance with federal, state, and local laws, regulations, and policies, the lack of additional electricity production and investment in renewable energy would prevent the installation from meeting the goals of AD 2020-03 and the Army Energy Security and Sustainability strategy. Overall, the no action would result in Fort Sill being less resilient to regional energy disruptions resulting in an adverse impact to facilities and infrastructure.

3.6.2.2 Alternative 1 - 12 MW Solar PV Array with 4 MWh BESS at Artillery Village

Alternative 1 includes the construction of an up to 12 MW solar PV array with a 4 MWh BESS in the Artillery Village area and the construction of a 13.2-kV overhead tie-line connecting the solar PV array to the RICE facility as described in Section 2.4.2. Fort Sill would own and be responsible for all electrical generation assets and related equipment.

Electricity

Power for construction-related equipment and vehicles would primarily be sourced from diesel and gasoline, consumed by mobile or portable generators. This reliance on fossil fuels may result in localized air emissions and noise pollution. See Section 3.2 for an analysis of potential impacts to air quality. The electricity needed during construction would be less than 1 percent of the daily electricity requirement for Fort Sill. Any temporary electric power infrastructure would be constructed in accordance with all applicable laws and regulations. Construction would not have an impact on electricity.

During operation, power generated would be transferred through overhead and underground lines to the RICE facility and to maintain charge on the BESS. The RICE facility would provide the distribution panels that connect the power to the Mow-Way substation. From the Mow-Way substation, power can then be provided to the regional grid during normal operations. In the event of a grid outage the power would be used to supply Fort Sill's Army-owned electric distribution system. The integration of solar PV power within the region would improve power supply and availability and have an overall beneficial impact on electricity.

Alternative 1 would support achievement of the Army's renewable energy goals and strategies. The addition of the solar PV array and BESS would upgrade Fort Sill's ability to maintain mission readiness during emergency situations. Under alternative 1 there would be an increase in regional renewable power supply. The diversification of the power supply and addition of power storage adds redundancy to the grid. Existing and/or new electrical infrastructure would be sufficient to support the solar PV system.

Potable Water Supply and Use

Construction activities would necessitate water usage, primarily for dust suppression during initial grading and site preparation. It is estimated that approximately 0.15 acre-feet of water per acre (a total of 66 acres) would be required for the development of the solar PV system which equates to approximately 10 acre-feet of water for construction use. Impacts to water supply and use would likely be negligible and could be minimized using reclaimed water when available and feasible.

Operation would require periodic cleaning of the solar PV panels. The cleaning would require deionized water. Using a factor of 0.05 acre-feet of water per MW, to periodically clean up to 12 MW of solar PV panels, an annual volume of approximately 0.6 acre-feet of deionized water would be required. Deionized water would be provided by an off-site source. The water would be trucked in and then applied to the solar PV panels for cleaning. The periodic cleaning process would produce little to no over-spray or accumulation of water below the solar PV panels. In addition, other cleaning techniques that use little water may be implemented to reduce the amount of water needed for cleaning.

Stormwater

As part of alternative 1 site designs, piping, drainages and culverts would be included to appropriately direct stormwater within the footprint of both facilities to existing stormwater collection systems in the cantonment area. The design would comply with applicable local discharge limits and in accordance with the SWPPP. During construction of both the solar PV array and the RICE facility, stormwater would be managed in accordance with federal, state and local regulations. Alternative 1 would require clearing and grubbing which would expose bare soils creating the potential for stormwater runoff. Implementation of BMPs would minimize runoff and revegetation of disturbed areas would be completed as soon as possible postconstruction.

Solid Waste

Waste that would be generated could include vegetation potentially mixed with rocks and soils. However, no export or import of fill material would be required because the site is currently graded and flat. Prior to construction, the contractor would develop a waste management plan that would identify measures to reduce C&D waste and identify where C&D waste would be disposed. The plan would also identify waste reuse options and be consistently updated to document monthly recycle quantities. The waste management plan would identify recycle and disposal options for packaging materials used for various component parts. BMPs would be implemented to reduce wastes by either eliminating or reducing supplier packaging or by recycling packaging.

The solar PV array has no moving parts and long service lifetimes, which would reduce substantial solid waste generation during operation and maintenance of the solar PV array. C&D debris that cannot be recycled would be disposed of in the Dodge Hill Landfill.

Summary

Alternative 1 would increase Fort Sill's energy resilience and result in a negligible increase in potable water, stormwater, and solid waste. Implementation of alternative 1 would not result in significant impacts to facilities and infrastructure.

3.6.2.3 Alternative 2 - 12 MW Solar PV Array with 4 MWh BESS in the 3900 Area

Apart from solid waste, the analysis presented for alternative 1 also applies for alternative 2. Alternative 2 would also support the achievement of the Army's renewable energy goals and strategies. The addition of the solar PV array and BESS would upgrade Fort Sill's ability to maintain mission readiness during emergency situations. There would be an increase in regional renewable power supply. The diversification of the power supply and addition of power storage would add redundancy to the grid. Existing and/or new electrical infrastructure would be sufficient to support the solar PV system.

Solid Waste

Waste that would be generated could include vegetation potentially mixed with rocks and soils. The export or import of fill material would be required because the 3900 area is craggy and composed of Foard and Tillman soils along the top, Vernon-Knoco complex with 5-12 percent slopes in the middle, and Vernon-Clairemont complex with 0 to 12 percent slopes towards the south. The contractor would develop a waste management plan as described in alternative 1.

Implementation of alternative 2 would not result in significant impacts to facilities and infrastructure.

3.6.2.4 Alternative 3 - 12 MW Solar PV Array in Artillery Village with 4 MWh BESS in the 3900 Area

Under alternative 3, impacts to facilities and infrastructure would be similar as described for alternative 1 and 2. Implementation of alternative 3 would not result in significant impacts to facilities and infrastructure.

3.6.2.5 Alternative 4 - Combination of Alternative 1 and Alternative 2

Under alternative 4, impacts to facilities and infrastructure would be similar as described for alternatives 1 and 2, which would effectively double the beneficial impact to electricity and resiliency. Implementation of alternative 4 would not result in significant impacts to facilities and infrastructure.

3.7 Human Health and Safety

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

The Army's policies, responsibilities, and procedures to protect Army personnel and property are contained in AR 385-10. AR 385-10, *The Army Safety Program*, establishes risk management as the Army's principal risk reduction methodology and ensures regulatory and statutory compliance. This regulation implements requirements of the Occupational Safety and Health Act of 1970 as implemented in EO 12196; Title 29, CFR 1960; and DoDI 6055.1, 6055.04, and 6055.07. It outlines policy on Army safety management procedures, emphasizing responsibilities and organizational concepts and ensures public safety in relation to Army operations and activities (Army, 2017b).

The Fort Sill Installation Safety Office enforces health and safety regulations under AR 385-10 (dated September 26, 2023). These regulations also implement requirements of the Occupational Safety and Health Act of 1970 as implemented in EO 12196, *Occupational Safety and Health Programs for Federal Employees*, DoDI 6055 Series, AR 385-10. In addition, the Fort Sill Installation Design Standard identifies principles of sustainable design that address safety considerations such as antiterrorism force protection standards that are required of all projects constructed on military installations.

3.7.1 Affected Environment

Typical hazards associated with the proposed action would include the potential for accidents, equipment-related incidents, and exposure to hazardous materials. To reduce the threats posed by occupational hazards, military installations implement comprehensive protocols and management plans designed to minimize risks and ensure human health and safety. This includes Standard Operating Procedures, emergency response plans, hazardous materials management, and mandatory safety training. In addition, Fort Sill maintains a *Hazardous Materials Waste Management Plan* (Fort Sill, 2023b) to properly manage hazardous materials at the installation.

MEC, such as UXO, are a safety concern at Fort Sill. The installation has specific procedures and Land-Use Controls (LUCs) which must be followed prior to ground-disturbing activities to minimize MEC-related hazards. See Section 3.11 for additional discussion on LUCs.

The Fort Sill Directorate of Plans, Training, Mobilization, and Security is responsible for managing airspace above and around Fort Sill. Fort Sill Army Radar Air Control provides radar approach control service to the surrounding area and is also the approving agency for participating aircraft entry into the RA complex. Fort Sill Army Radar Air Control provides area status information and traffic advisories to non-participating pilots.

Wildfires are a natural environmental hazard in most regions of Oklahoma and pose a threat to life and property, particularly where native ecosystems meet developed areas. Fort Sill maintains an Integrated Wildland Fire Mitigation Plan to help prevent and manage wildfires at the installation (Fort Sill, 2018). The Directorate of Emergency Services on Fort Sill manages law enforcement operations and the Fort Sill Fire Department. The Fort Sill Fire Department manages four fire stations on Fort Sill. All of the Fort Sill gates are manned and there is controlled/limited access to Fort Sill. Fort Sill maintains an Installation Emergency Management Plan as well as detailed emergency and mishap response plans for the various tenants, units, directorates, and agencies at Fort Sill. These plans assign agency responsibilities and prescribe functional activities necessary to react to major events.

3.7.2 Environmental Consequences

For this human health and safety analysis, the affected environment for the four action alternatives and the no action alternative is Fort Sill, the adjacent towns, counties, and natural features within a 20-mile radius, including the airspace located above Fort Sill. Impacts on human health and safety are evaluated according to the potential to increase or decrease in safety risks to personnel, the public, and property. The infrastructure development activities associated with the proposed action alternatives are evaluated to determine whether additional or unique safety risks are associated with the undertaking. If the implementation of any of the four action alternatives would result in a major variance from baseline conditions, it would be considered a significant safety impact.

3.7.2.1 No Action Alternative

Under the no action alternative, the existing electrical facilities would remain unchanged, and no additional electrical generation or transmission facilities would be constructed. There would be no change to existing conditions. Implementation of the no action alternative would result in no impacts to human health and safety.

3.7.2.2 All Action Alternatives

The proposed action alternatives involve the construction activities in Artillery Village and the 3900 area, both within the cantonment area at Fort Sill. Given the proximity of these locations, the health and safety impacts would be similar across all alternatives. This analysis includes the construction and operational phases of the proposed solar PV array, BESS, and associated infrastructure.

Prior to the initiation of any construction activities on Fort Sill, contractors would prepare a Health and Safety Plan. All project activities conducted during the construction and subsequent operation of the infrastructure would be conducted following this plan and in compliance with all

relevant federal, state, and municipal laws, ordinances, and regulations. As a minimum, the Health and Safety Plan would include the following:

- The identification of responsible personnel with clearly defined roles and responsibilities.
- Emergency response procedures and emergency contact information including the address and contact information for the nearest hospital and a map showing the location and route to the nearest hospital.
- Identification of typical safety issues that could be encountered (e.g., slips, trips, falls, heat, traffic control) and description of safe work practices.
- Lists of chemicals used or stored on the site with Safety Data Sheets in an appendix.
- Documentation of employee training and personal protective equipment requirements.
- The health and safety tailgate documentation form.

During construction, site workers would work with electric and water lines. The Health and Safety Plan would identify appropriate lock-out/tag-out procedures when working with all utility lines. Appropriate personal protective equipment would be available and used during any type of chemical handling including spill containment and cleanup by properly trained individuals.

As described in Section 2.2.3 the BESS would have a fire suppression system and a local controller. The BESS and solar PV array facility would be designed with safety in mind including appropriate lighting for operations during the night. The BESS would feature a 6-foot-high chain link fence made of galvanized metal with 3 strands of barbed wire on top surrounding the system. The solar PV array in Artillery Village would be located in a secure, fenced area due to the proximity to the housing development. The solar PV panels would be mounted on the ground with poured concrete footings and have an anti-reflective coating that would improve light absorption and reduce or eliminate the potential for glint and glare impacts on flying aircraft.

Overall, with implementation of applicable Occupational Safety and Health Administration and Army Safety Program requirements and compliance with regulatory requirements, none of the four action alternatives would have a significant impact on human health and safety.

3.8 Socioeconomics

Socioeconomics describes the local economic and social conditions in an area. Socioeconomic indicators, such as population, housing, and regional economic activity inform the assessment of socioeconomic and are used to understand the community potentially affected by the proposed action. This analysis focuses on the potential impacts that could result from the construction and operation of the new electrical infrastructure along with the addition of construction and operational personnel that could impact the aforementioned socioeconomic indicators.

Socioeconomic impacts are more widespread than within the installation boundaries. The following section provides a regional perspective of where impacts would be anticipated to occur. In addition to Fort Sill, the affected environment for this socioeconomic analysis includes the areas of the city of Lawton and Comanche County that could be affected (directly or indirectly) by the four action alternatives.

The 2019 EA developed a projection of the direct, indirect, and induced socioeconomic impacts using the Impact Analysis for Planning model. This project, described in detail in the 2019 EA, is a regional input-output model that uses local data combined with national input-output accounts to estimate the socioeconomic impacts of development (USACE, 2019, Section 3.14.1). The impacts of the action alternatives are anticipated to be similar to those described in the 2019 EA. Thus, the analysis for the action alternatives incorporates by reference the results of the analysis from the 2019 EA.

3.8.1 Affected Environment

Fort Sill is the home of the Army's "Fires Center of Excellence," as well as schools, mission simulators, and firing ranges. In 2020, as the third largest single-site employer in Oklahoma, Fort Sill had an overall economic impact of \$2.93 billion (Lawton-Fort Sill Economic Development Corporation, 2021).

Population

Although the population of Oklahoma has increased since 2010 (at a rate of 5.5 percent), the populations of the city of Lawton, which includes Fort Sill, and Comanche County have both decreased. With a population of just over 90,000, the city of Lawton comprises a majority of the population of the roughly 121,000 residents of Comanche County. The population of Lawton decreased at an average annual rate of 6.7 percent between 2010 and 2020. Overall, the county population decreased at an average annual rate of 2.4 percent during the same period. However, both the population of Lawton and Comanche County are estimated to have remained virtually stable between 2020 and 2023, while the growth rate on a state level is estimated to have slowed to 2.4 percent (U.S. Census Bureau, 2024). Table 3-4 below describes the population trends at the city, county, and state level in detail.

Table 3-4: Population in the Fort Sill Area

Location	2010 Census	2020 Census	Percent Change (2010-2020)	2023 Estimates	Percent Change (2020-2023)
City of Lawton	96,867	90,381	-6.7	90,245	-0.2
Comanche County	124,098	121,125	-2.4	121,574	+0.4
Oklahoma	3,751,351	3,959,353	+5.5	4,053,824	+2.4

Source: U.S. Census Bureau, 2024a

Economic Activity

In 2022, employment in Comanche County totaled 66,349 jobs (Bureau of Land Management, 2024). The largest employment sector in Comanche County was government enterprises (38.4 percent), followed by retail trade (9.7 percent), accommodation and food services (7.5 percent), and health care and social assistance (5.7 percent). Construction accounted for 3.3 percent of total employment (Bureau of Land Management, 2024). In 2022, the per capita income in Comanche County was \$49,660, which is less than the estimated \$68,154 per capita income in the state (Bureau of Land Management, 2024).

Fort Sill is an important economic contributor to southern Oklahoma and Comanche County through employment of military and civilian personnel, and expenditures for goods and services.

The total economic impact of Fort Sill on the surrounding communities in Fiscal Year 2016 was nearly \$2.3 billion. The total payroll for military, civilians, and other installation personnel exceeded \$1.7 billion (USACE, 2019).

Housing

In 2022, Comanche County had an estimated 52,585 housing units, of which 15.5 percent were vacant (Bureau of Land Management, 2024). Military family housing at Fort Sill is privatized and owned by Corvias. There are three housing communities on Fort Sill. These include Buffalo Soldier Acres, Old Cavalry Post, and Southern Plains (USACE, 2019). According to the Fort Sill Military Housing Office, the Total Homes and Occupancy Rate at Fort Sill is 1,813 and 97 percent, respectively (Fort Sill, 2024).

3.8.2 Environmental Consequences

3.8.2.1 No Action Alternative

Under the no action alternative, the existing electrical facilities would remain unchanged, and no additional electrical generation or transmission facilities would be constructed. There would be no change to existing conditions. Implementation of the no action alternative would result in no impacts to socioeconomics.

3.8.2.2 All Alternatives

Under all alternatives there would be temporary population increases during construction and in a net increase of up to 10 employees. Construction would provide economic benefits to the surrounding areas by employing construction workers and purchasing materials and equipment. Construction activities would be temporary and would provide a minor economic benefit. For a similar alternative, the 2019 EA estimated approximately \$128 million in expenditures over a three-year period, generating up to 560 jobs per year, and an estimated \$59 million per year in direct, indirect, and induced labor income in the affected area (USACE, 2019). With a labor force of 53,915 and an unemployment rate of 3.9 percent, the Comanche County labor force would be sufficient to fill these new jobs without a migration of workers into the area (Bureau of Land Management, 2024).

Due to the low number of permanent employees anticipated, the proposed action alternatives would not increase housing demand in the Lawton or Comanche County area. The greater size of alternative 4 would result in a commensurate increase in construction jobs and employment; however, these increases would continue to be negligible when compared to regional levels.

Implementation of any of the proposed action alternatives would not result in a significant impact to socioeconomics.

3.9 Transportation and Traffic

For the purposes of this EA, transportation and traffic refer to the movement of people, goods, material, and equipment on a local and regional surface transportation network, consisting of streets, railroads, transit facilities, bicycle lanes, and other modes of transportation, such as walking. Roadways are commonly described based on their intended function, which is defined

based on vehicle speed, capacity, and the degree of access provided to adjacent land uses. Arterial roads are typically multi-lane highways characterized by high speeds and limited access to fronting property; local roads are commonly two-lane streets with numerous driveways; and collector roads, which connect locals and arterials, generally have one or two lanes in each direction and provide a moderate level of access to adjacent land uses. The analysis of transportation and traffic focuses on the capacity of the local and regional transportation network to accommodate the additional traffic generated by the proposed action alternatives.

3.9.1 Affected Environment

Each of the action alternatives are located within the Fort Sill cantonment area. This area accommodates a mixture of land uses and substantial urban infrastructure, including roadways, surface parking lots, pedestrian facilities, traffic signals, traffic roundabouts, drainage channels, and related facilities. Large truck access to and from the installation is via the Apache Gate on the north side of Fort Sill off of State Highway 49. Sheridan Road and Fort Sill Boulevard are north/south running multi-lane thoroughfares with traffic signal control at major intersections. Local and regional access to and from the installation is provided by a network of Interstate highways, Oklahoma State Highways, U.S. Highways, and other local and regional roadways maintained by the state or other agencies, such as the city of Lawton.

3.9.2 Environmental Consequences

3.9.2.1 No Action Alternative

Under the no action alternative, the existing electrical facilities would remain unchanged, and no additional electrical generation or transmission facilities would be constructed. There would be no change to existing conditions. Implementation of the no action alternative would result in no impacts to transportation and traffic.

3.9.2.2 All Alternatives

For all alternatives, construction would result in a temporary increase in traffic due to the delivery of construction equipment and materials, worker commuting trips, and removal of construction debris. Although alternative 4 would double the number of facilities to be constructed, it is considered unlikely to double traffic generation since concurrent construction is expected to provide economies of scale in terms of delivery of construction equipment and materials.

Large trucks would access Fort Sill via the Apache Gate and operational traffic using pickups would use Bently Gate on Sheridan Road. During construction, the traffic control and access plan would be implemented to minimize traffic delays and impacts to daily activities occurring on Fort Sill. Delivery of solar panels and related PV equipment would result in an increase in truck traffic accessing Artillery Village or the 3900 area. Due to the large size and relatively sluggish performance of trucks as compared to passenger vehicles, large trucks have a disproportionate effect on roadway capacity. Although the additional truck traffic may be noticeable to regular drivers, it would be spread throughout the workday and would not be concentrated during peak

periods. Operational traffic, consisting of maintenance and inspection activities, would result in a minimal increase in traffic that would be temporary and localized.

Depending on the volume and timing of inbound construction traffic, queues may form at the Apache Gate as approaching vehicles are processed for access to the installation. The extent of the queue may be increased if the timing of construction traffic coincides with existing peak demand at this gate. The following transportation control measure is recommended to avoid possible queuing effects:

The construction contractor should work with Fort Sill personnel to develop and implement a procedure to facilitate access for construction vehicles and contractor personnel. This may involve timing construction traffic to avoid existing periods of peak demand at the Apache Gate, staggering the arrival of construction deliveries and construction workers, temporarily staging inbound traffic to avoid forming queues, and/or other measures.

Therefore, with implementation the above transportation control measure, implementation of any of the proposed action alternatives would not result in a significant impact to transportation and traffic.

3.10 Visual Resources

Visual resources describe the natural and built features that comprise the visual qualities of a given area. Visual effects analysis considers the extent to which a proposed action or alternative would either: (1) contrast with, detract from, or change the viewshed, visual resources, and/or visual character of the existing environment; or (2) produce light emissions that create annoyance or interfere with other (non-project) activities.

The viewshed is comprised of the area visible from an observer's standpoint, including the screening effects of intermediate vegetation and structure. Viewshed components include the underlying landform/topography (e.g., foothills, mountains, flatlands) and the overlaying land cover (e.g., water features, vegetation, cultural sites, buildings). These features form the overall impression that an observer receives of an area or its landscape character. For the purposes of this visual resources analysis, site distance is defined as foreground (0.25 miles), middle ground (0.25-3 miles), and background (3 miles and farther). The viewshed includes areas that are visible from the project site and areas from which the project sites would be visible.

Light emissions refer to any light that emanates from a light source into the surrounding environment. Glare includes any strong or uncomfortably bright light and/or light emissions redirected off a reflective surface, such as window glass in a facility.

Visual resources also have a “visual sensitivity” component, which refers to the relative degree of public interest (including agency and tribal) in visual resources and concern over adverse changes in the quality of a resource. As applied to visual impact analyses, sensitivity refers to public attitudes about specific views, or interrelated views, and is integral to identifying critical public views, assessing how important a visual impact may be, and whether or not it represents a significant impact.

3.10.1 Affected Environment

Existing Visual Quality and Character

The visual landscape of the area of influence is dominated by developed lands with areas of low-intensity development. Developed lands include the cantonment area of Fort Sill and portions of residential areas in Lawton. Interstate 44 is a major visual feature in the region. Low-intensity development includes pasturelands, agricultural fields, and low-density housing. Topography in the area is flat with some rolling hills (USACE, 2019). The majority of the project area would be located in areas of low-intensity development with adjacent developed lands. The photos below (taken in August 2024) are representative images of the proposed project areas.



Photo 1. Artillery Village area. Photo looking west toward the potential tie line connection near the BESS for alternative 1 with the Fort Sill Visitor Welcome Center to the left in the middle ground.



Photo 2. Looking southwest from Spaulding toward the proposed Artillery Village solar PV array with Fort Sill's southern boundary fence behind.



Photo 3. Looking west along Buffalo Soldiers Trail. The proposed area for the Artillery Village Solar PV array is visible to the left. Housing units on Robbins Loop are visible to the right, and the Fort Sill School Age Center is visible in the middle ground.



Photo 4. Looking northwest from the RICE facility in the 3900 area with Cubbison Road and surrounding buildings behind.



Photo 5. Looking south from the RICE facility towards the solar PV array area with a water tower located off-installation in the middle ground.



Photo 6. Looking southeast from 3932 Cubbison Road toward the RICE facility and potential 3900 area PV array. The view of the PV array would be obscured by the berm visible in the middle ground.

Within the boundaries of Fort Sill, the Fort Sill Installation Design Standard (Fort Sill 2015b, as cited in USACE, 2019) provides guidance on improving the visual quality of the installation. The Fort Sill Installation Design Standard discusses the importance of preserving historically and culturally significant properties and outlines standards for maintaining the important features of these properties.

3.10.2 Environmental Consequences

Construction and operation of the proposed infrastructure would result in viewshed changes. The solar PV array(s) would be designed in accordance with industry standards and guidelines. The solar PV panels would have an anti-reflective coating that would improve light absorption and reduce or eliminate the potential for glint and glare impacts. The exterior color appearance of the support facilities would be designed to blend into the surrounding area. The Fort Sill Installation Design Standard would be used in determining the exterior color appearance of the facility.

3.10.2.1 No Action Alternative

Under the no action alternative, the existing electrical facilities would remain unchanged, and no additional electrical generation or transmission facilities would be constructed. There would be no change to existing conditions. Implementation of the no action alternative would result in no impacts to visual resources.

3.10.2.2 Alternative 1 - 12 MW Solar PV Array with 4 MWh BESS at Artillery Village

Short-term minor impacts to visual resources would result from the visibility of construction equipment and disturbed soil at Artillery Village. Long-term, minor impacts are described below and would include the visibility of the solar PV array, BESS, and tie-lines from non-sensitive viewpoints.

The solar PV array would be clearly visible from locations on Fort Sill. Artillery Village is located in a developed portion of Fort Sill that was a former housing area, therefore, the visual contrast of the proposed solar PV array would be considered minor. Once construction is complete, the new transmission line would be visible from various locations on Fort Sill; however, the line would be placed in the developed portion of the installation, where overhead power lines are common.

Construction of the solar PV array at Artillery Village would not directly affect the view from the residential areas outside the boundary of Fort Sill on the south side of NW Rogers Lane. The existing 7-foot-tall concrete wall (Photo 5) that serves as the installation's southern boundary blocks the view of the majority of Artillery Village from the residential areas. Although the residential areas could be indirectly impacted by visual disturbances during construction, these impacts would be short-term and minor.

Implementation of alternative 1 would not result in significant impacts to visual resources.

3.10.2.3 Alternative 2 - 12 MW Solar PV Array with 4 MWh BESS in the 3900 Area

The solar PV array would be clearly visible from locations on Fort Sill. Due to the 3900 area being bordered on three sides by a developed portion of Fort Sill, the visual contrast of the proposed solar PV array would be considered minor. The new tie-line would be underground and thus not visible from any location on Fort Sill. The new gravel roads do not have any height and thus would not be visible from a distance. The BESS would be placed within the boundaries of the RICE facility; its construction would be no additional impact to aesthetics or visual resources.

Construction of the solar PV array at 3900 area could affect the view from the residential areas outside the chain-link boundary fence of Fort Sill on the south side of NW Rogers Lane. However, the view looking north toward the 3900 area currently includes built structures and above-ground power lines within the boundaries of Fort Sill. Thus, the solar PV array would be consistent with the current view. Although the residential areas could be indirectly impacted by visual disturbances during construction, these impacts would be short-term and minor.

Implementation of alternative 2 would not result in significant impacts to visual resources.

3.10.2.4 Alternative 3 - 12 MW Solar PV Array in Artillery Village with 4 MWh BESS in the 3900 Area

The impacts to aesthetics and visual resources under alternative 3 would be similar to those under alternative 2.

Implementation of alternative 3 would not result in significant impacts to visual resources.

3.10.2.5 Alternative 4 - Combination of Alternative 1 and Alternative 2

Alternative 4 is a combination of alternatives 1 and 2. Implementation of alternative 4 would not result in significant impacts to visual resources.

3.11 Hazardous Materials & Waste

The terms “hazardous materials” and “hazardous waste” refer to substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristic, could present substantial danger to public health or the environment when released into the environment. Products containing hazardous materials that could result in the generation of hazardous waste include fuel, adhesives, sealants, corrosion preventative compounds, hydraulic fluids, lubricants, oils, paints, polishes, thinners, and cleaners (USACE, 2019).

The qualitative assessment of impacts from hazardous materials and waste focuses on how (context) and to what degree (intensity) each alternative could affect hazardous materials usage and management, hazardous waste generation and management, and hazardous waste disposal. Potential impacts related to hazardous materials and wastes were analyzed for the following five effects:

1. Generation of hazardous material/waste types or quantities could not be accommodated by the current management system.
2. Increased likelihood of an uncontrolled release of hazardous materials that could contaminate the soil, surface water, groundwater, or air.
3. Non-compliance with applicable federal and state regulations as a result of the proposed action.
4. Disturbance or creation of contaminated sites, resulting in adverse effects on human health and/or the environment.
5. Established management policies, procedures, and handling capacities could not accommodate the proposed action.

3.11.1 Affected Environment

Fort Sill was first settled as a cavalry post in 1869 and has been an active military installation since that time. Past activities have contributed to the existing conditions at Fort Sill. These activities include but are not limited to the use of munitions for training and demonstration purposes, the use of various chemicals and petroleum products, C&D of facilities, construction of landfills, operation of vehicles, etc. Over time, contaminated areas have been investigated and remediated. However, some remediation continues to this day. In some cases, areas are remediated to the extent feasible and practicable and where necessary LUCs are implemented to protect human health and the environment from residual contamination that might still exist.

At Fort Sill, inactive ranges, former housing areas and former chemical release sites have been investigated and remediated as part of the Installation Restoration Plan. The Installation Restoration Plan program at Fort Sill encompasses 69 Solid Waste Management Units, including but not limited to, landfills, powder burn areas, explosive ordnance disposal sites, spill locations, and contaminated underground storage tanks. LUCs, long-term monitoring, and/or

Five-Year Reviews are implemented at the required sites indefinitely or until closure is achieved. Fort Sill is not on the USEPA National Priorities List (Fort Sill, 2016b as cited in USACE, 2019).

The land on and near the 3900 area was historically used as munitions ranges. The primary contaminants of concern are UXO and MEC. Investigation and removal of UXO and MEC in the area started in 2005 and was completed in 2014. Per the 2014 Decision Document for this site, soils greater than 2 feet deep in portions of the 3900 area could potentially contain MEC (USACE, 2019). Because portions of the 3900 area could potentially contain MEC, the 2014 Decision Documents established LUCs for this site. The LUCs include deed restrictions, notations of this site in the Fort Sill Master Plan, groundwater withdrawal restrictions, training requirements for excavation activities, and land use restrictions such as no residential uses and the site cannot be used as a hospital, daycare or school (USACE, 2019).

The land area of the Artillery Village area was a former military family housing area dating back to the 1950's. During that timeframe, asbestos-containing materials and lead-based paint were common construction materials and chlordane was legally applied for termite control around houses beginning in the World War II era and continuing through 1988 when it was banned. The Environmental Condition of Property Report for Artillery Village (Fort Sill, 2017a as cited in USACE, 2019) identifies potential chlordane contamination in the Artillery Village area and documented the possible presence of asbestos-containing materials and lead-based paint as residual construction materials from the former housing area.

Fort Sill manages hazardous and non-hazardous wastes in accordance with the Fort Sill Hazardous Material and Waste Management Plan (HMWMP) (Fort Sill, 2023b). This plan outlines responsibilities, policies, and procedures for managing hazardous materials and waste at the installation, ensuring compliance with federal, state, and local regulations, including the Resource Conservation and Recovery Act and AR 200-1 (USACE, 2019). The HMWMP applies to all activities and organizations at Fort Sill, addressing the full lifecycle of hazardous materials from procurement and storage to disposal and waste minimization. Fort Sill also manages hazardous substance spills and releases through the implementation of its Spill Prevention, Control, and Countermeasure (SPCC) Plan which serves to minimize impacts to human health and the environment through established responsibilities, duties, procedures, and resources used to contain, mitigate and clean up hazardous materials or waste spills on the installation (Fort Sill 2011b, 2011c as cited in USACE, 2019).

The Fort Sill Compliance Branch of the Environmental Quality Division, within the Directorate of Public Works, oversees hazardous materials and waste management to ensure ongoing compliance with relevant laws and regulations. This includes the handling of materials such as fuel, lubricants, oils, paints, and other chemicals, which are commonly used for routine maintenance, construction, and operations on the installation. Through established protocols, Fort Sill aims to minimize the generation of hazardous waste and reduce the potential for environmental contamination.

The local environment includes natural resources such as surface waters, groundwater, and ecologically sensitive areas, all of which could be vulnerable to contamination if hazardous materials are not managed properly. The soil and water quality in the area are regularly

monitored to ensure compliance with environmental standards, and any spills or releases are addressed promptly following established emergency response protocols.

Fort Sill's infrastructure also includes designated storage areas for hazardous materials, which are equipped with containment systems to prevent accidental releases. In addition, the installation has access to regional waste management and recycling facilities that are equipped to handle hazardous materials in compliance with federal and state regulations. Known historical contamination sites at Fort Sill are managed under ongoing remediation efforts, in coordination with environmental agencies, to prevent further degradation of local natural resources.

3.11.2 Environmental Consequences

Construction and operation of the RICE facility and solar PV arrays were analyzed in the 2019 EA. USACE analyzed five action alternatives and determined there would be no significant impacts to hazardous materials and waste (USACE, 2019). Given the similarity to the current project, it is expected that the proposed solar PV arrays under each action alternative in this EA would yield similar results and therefore, impacts to hazardous materials and wastes from the construction and operation of a solar PV array at Fort Sill would be negligible (USACE, 2019).

Although no UXO is anticipated to be encountered during construction of the solar PV arrays at Artillery Village, UXO could be encountered during construction of the overhead tie-line from Artillery Village to the RICE facility. There is also the potential for UXO to be encountered during the construction of the solar panels, underground tie-line and BESS in the 3900 area. Because UXO could be encountered, all construction workers and site personnel would be required to attend the munitions and MEC recognition and avoidance training prior to construction.

Mandatory training is a specified LUC for any subsurface activities near the Fort Sill site, FSILL-001-R-02 (Fort Sill, 2014b as cited in USACE, 2019).

The critical difference and key focus for analysis remains the operation and maintenance of the BESS, which is analyzed further below.

3.11.2.1 No Action Alternative

Under the no action alternative, the existing electrical facilities would remain unchanged, and no additional electrical generation or transmission facilities would be constructed. There would be no change to existing conditions. Implementation of the no action alternative would result in no impacts to hazardous materials and waste.

3.11.2.2 All Alternatives

The construction and operation of the BESS has the potential to impact hazardous wastes and materials due to the hazardous materials in batteries, possible soil contamination during construction, end-of-life battery management, and spill, leak, and fire risks.

A BESS is comprised of several key components that work together to store and manage energy efficiently. At its core are the battery modules, which contain multiple individual cells that utilize the safest type of lithium battery chemistry (Lithium Iron Phosphate) to store energy. The

PCS includes inverters and converters that manage the flow of electricity between the batteries and the grid, converting stored DC power into AC power for grid use. Central to the system is the BMS, which monitors battery performance, ensures safe operation, and manages charging and discharging cycles to extend battery life by preventing overcharging or deep discharging. In addition, a thermal management system regulates the temperature of the batteries to optimize performance and prevent safety hazards such as overheating. Lastly, the system includes safety systems, energy management systems, and communication interfaces, which facilitate the integration of the BESS with other power systems and enable monitoring and control.

Modern BESS units are designed with rigorous safety standards, including containment measures to prevent leaks or spills. The batteries would be enclosed in robust, sealed units that are designed to withstand various environmental conditions without compromising the integrity of the materials inside. While these batteries contain chemicals that can be hazardous if improperly managed, they are classified as non-hazardous waste under normal, operational conditions. In addition, BESS systems are subject to stringent regulatory standards and guidelines, including those from the USEPA, that ensure their installation, operation, and maintenance do not pose significant risks to human health or the environment (Department of Energy, 2024).

In the event of an incident such as a fire or physical damage to the BESS, while rare, such incidents could pose a risk of hazardous materials release. However, measures including fire suppression systems and emergency response plans would be in place (Department of Energy, 2024). Given the stringent design standards, regulatory compliance, operational controls, and end-of-life management practices in place for modern BESS units, the potential impact of hazardous wastes materials through fire or physical damage would be minimal.

Due to the hazardous chemicals found within the battery cells, proper disposal at the batteries end of life is key to preventing unintentional hazardous waste release. These batteries are classified as a type of lithium-ion battery, and in accordance with the USEPA guidelines, lithium-ion batteries are managed as universal waste. Universal waste is a specific category of hazardous waste that is subject to special regulations, making the disposal process more streamlined (Fort Sill, 2023b). The disposal of these lithium-ion batteries would follow the procedures outlined in the Fort Sill HMWMP. Appendix A of the HMWMP includes Waste Protocol Sheets that detail the proper handling and disposal of these batteries (Fort Sill, 2023b).

In summary, the BESS built-in fire protection system in combination with adherence to the Fort Sill HMWMP (Fort Sill, 2023b) and SPCC (Fort Sill 2011c as cited in USACE, 2019) and applicable federal, military, state, and local laws and regulations would reduce the potential for impacts to hazardous materials and waste. Therefore, impacts to hazardous materials and wastes would be less than significant.

4 CUMULATIVE EFFECTS

Cumulative effects may result when the environmental effects of the proposed action are added to or overlaid upon the effects associated with other past, present, and reasonably foreseeable future actions or activities in the same project area. Cumulative effects can result from individually minor, but collectively significant actions taking place over a period of time. For this analysis, the temporal span of the proposed action alternatives is 20 years, and the spatial area of consideration are the solar PV array sites, associated military installations and surrounding region.

The present effects of past actions are now part of the affected environment as described for each VEC analyzed in detail in Chapter 3. Identification of projects occurring at or nearby Fort Sill during the same time period as the action alternatives ensures that all present and reasonably foreseeable future activities that have the potential to result in cumulative effects are considered. The effects from the proposed action alternatives on the VECs, to include past, present and reasonably foreseeable actions on Fort Sill were identified and analyzed in detail in the 2019 EA. As part of this effort, planners and scientists revisited the 2019 EA analysis and determined that where applicable and valid, the information and analysis is incorporated here by reference.

4.1 Cumulative Effects Analysis

This section evaluates the cumulative effects from the past, present, and reasonably foreseeable future actions (see Table 4-1) relative to implementation of any of the action alternatives. The proposed action alternatives would not affect airspace resources, cultural resources, land use, traffic and transportation and, therefore, would not negatively contribute to cumulative effects. Cumulative effects are discussed for air quality, biological resources, human health and safety, socioeconomics, utilities/infrastructure/facilities, visual resources, and hazardous materials and waste.

Table 4-1: Present and Reasonably Foreseeable Future Actions at Fort Sill and Associated Region

Action	Proponent/Location	Timeframe	Description	Resource Interaction
Military Actions				
2019 Final EA for Renewable Energy and Energy Resilience at Fort Sill	Fort Sill	Present/Future	In 2019, Fort Sill prepared an EA (USACE, 2019) analyzing the environmental consequences that could result from the implementation of RE&ER projects on Fort Sill. On May 10, 2019, Fort Sill signed a FONSI for the construction and operation of solar PV array at Site 5, Artillery Village, and RICE facility at Site 1, Southwest Cantonment.	Air Quality, Facilities and Infrastructure, Safety, Biological resources, Cultural resources
2007 Grow the Army Initiative	Fort Sill	Present/Future	The Army has mandated an Active Duty Army force increase of Soldiers. A similar mandate is in place for the National Guard and Army Reserve. Fort Sill is experiencing a large increase in the number of troops undergoing Advanced Instructor Training (AIT) and basic training due to this mandate.	Noise, Air Quality, Safety, Biological resources, Cultural resources
Out Year Plan, 2018 and Beyond	Fort Sill	Present/Future	Military Construction (MILCON) - Training Support Facility completed in 2020, Reception Barracks Complex Phase 2 completed, Advanced Individual Training Barracks Complex Phase 2 – in process.	Noise, Air Quality, Safety, Biological resources, Cultural resources
F-35A Use of Falcon Range	Air Force Reserve Command	Past/Present	The preferred alternative for the Air Force Reserve Command beddown of F-35A aircraft is Naval Air Station Fort Worth Joint Reserve Base. Should the aircraft be based at this location, F-35A pilots would potentially use Falcon Range for training purposes.	Noise, Safety, Airspace

Action	Proponent/Location	Timeframe	Description	Resource Interaction
State and Local Actions				
Highway and Road Improvements	Oklahoma DOT/Comanche County	Present/Future	Based on review of the Oklahoma DOT Project 8 Year Construction Work Plan Report, 9 road and bridge projects are scheduled for construction in Comanche County between 2018 and 2025. Projects range from intersection improvements to an interchange at US-62 and I-44.	Noise, Air Quality, Safety, Biological resources
East Lake, Oak Pointe, Oak Ridge, etc.	Private Developers/City of Lawton	Past/Present	Development of various single-family home subdivisions in and around the city of Lawton.	Noise, Air Quality, Biological resources
Blue Canyon Wind Farm	EDP Renewables	Past/Present	The Blue Canyon Wind Farm is a multi-phase project in southwestern Oklahoma near the city of Apache in Caddo, Comanche, and Kiowa Counties. The project has been completed and operational since 2011.	Facilities and Infrastructure
Mustang Energy Center	Oklahoma Gas and Electric	Past/Present	The Mustang Energy Center is a project conducted by Oklahoma Gas and Electric (OG&E) which replaced the existing 1950s-era power generating units at the Mustang Power Plant with modern natural gas-fired units. The Mustang Energy Center can generate 462 MWs of power and is capable of starting and putting electricity onto the grid much faster than the older units. The Center is located near the Oklahoma City metropolitan area and includes a 2.5 MW solar farm.	Air Quality, Facilities and Infrastructure

Legend: AIT= Advanced Instructor Training; DOT=Department of Transportation; FONSI=Finding of No Significant Impact; I=Interstate; LIDA=/Lawton Industrial Development Authority; MILCON=Military Construction; MW=Megawatt; OG&E=Oklahoma Gas and Electric; PV=Photovoltaic; RA=Restricted Area; RE&ER=Renewable Energy and Energy Resilience; RICE=Reciprocating Internal Combustion Engine

Source: USACE, 2019

4.1.1 Air Quality

Implementation of any of the four action alternatives individually would not introduce a new stationary source of emissions that would contribute to air pollution. In addition, all of the proposed action alternatives individually would have beneficial contributions to air quality improvement by reducing emissions of criteria pollutants, particularly volatile organic compounds and nitrogen oxide (NOx). The exact magnitude and location of emissions would not vary between the alternative solar PV array sites and the overarching outcome is a favorable effect on air quality in the Oklahoma region. These actions align with broader objectives of environmental sustainability and support efforts to meet air quality improvement goals, underscoring their significance in mitigating adverse effects on public health and the environment.

The reasonably foreseeable future actions presented in Table 4-1 include several military construction projects, infrastructure improvements, and residential developments. These actions are expected to result in temporary increases in emissions during construction phases, primarily from diesel and gasoline-powered equipment and vehicles. Long-term impacts are anticipated to include increased vehicular emissions from new roads and residential areas, and potential airspace emissions from increased military training activities. However, renewable energy projects like the Blue Canyon Wind Farm contribute positively by reducing reliance on fossil fuels, thereby improving air quality in the region.

Overall, when combined with the past, present and reasonably foreseeable future actions, the individual cumulative effects of any of the action alternatives on air quality would add to the overall beneficial cumulative effects on air quality through reducing emissions and improving air quality.

4.1.2 Biological Resources

Implementation of any of the four action alternatives individually would cause temporary disturbances and potential habitat loss. Over the long term, the operation of any of the proposed action alternatives would not have a significant impact on biological resources.

The reasonably foreseeable future actions at Fort Sill and the surrounding areas include various military construction projects, infrastructure improvements, and residential developments. While no specific future action is identified in the INRMP, biological resources and any potential actions would be managed according to the guidance provided in the plan to ensure effective conservation and sustainable use of natural resources in alignment with Fort Sill's mission. Any proposed project is subject to DoD's regulations, directives, policies, subject matter plans and guidance documents and likely, additional NEPA analysis.

The reasonably foreseeable future actions are expected to result in temporary disturbances and potential habitat loss during construction phases, primarily affecting vegetation and wildlife in localized areas. Increased military training and road improvements may lead to habitat fragmentation and disturbances to wildlife movement. However, the existing disturbed nature of many project areas and the abundance of similar habitats nearby would help to mitigate these impacts. Long-term impacts would generally be minimized through effective management

practices. The renewable energy projects, such as the Blue Canyon Wind Farm, would offer long-term environmental benefits by providing a sustainable energy source and reducing air pollution. However, the wind farm may also impact bats and migratory birds, but any of the potential effects would have been analyzed and considered in coordination with the USFWS to ensure compliance with regulations such as the MBTA and the Endangered Species Act.

Overall, when combined with the past, present and reasonably foreseeable future actions, the individual cumulative effects of any of the action alternatives on biological resources would not be significant due to the abundance of similar habitat and nature of the disturbed proposed action areas.

4.1.3 Facilities and Infrastructure

Implementation of any of the four action alternatives individually would result in short-term disruptions in utilities and infrastructure. In the long term, the renewable energy projects and infrastructure improvements would provide redundancy and support for future growth, which align with the sustainability goals.

The reasonably foreseeable future actions at Fort Sill and the surrounding areas include various military construction projects, infrastructure improvements, and residential developments. The combination of the military, state, and local reasonably foreseeable future actions would likely cause temporary disruptions and increased demand on utilities and infrastructure. However, the planned upgrades and improvements would result in long-term benefits, including enhanced infrastructure capacity and sustainability.

Overall, when combined with the past, present and reasonably foreseeable future actions, the individual cumulative effects of any of the action alternatives on facilities and infrastructure would cumulatively support regional growth and align with the broader goals of improving resilience and sustainability in the Fort Sill area.

4.1.4 Human Health and Safety

Implementation of any of the four action alternatives individually would not impact human health and safety due to the measures in place and regulatory requirements that would effectively reduce potential risks to ensure the well-being of both workers and the surrounding area.

The reasonably foreseeable future actions at Fort Sill and the surrounding areas include various military construction projects, infrastructure improvements, and residential developments that may pose some temporary risks to human health and safety during construction phases, however the reasonably foreseeable future actions are designed to enhance long-term safety and health outcomes.

Overall, any of the individual action alternatives when combined with the past, present, and reasonably foreseeable future actions would improve infrastructure, emergency response capabilities, and environmental sustainability measures which would contribute to a safer and healthier community at Fort Sill and its surrounding areas.

4.1.5 Socioeconomics

Implementation of any of the four action alternatives individually would contribute to temporary increase in the population on Fort Sill during construction and result in a net increase of up to 10 employees. The construction of any of the action alternatives would provide economic benefits by employing workers and purchasing materials and equipment, leading to minor economic gains. With the Comanche County labor force being sufficient to fill these jobs, no in-migration of workers is expected.

The reasonably foreseeable future actions at Fort Sill and the surrounding areas include various military construction projects, infrastructure improvements, and residential developments that would be expected to have positive impacts on socioeconomics through job creation, increased local spending, and enhanced infrastructure.

The influx of personnel, infrastructure improvements, and residential developments would drive economic growth, increase employment opportunities, and improve the overall quality of life. The renewable energy projects, to include any of the action alternatives, would diversify the local economy and enhance energy resilience. Overall, any of the individual action alternatives when combined with the past, present, and reasonably foreseeable future actions would cumulatively have a positive impact on the socioeconomics of Fort Sill, Lawton, and Comanche County by resulting in a more robust and dynamic local economy that would benefit a wide range of stakeholders.

4.1.6 Transportation and Traffic

Implementation of any of the four action alternatives individually would contribute to temporary increase traffic on Fort Sill during construction due to the delivery of construction equipment and materials, worker commuting trips, and the removal of construction debris. Vehicles for construction activities would primarily use Apache Gate Road, minimizing traffic on local roadways. Although delivery trucks would impact roadway capacity, the overall congestion would be minor due to the dispersed nature of surrounding land uses. Operational traffic would be minimal, consisting of maintenance and inspection activities.

The reasonably foreseeable future actions at Fort Sill and the surrounding areas include various military construction projects, infrastructure improvements, and residential developments would result in temporary traffic and transportation disruptions due to construction activities and increased vehicle movement. However, as these actions are intended to improve long-term infrastructure, enhance safety, and support economic development in the area, the reasonably foreseeable future action could potentially impact congestion and traffic flow, but any impacts would be speculative at this time.

Overall, any of the individual action alternatives, when combined with the past, present, and reasonably foreseeable future actions, would result in cumulative impacts on traffic and transportation in the Fort Sill, Lawton, and Comanche County areas due to the temporary increases in construction traffic from various projects and the long-term benefits of improved infrastructure.

4.1.7 Visual Resources

Implementation of any of the four action alternatives individually contribute to both short- and long-term visual impacts. Short-term impacts from any of the four action alternatives would include the presence of construction equipment and disturbed soil, while long-term impacts would involve the visibility of the solar PV array and associated facilities. However, these long-term impacts are considered minor due to the developed nature of the area and existing infrastructure.

The reasonably foreseeable future actions at Fort Sill and the surrounding areas include various military construction projects, infrastructure improvements, and residential developments that may result in temporary or permanent changes to visual resources in and around Fort Sill. Efforts to mitigate visual impacts would be through design, landscaping, and restoration dedicated to preserving scenic views and maintaining aesthetics.

Overall, any of the individual action alternatives when combined with the past, present, and reasonably foreseeable future actions would result in cumulative impacts on visual resources in the Fort Sill, Lawton, and Comanche County areas. Temporary visual impacts from construction activities would be noticeable but would diminish once construction is complete. Long-term visual impacts would include new structures and infrastructure that alter the visual landscape. However, these changes would be consistent with the ongoing development and modernization of the area.

4.1.8 Hazardous Materials & Waste

Implementation of any of the action alternatives would not result in significant impacts related to hazardous materials and wastes due to strict regulatory requirements and industry standards that ensure the proper handling, storage, and disposal of hazardous materials. The hazards associated with the use of lithium batteries would be reduced through adherence with the Fort Sill HMWMP, SPCC plan, waste management practices, and environmental monitoring.

The reasonably foreseeable future actions at Fort Sill and the surrounding area include additional construction projects of infrastructure upgrades that could introduce similar risks related to hazardous materials during construction and operation phases. However, these activities are also subject to regulatory oversight and compliance measures, which would minimize cumulative impacts. Overall, any of the individual action alternatives when combined with the past, present, and reasonably foreseeable future actions would result in negligible cumulative impacts as all activities would be designed to prevent environmental contamination and safeguard public and environmental health.

5 RELEVANT ENVIRONMENTAL LAWS, REGULATIONS, AND POLICIES

This EA has been prepared in consideration of and compliance with relevant environmental laws, regulations, and policies. These include, but are not limited to, federal laws, regulations, and EOs and military regulations and instructions (e.g., DoD and Army and Fort Sill Regulations) listed herein.

5.1 FEDERAL LAWS AND REGULATIONS

5.1.1 Federal Laws

- 10 USC 2911 – Energy Policy of the Department of Defense
- 16 USC 703-712 – MBTA
- 16 USC 668 – Bald and Golden Eagles, as protected under the Bald and Golden Eagle Protection Act
- 16 USC 1531 et seq. – Endangered Species Act
- 16 USC 470aa-470mm – ARPA
- 25 USC 3001 et seq. – NAGPRA
- 33 USC 1251 et seq. – Clean Water Act
- 42 USC 1996 – American Indian Religious Freedom Act
- 42 USC 4321 et seq. – NEPA
- 42 USC 11001-11050 – Emergency Planning and Right to Know Act of 1986
- 42 USC 13201 et seq. – Energy Policy Act
- 54 USC 312501 et seq. – Archeological and Historic Preservation Act
- 54 USC 300101 et seq. – NHPA

5.1.2 Federal Regulations

- Title 14 CFR 73: Special Use Airspace
- Title 14 CFR 77: Safe, Efficient Use, and Preservation of the Navigable Airspace
- Title 32 CFR 651: Environmental Analysis of Army Actions
- Title 36 CFR 60: NRHP
- Title 36 CFR 79: Curation of Federally-Owned and Administered Archaeological Collections
- Title 36 CFR 800: Protection of Historic Properties
- Title 40 CFR 81: Designation of Areas for Air Quality Planning Purposes

5.1.3 Executive Orders

- EO 11988, Floodplain Management
- EO 13007, Indian Sacred Sites
- EO 13045, Protection of Children from Environmental Health Risks and Safety Risks
- EO 13112, Invasive Species
- EO 13175, Consultation and Coordination with Indian Tribal Governments
- EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds

5.2 OTHER REGULATIONS AND INSTRUCTIONS

5.2.1 Army and Fort Sill Regulations

- AR 5-12, Army Use of the Electromagnetic Spectrum
- AR 200-1, Environmental Protection and Enhancement
- AR 350-19, Army Sustainable Range Program
- AR 385-10, Army Safety Program
- AR 385-63, Range Safety
- AD 2017-07 – Installation Energy and Water Security Policy
- AD 2020-03 – Installation Energy and Water Resilience Policy
- DA PAM 385-63, Range Safety
- Fort Sill Regulation 385-10, Safety Regulation

5.2.2 Department of Defense Instructions

- DoDI 6055 Series, DoD Safety and Occupational Program
- DoDI 4710.02, DoD Interactions with Federally Recognized Tribes
- Unified Facilities Criteria 3-260-01 Airfield and Heliport Planning and Design

6 LIST OF CONTACTED AGENCIES, NATIVE AMERICAN TRIBES, AND GOVERNMENT OFFICIALS

The Final EA and Draft FONSI was made available to federal, state and local agencies, Native American tribes, and the public for review and comment for a 30-day public review period. The responses from federal, state, and local agencies along with the coordination conducted under Section 106 of the NHPA is documented in Appendix A.

6.1 Federal and State Agencies

6.1.1 Federal Agencies

- USFWS
- USEPA

6.1.2 State Agencies

- Oklahoma DEQ
- Oklahoma State Historic Preservation Office
- Oklahoma Archaeological Survey

6.2 Native American Tribes

- Apache Tribe of Oklahoma
- Caddo Nation
- Cheyenne and Arapaho Tribes of Oklahoma
- Chickasaw Nation
- Comanche Nation of Oklahoma
- Delaware Nation
- Fort Sill – Chiricahua – Warm Springs – Apache Tribe (formerly the Fort Sill Apache Tribe of Oklahoma)
- Kiowa Tribe of Oklahoma
- Wichita and Affiliated Tribes

6.3 Federal, State, and Local Government Officials

6.3.1 Federal Government Officials

- Tom Cole, U.S. House of Representatives
- James Lankford, U.S. Senate
- Markwayne Mullin, U.S. Senate

6.3.2 State and Local Government Officials

- Trey Caldwell, Oklahoma House of Representatives
- Rande Worthen, Oklahoma House of Representatives
- Daniel Pae, Oklahoma House of Representatives

- Chris Kidd, Oklahoma Senate
- Kevin Wallace, Oklahoma Senate
- Stan Booker, Mayor of Lawton
- J.J. Francais, Mayor of Elgin
- John Ratliff, Lawton City Manager
- David Farmer, Wichita Mountain Wildlife Refuge Manager
- Trent Logan, Comanche County Commissioner, District 1
- Johnny Owens, Comanche County Commissioner, District 2
- Josh Powers, Chairman, Comanche County Commissioner, District 3

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8 LIST OF PREPARERS

Chloeta and Scout prepared this EA under the direction of the USACE in partnership with Fort Sill. The following staff contributed to the preparation of this document:

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Appendix A. Public Participation

	Documents Included in Appendix A	Date
1.	General Notice to prepare an Environmental Assessment	May 8, 2025
2.	Public Notice	May 30, 2025
3.	SHPO, Native American Tribes, and OAS Consultation Letters and Responses	May 8, 2025



DEPARTMENT OF THE ARMY
HEADQUARTERS, US ARMY GARRISON FORT SILL
462 HAMILTON ROAD, SUITE 120
FORT SILL OK 73503-1340

MAY 8 2025

SUBJECT: Draft Environmental Esessment (EA) and Finding of No Significant Impact (FONSI) for a Microgrid with Backup Power, Fort Sill, Comanche County, Oklahoma

CERTIFIED MAIL: 9589 0710 5270 0627 6420 31

The Honorable Stan Booker
Mayor of Lawton
212 SW 9th Street
Lawton, OK 73501

Dear Mayor Booker:

Fort Sill is in the process of preparing an Environmental Assessment pursuant to the National Environmental Policy Act (NEPA – Public Law 91-190, 42 U.S.C. 4321 et seq.) to evaluate potential environmental impacts associated with the construction, operation, and maintenance of a proposed microgrid with backup power at Fort Sill.

The purpose of the proposed action is to provide secure and reliable access to energy resources at Fort Sill. The proposed action is needed to sustain critical mission capabilities and mitigate risks posed by energy disruptions that could degrade Fort Sill's capabilities. The proposed action is also needed to comply with Administrative Directive 2020-03 - meet the goals of the Army Energy Security and Sustainability strategy to invest in renewable energy; and withstand, respond to, and rapidly recover from regional energy disruptions.

This project is similar in terms of purpose and location to the previously consulted 2019 Environmental Assessment (EA) for a Renewable Energy and Energy Resiliency Project. One fundamental difference between the two projects is that the proposed facilities will be constructed, owned, operated, and maintained by Fort Sill rather than American Electric Power (AEP). Another fundamental difference is that while the solar PV arrays in the former Artillery Village housing area (portions of the 6600-6900 areas) were addressed in the 2019 EA, they were not proposed for the 3900 area as in the subject project. The final major difference between the subject project and the 2019 EA is that the current project proposes up to 8 megawatt per hour (MWh) of battery energy storage system (BESS). There was no BESS proposed in the 2019 EA at all.

This notice of availability of the draft EA and draft FONSI is being submitted to federal, state and local agencies, Native American Tribes, and the public for review and comment for a 30-day period. Additionally, communication with the Oklahoma Department of Environmental Quality has been initiated to address potential concerns regarding air quality, water quality, hazardous wastes, and potential human health effects. Fort Sill has also published the notice of availability for the Draft EA and Draft FONSI in the local newspaper, the Lawton Constitution.

The draft EA and draft FONSI are available for online viewing at Fort Sill's website: <http://sill-www.army.mil/USAG/dpw/Environmental.html>. These documents are also available for in person review at the Environmental Office, Building 2515, Fort Sill, the Lawton Public Library, 110 SW 4th St., Lawton, or the Nye Library, 1640 Randolph Road, Fort Sill.

Written comments may be submitted to the Fort Sill NEPA program manager by email to: Richard.a.mcdaniel49.civ@army.mil or in person (Monday through Friday, 7:00 a.m. to 4:00 p.m., excluding holidays). Written comments can also be mailed to the following address: Directorate of Public Works, Environmental Quality Division, Attn: AMIM-SIP-E (R. McDaniel), 2515 Ringgold Road, Fort Sill, OK 73505. We respectfully request that comments be submitted no later than 30 days after receipt of this letter so they can be included in the final EA. Comments should be as specific as possible (40 CFR 1500.4(n)).

Please direct any questions regarding the action or the process to Mr. Richard McDaniel, Environmental Division, Directorate of Public Works, at 580-442-5671 or by email: Richard.a.mcdaniel49.civ@army.mil.

Sincerely,



Derek R. Baird
Colonel, U.S. Army
Commanding

The Lawton Constitution
 P.O. Box 2069-L
 Lawton, OK 73502
 580-585-5000

Proof of Publication

IN THE DISTRICT COURT
 OF COMANCHE COUNTY OKLAHOMA
 State of Oklahoma, County of Comanche
 microgrid with backup power

I, DAVID R. STRINGER, of lawful age, being duly sworn upon oath, deposes and says: That I am the Publisher of The Lawton Constitution, a daily newspaper printed and published in the city of Lawton, County of Comanche, and state of Oklahoma, and that the advertisement above referred to, a true and the publication dates listed below.

Publication: The Lawton Constitution: 05/30/25.

That said newspaper has been published continuously and uninterruptedly in said county during a period of one hundred and four consecutive weeks prior to the publication of the attached notice or advertisement: that it has been admitted to the United States mail as second-class mail matter, that it has a general paid circulation, and publishes news of general interest, and otherwise conforms with all of the statutes of the State of Oklahoma governing legal publications.

Signed: David Stringer
 Signature

For David Stringer
 SUBSCRIBED and sworn to be me this day of
 30th day of May, 2025

Christina Biscaino
 Notary Public



Acct 87451
 SCOUT

Ad #1323259

Published in
 The Lawton Constitution
 May 30, 2025

**NOTICE OF
 AVAILABILITY**
 DRAFT ENVIRONMENTAL
 ASSESSMENT AND DRAFT
 FINDING OF NO SIGNIFICANT
 IMPACT FOR A MICROGRID
 WITH BACKUP POWER AT
 FORT SILL, OKLAHOMA

U.S. Army Garrison Fort Sill has prepared an Environmental Assessment (EA) to analyze and evaluate the potential environmental impacts associated with the proposed construction, operation, and maintenance of a microgrid with backup power at Fort Sill. Publication of this notice begins the 30-day public review and comment period. This 30-day public review and comment period is being conducted in compliance with the National Environmental Policy Act of 1969 (NEPA; 42 USC 4321 et seq.) and Section 106 of the National Historic Preservation Act (NHPA; 54 USC 306308) and implementing regulations 36 CFR 800.

The purpose of the proposed action is to provide secure and reliable access to energy resources at Fort Sill. The proposed action is needed to sustain critical mission capabilities and mitigate risks posed by energy disruptions that could degrade Fort Sill's capabilities.

This project is similar in terms of purpose and location to the previously-considered 2019 Environmental Assessment (EA) for a Renewable Energy and Energy Resilience Project. Because concerns with the project area were previously requested from all consulting parties and none were provided, there are no identified historic properties within the area of potential effect; and, the previous finding of no historic properties affected for the 2019 consultation, it is Fort Sill's finding pursuant to NHPA, Section 106 for the proposed microgrid undertaking that no historic properties will be affected.

This notice serves to provide an opportunity to comment on the final draft EA and draft Finding of No Significant Impact (FONSI). The purpose of public comment is to provide an opportunity for the public to submit comments on the proposed action prior to a final decision by the responsible official. Public comments received in response to this solicitation will help Fort Sill identify issues for inclusion in the environmental analysis for this proposal.

The draft EA and draft FONSI are available for online viewing at Fort Sill's website: <http://sill-www.army.mil/USAS/dec/Environmental.html>. These documents are also available for in-person review at the Environmental Office, Building 2515 at Fort Sill, the Lawton Public Library, 110 SW 4th St., Lawton, or the Nye Library, 1640 Randolph Road, Fort Sill.

Comments should be postmarked no later than 30 days after publication of this notice so they can be included in the final EA. Submit comments by email to Richard.J.Brodzinski@us.army.mil or by postal mail to Richard Brodzinski, NEPA Coordinator, Fort Sill DPM-EDO, 2515 Randolph Road, Fort Sill, Oklahoma 73502.



DEPARTMENT OF THE ARMY
HEADQUARTERS, US ARMY GARRISON FORT SILL
462 HAMILTON ROAD, SUITE 120
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MAY 8 2025

SUBJECT: Draft Environmental Esessment (EA) and Finding of No Significant Impact (FONSI) for a Microgrid with Backup Power, Fort Sill, Comanche County, Oklahoma

CERTIFIED MAIL: 9589 0710 5270 0627 6418 29

Mr. Trait Thompson
State Historic Preservation Officer
Oklahoma History Center
800 Nazih Zuhdi Drive
Oklahoma City, OK 73105-7917

Dear Mr. Thompson:

Fort Sill is in the process of preparing an Environmental Assessment pursuant to the National Environmental Policy Act (NEPA – Public Law 91-190, 42 U.S.C. 4321 et seq.) to evaluate potential environmental impacts associated with the construction, operation, and maintenance of a proposed microgrid with backup power at Fort Sill. As indicated in Fort Sill's letter dated August 15, 2023, the NEPA process is also being used to fulfill Section 106 under the National Historic Preservation Action (NHPA – 54 U.S.C. 300101 et seq.). Accordingly, please find the draft *Environmental Assessment for a Microgrid with Backup Power at Fort Sill, Oklahoma (Microgrid EA)* at enclosure 1.

The Microgrid EA considers four alternatives and the required no action alternative. The four alternatives are a different combination of facilities in the same broad location. Because project costs will likely be the factor in determining which alternative is implemented, there is no preferred alternative at this time. Enclosure 2 contains a map showing the location of the proposed Microgrid along the south boundary of the Fort Sill cantonment.

This project is similar in terms of purpose and location to the previously consulted 2019 Environmental Assessment (EA) for a Renewable Energy and Energy Resiliency Project (SHPO File #0434-19). One fundamental difference between the two projects is that the proposed facilities will be constructed, owned, operated, and maintained by Fort Sill rather than American Electric Power (AEP). Another fundamental difference is that while the solar PV arrays in the former Artillery Village housing area (portions of the 6600-6900 areas) were addressed in the 2019 EA, they were not proposed for the 3900 area as in the subject project. The final major difference between the subject project and the 2019 EA is that the current project proposes up to 8 megawatt per hour (MWh) of battery energy storage system (BESS). There was no BESS proposed in the 2019 EA at all.

The project meets the definition of an undertaking per 36 CFR 800.3(a). Fort Sill has further determined that regarding 36 CFR 800.3(a)(1), the undertaking is the type of activity that has the potential to cause effects on historic properties, assuming such historic properties are present. As such, the undertaking is subject to review under the NHPA.

Overall, this correspondence initiates the consultation process by seeking your agreement with the following:

- a. Fort Sill's request for expedited consultation thereby allowing Fort Sill to address multiple steps in the consultation process;
- b. The identification of your office as the only applicable Historic Preservation Office;
- c. The area of potential effect (APE) as described by Fort Sill and shown below in enclosure 3;
- d. The identification of your office, the Oklahoma Archeological Survey (OAS), the eight consulting American Indian tribes, and the public as the applicable consulting parties;
- e. The concurrent provision of the project information to the identified consulting parties;
- f. The plan to involve the public as outlined below; and
- g. The finding of no historic properties affected for this undertaking.

Unless your office provides written comments specifically indicating that the Oklahoma State Historic Preservation Office (SHPO) does not concur with an above referenced finding or action, Fort Sill will continue the consultation process on the premise that your office agrees with the determinations and actions for this undertaking as described in this letter.

In addition to describing the proposed action alternatives, this letter delineates the Army's proposed APE for this undertaking and the steps Fort Sill will take to identify consulting parties and notify the public of the project. Fort Sill respectfully requests your concurrence with the proposed APE pursuant to 36 CFR 800.4(a)(1). Additionally, Fort Sill requests your agreement to conduct expedited consultation for this undertaking in accordance with 36 CFR 800.3(g).

The undertaking would occur entirely on the Fort Sill Military Reservation in the state of Oklahoma. The Fort Sill Military Reservation is solely under the jurisdiction of the federal government and contains no tribal land. As such, under 36 CFR 800.3(c), Fort Sill has determined the only applicable Historic Preservation Office to be your office, the Oklahoma SHPO, located in Oklahoma City, Oklahoma.

The proposed action is to construct, operate, and maintain a microgrid with backup power on Fort Sill. Fort Sill would own and be responsible for all electrical generation assets and related equipment associated with the construction, operation, and maintenance of this action; this includes the financing, installation, permitting, operation, and maintenance of the utility system. The proposed action includes three primary elements:

- The construction, operation, and maintenance of solar PV arrays that would produce up to 24 MW of renewable energy. The solar PV arrays are proposed for location in the 3900 area and/or in portions of the 6600-6900 area that are government-owned and were formerly part of the Artillery Village housing area. The solar PV arrays will consist of fixed tilt solar PV panels and supporting infrastructure such as fencing and roads.
- The construction, operation, and maintenance of overhead or underground tie-lines from the solar PV arrays and BESS to the Reciprocating Internal Combustion Engine (RICE) facility. The RICE facility was previously consulted as part of the 2019 EA and is currently in design stages with an anticipated construction date beginning in late 2025.

The RICE facility includes a connection to the Mow-Way Substation so the solar PV arrays and BESS will only need to connect to the RICE facility.

- The construction, operation, and maintenance of a Battery Energy Storage System (BESS) with a capacity of up to 8 MWh situated near other microgrid elements in either the 3900 area or Artillery Village area. The BESS will consist of multiple modular containerized units up to 40' long. As needed depending on the location, the BESS will be fenced. The specific location(s) of the BESS will be determined by the engineers as part of the project design.

The proposed APE consists of the combined total of approximately 262.65 acres that encompasses the project site along with corridors, laydown, and access to the sites for construction and connectivity of required utilities. There is no indirect APE proposed for this project because the proposed facilities will not exceed the heights of existing facilities in the broader area and there are no historic properties within line of sight of the project area so the impact on audible, visual, and atmospheric conditions will be similar to those already existing in the area. A map depicting the location of the direct APE is included at enclosure 3.

Consistent with 36 CFR 800.4(a)(2), Fort Sill has reviewed existing information in its cultural resources file to identify any known prehistoric or historic resources, including districts, buildings, structures, objects, and/or sites within the APE for the undertaking. There are no identified historic properties in the APE.

The 6600-6900 areas were developed as family housing in the mid-1950s under the 1949 Wherry Act. The housing on the south side of Artillery Village was demolished in about 2007 with the vacant land being retained by the government when other portions of Artillery Village were conveyed to the privatized housing partner under the Residential Communities Initiative (RCI) in 2008. The proposed project will only be within the government-owned section of Artillery Village.

From the 1940s through the 1970s, the 3900 area was used for conventional munitions and small arms training. Operating at various times during this period, there were five former ranges in the area. The area has been subject to remediation, but a land use control (LUC) remains in place for the northern portion of the 3900 area that prevents any intrusive activities until construction workers and site personnel undergo munitions and explosives of concern (MEC) recognition and avoidance training.

Archeological surveys in the APE have included the 1978 *An Archeological Reconnaissance of Fort Sill, Oklahoma*, by C. Reid Ferring et al; the 1992-1993 *Cultural Resources Inventory of 17,068 Acres within 11 Selected Areas of the Fort Sill Military Reservation, Fort Sill, Oklahoma*, by Gathel M. Weston et al; the 2008 *National Register Eligibility Determination for Sites 34Cm-290, 34Cm-308, and 34Cm-471, Fort Sill Military Reservation, Fort Sill, Oklahoma* by Jonathan Meyer; and, the 2014 *Intensive Archeological Survey of 3,210.75 Acres and 77 National Register Site Evaluations at the Fort Sill Military Reservation, Comanche County, Oklahoma*, (Vol. 1, page 153) by R.C. Goodwin and Associates.

The soils in the west side of the APE are Vernon-Knoco complex, 5 to 12 percent slopes; Vernon-Clairemont complex, 0 to 12 percent slopes; and, Foard and Tillman soils, 1 to 3 percent slopes. The soils in the east side of the APE are all Foard and Tillman soils, 1 to 3 percent slopes. Enclosure 4 contains the soils map.

Based upon the involved ground disturbance, Fort Sill has identified your office, the OAS, the Apache Tribe of Oklahoma, the Cheyenne and Arapaho Tribes of Oklahoma, the Delaware Nation, the Caddo Nation, the Wichita and Affiliated Tribes, the Comanche National, the Fort Sill -Chiricahua-Warm Springs-Apache Tribe and the Kiowa Indian Tribe of Oklahoma as entities entitled to be consulting parties per 36 CFR 800.3(f). Because no local governments have jurisdiction over Fort Sill, no city or county entities will be directly invited to participate as a consulting party. However, as allowed under 36 CFR 800.3(f)(3), if any local government agency submits a written request to the designated Fort Sill official representative to participate as a consulting party, Fort Sill will consult with your office to determine the appropriateness of such action. At this time, Fort Sill also asks for your input in identifying any additional potential consulting parties.

It is Fort Sill's intent to gather information from all consulting parties to identify any cultural, historic, sacred, or religious concerns in the APE per 36 CFR 800.4(a)(3). This information will be requested from the consulting parties within 30 days of receipt of the consultation packages. In accordance with 36 CFR 800.3(b), Fort Sill will coordinate all consultation steps as appropriate reviews under other authorities, including the Archaeological Resources Protection Act, American Indian Religious Freedom Act, Religious Freedoms Restorations Action, the Native American Graves Protection and Repatriation Act, and Executive Order 13007 Indian Sacred Sites.

As required by 36 CFR 800.3(e) and consistent with 36 CFR 800.2(d), Fort Sill's plan to involve the public includes the following actions. The Draft EA and Draft FONSI will be made available to the public for review and comment for a 30-day period. Fort Sill will publish a Notice of Availability (NOA) for the Draft EA and Draft FONSI in the Lawton Constitution, a daily newspaper serving the Lawton and Fort Sill areas. The undertaking documentation will be publicly available at the Lawton Public Library, 110 SW 4th, Lawton, OK; the Fort Sill Nye Library; and online at <https://sill-www.army.mil/usag/dpw/environmental> for a 30-day comment period. All written comments submitted by the public to the designated Fort Sill official representative will be given consideration in the decision-making process per 36 CFR 800.2(d)(2). If any significant impacts are identified during the review of comments, a Notice of Intent would be issued, and the Environmental Impact Statement process initiated. If no significant impacts are identified, the EA will be finalized and a FONSI signed.

Taking into account that concerns with the project area were previously requested from all consulting parties and none were provided; there are no identified historic properties within the APE; and, the previous finding of no historic properties affected for the 2019 consultation, it is Fort Sill's finding for the proposed microgrid undertaking that no historic properties will be affected.

Ms. Cindy Savage, Environmental Support Branch, is designated as Fort Sill's official representative for all matters dealing with this undertaking. She can be reached via telephone at (580) 442-1040 or via email at cynthia.j.savage4.civ@army.mil.

All written correspondence should be directed to the following address: Directorate of Public Works, Environmental Quality Division, Attn: AMIM-SIP-E (C. Savage), 2515 Ringgold Road, Fort Sill, OK 73505.

If comments are not received from your office within 30 days of receipt of this letter, it is assumed you concur with the use of expedited consultation, the proposed APE, the consulting

parties identified, the plan to inform the public of the project, and the finding of no historic properties affected.

As always, Fort Sill looks forward to working with your office on the preservation of our cultural heritage.

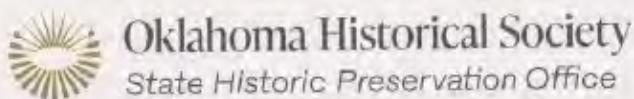
Sincerely,



Derek R. Baird
Colonel, U.S. Army
Commanding

Enclosures:

1. Draft Microgrid EA and draft FONSI
2. Location Map
3. APE Map
4. Soils Map



May 20, 2025

Ms. Cindy Savage
Environmental Support Branch
DPW-EQD ATTN: AMIM-SIP-E (C. Savage)
2515 Ringgold Road
Fort Sill, OK 73503

RE: File #1449-25; Fort Sill Proposed EA & FONSI for a Microgrid with Backup Power,
Fort Sill, Comanche County, Oklahoma

Dear Ms. Savage:

We have received and reviewed the materials for the referenced undertaking submitted with your letter dated May 8, 2025. We concur with the defined area of potential effect (APE) with respect to both direct and indirect impacts for this project and consider it appropriate for the scope of work.

We have no additional agencies or organizations to suggest as possible consulting parties for the proposed undertaking other than those noted in your letter.

Based on the information you have provided about this project and in keeping with your request per expedited consultation, unless you receive conflicting comments from the Oklahoma Archeological Survey, we find no historic properties affected by the undertaking.

Thank you for the opportunity to review this project. If you have any questions, please call Kristina Wyckoff, Historical Archaeologist, at 405-521-6381. Please reference the above underlined file number when responding. Thank you.

Sincerely,

A handwritten signature in blue ink, appearing to read "Lynda Ozan".

Lynda Ozan
Deputy State Historic
Preservation Officer

LO:pm

- EQD -
MAY 28 2025



DEPARTMENT OF THE ARMY
HEADQUARTERS, US ARMY GARRISON FORT SILL
462 HAMILTON ROAD, SUITE 120
FORT SILL OK 73503-1340

MAY 8 2025

SUBJECT: Draft Environmental Esessment (EA) and Finding of No Significant Impact (FONSI) for a Microgrid with Backup Power, Fort Sill, Comanche County, Oklahoma

CERTIFIED MAIL: 9589 0710 5270 0627 6418 36

Dr. Kary Stackelbeck
Oklahoma State Archeologist
Oklahoma Archeological Survey
111 E. Chesapeake
Norman, OK 73019-0575

Dear Dr. Stackelbeck:

Fort Sill is in the process of preparing an Environmental Assessment pursuant to the National Environmental Policy Act (NEPA – Public Law 91-190, 42 U.S.C. 4321 et seq.) to evaluate potential environmental impacts associated with the construction, operation, and maintenance of a proposed microgrid with backup power at Fort Sill. The NEPA process is also being used to fulfill Section 106 under the National Historic Preservation Action (NHPA – 54 U.S.C. 300101 et seq.). Accordingly, please find the draft *Environmental Assessment for a Microgrid with Backup Power at Fort Sill, Oklahoma* (Microgrid EA) at enclosure 1.

The Microgrid EA considers four alternatives and the required no action alternative. The four alternatives are a different combination of facilities in the same broad location. Because project costs will likely be the factor in determining which alternative is implemented, there is no preferred alternative at this time. Enclosure 2 contains a map showing the location of the proposed Microgrid along the south boundary of the Fort Sill cantonment.

This project is similar in terms of purpose and location to the previously consulted 2019 Environmental Assessment (EA) for a Renewable Energy and Energy Resiliency Project. One fundamental difference between the two projects is that the proposed facilities will be constructed, owned, operated, and maintained by Fort Sill rather than American Electric Power (AEP). Another fundamental difference is that while the solar PV arrays in the former Artillery Village housing area (portions of the 6600-6900 areas) were addressed in the 2019 EA, they were not proposed for the 3900 area as in the subject project. The final major difference between the subject project and the 2019 EA is that the current project proposes up to 8 megawatt per hour (MWh) of battery energy storage system (BESS). There was no BESS proposed in the 2019 EA at all.

The project meets the definition of an undertaking per 36 CFR 800.3(a). Fort Sill has further determined that regarding 36 CFR 800.3(a)(1), the undertaking is the type of activity that has the potential to cause effects on historic properties, assuming such historic properties are present. As such, the undertaking is subject to review under the NHPA.

The inclusion of your office in the consultation process is in keeping with the cooperative agreement between your office and the Oklahoma State Historic Preservation Office (SHPO)

under which you provide written comments as the SHPO's official representative on prehistoric archeological matters in the consultation process.

The proposed action is to construct, operate, and maintain a microgrid with backup power on Fort Sill. Fort Sill would own and be responsible for all electrical generation assets and related equipment associated with the construction, operation, and maintenance of this action; this includes the financing, installation, permitting, operation, and maintenance of the utility system. The proposed action includes three primary elements:

- The construction, operation, and maintenance of solar PV arrays that would produce up to 24 MW of renewable energy. The solar PV arrays are proposed for location in the 3900 area and/or in portions of the 6600-6900 area that are government-owned and were formerly part of the Artillery Village housing area. The solar PV arrays will consist of fixed tilt solar PV panels and supporting infrastructure such as fencing and roads.
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Consistent with 36 CFR 800.4(a)(2), Fort Sill has reviewed existing information in its cultural resources file to identify any known prehistoric or historic resources, including districts, buildings, structures, objects, and/or sites within the APE for the undertaking. There are no identified historic properties in the APE.

The 6600-6900 areas were developed as family housing in the mid-1950s under the 1949 Wherry Act. The housing on the south side of Artillery Village was demolished in about 2007 with the vacant land being retained by the government when other portions of Artillery Village were conveyed to the privatized housing partner under the Residential Communities Initiative (RCI) in 2008. The proposed project will only be within the government-owned section of Artillery Village.

From the 1940s through the 1970s, the 3900 area was used for conventional munitions and small arms training. Operating at various times during this period, there were five former ranges in the area. The area has been subject to remediation, but a land use control (LUC) remains in

place for the northern portion of the 3900 area that prevents any intrusive activities until construction workers and site personnel undergo munitions and explosives of concern (MEC) recognition and avoidance training.

Archeological surveys in the APE have included the 1978 *An Archeological Reconnaissance of Fort Sill, Oklahoma*, by C. Reid Ferring et al; the 1992-1993 *Cultural Resources Inventory of 17,068 Acres within 11 Selected Areas of the Fort Sill Military Reservation, Fort Sill, Oklahoma*, by Gathel M. Weston et al; the 2008 *National Register Eligibility Determination for Sites 34Cm-290, 34Cm-308, and 34Cm-471, Fort Sill Military Reservation, Fort Sill, Oklahoma* by Jonathan Meyer; and, the 2014 *Intensive Archeological Survey of 3,210.75 Acres and 77 National Register Site Evaluations at the Fort Sill Military Reservation, Comanche County, Oklahoma*, (Vol. 1, page 153) by R.C. Goodwin and Associates.

The soils in the west side of the APE are Vernon-Knoco complex, 5 to 12 percent slopes; Vernon-Clairemont complex, 0 to 12 percent slopes; and, Foard and Tillman soils, 1 to 3 percent slopes. The soils in the east side of the APE are all Foard and Tillman soils, 1 to 3 percent slopes. Enclosure 4 contains the soils map.

Pursuant to 36 CFR 800.4, Fort Sill is seeking information from you concerning properties within the APE which are of, or have the potential to be of, archeological significance. Fort Sill is also particularly interested as to whether your office is aware of issues that the OAS, or any other interested party, may have concerning the undertaking's potential effects on historic properties relative to the Archaeological Resources Protection Act, 16 U.S.C. § 470aa et seq.

Based upon the involved ground disturbance, Fort Sill has identified your office, the SHPO, the Apache Tribe of Oklahoma, the Cheyenne and Arapaho Tribes of Oklahoma, the Delaware Nation, the Caddo Nation, the Wichita and Affiliated Tribes, the Comanche National, the Fort Sill -Chiricahua-Warm Springs-Apache Tribe and the Kiowa Indian Tribe of Oklahoma as entities entitled to be consulting parties per 36 CFR 800.3(f). At this time, Fort Sill also asks for your input in identifying any additional potential consulting parties.

It is Fort Sill's intent to gather information from all consulting parties to identify any cultural, historic, sacred, or religious concerns in the APE per 36 CFR 800.4(a)(3). This information will be requested from the consulting parties within 30 days of receipt of the consultation packages. In accordance with 36 CFR 800.3(b), Fort Sill will coordinate all consultation steps as appropriate reviews under other authorities, including the Archaeological Resources Protection Act, American Indian Religious Freedom Act, Religious Freedoms Restorations Action, the Native American Graves Protection and Repatriation Act, and Executive Order 13007 Indian Sacred Sites.

As required by 36 CFR 800.3(e) and consistent with 36 CFR 800.2(d), Fort Sill's plan to involve the public includes the following actions. The Draft EA and Draft FONSI will be made available to the public for review and comment for a 30-day period. Fort Sill will publish a Notice of Availability (NOA) for the Draft EA and Draft FONSI in the Lawton Constitution, a daily newspaper serving the Lawton and Fort Sill areas. The undertaking documentation will be publicly available at the Lawton Public Library, 110 SW 4th, Lawton, OK; the Fort Sill Nye Library; and online at <https://sill-www.army.mil/usag/dpw/environmental> for a 30-day comment period. All written comments submitted by the public to the designated Fort Sill official representative will be given consideration in the decision-making process per 36 CFR 800.2(d)(2). If any significant impacts are identified during the review of comments, a Notice of

Intent would be issued, and the Environmental Impact Statement process initiated. If no significant impacts are identified, the EA will be finalized and a FONSI signed.

Taking into account that concerns with the project area were previously requested from all consulting parties and none were provided; there are no identified historic properties within the APE; and, the previous finding of no historic properties affected for the 2019 consultation, it is Fort Sill's finding for the proposed microgrid undertaking that no historic properties will be affected.

Ms. Cindy Savage, Environmental Support Branch, is designated as Fort Sill's official representative for all matters dealing with this undertaking. She can be reached via telephone at (580) 442-1040 or via email at cynthia.j.savage4.civ@army.mil.

All written correspondence should be directed to the following address: Directorate of Public Works, Environmental Quality Division, Attn: AMIM-SIP-E (C. Savage), 2515 Ringgold Road, Fort Sill, OK 73505.

If comments are not received from your office within 30 days of receipt of this letter, it is assumed you concur with the finding of no historic properties affected.

As always, Fort Sill looks forward to working with your office on the preservation of our cultural heritage.

Sincerely,



Derek R. Baird
Colonel, U.S. Army
Commanding

Enclosures:

1. Draft Microgrid EA and draft FONSI
2. Location Map
3. APE Map
4. Soils Map



Oklahoma Archeological Survey

THE UNIVERSITY OF OKLAHOMA

May 30, 2025

Directorate of Public Works
Environmental Quality Division
Attn: AMIM-SIP-E (C. Savage)
2515 Ringgold Rd.
Fort Sill, OK 73505

Re: OAS FY25-1369 Proposed Construction of Microgrid with Backup Power,
Legal Description: Sections 13-14, T2N, R12W, Comanche County, Oklahoma.

Dear Ms. Savage:

The Community Assistance Program staff of the Oklahoma Archeological Survey has reviewed the above referenced project to identify areas that may potentially contain prehistoric or historic archeological materials (historic properties). The location of your project has been crosschecked with the state site files containing approximately 26,000 archaeological sites, which are currently recorded for the state of Oklahoma. Our records indicate that your project area has been previously surveyed for other projects and that no archaeological sites or historic resources were documented. An additional field inspection is not considered necessary for your project as it pertains to the prehistoric archaeological resources. Please contact this office at (405) 325-7211 if buried archaeological materials such as chipped stone tools, pottery, bone, historic crockery, glass, metal items or building materials are exposed during construction activities.

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

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

Sincerely,

Lewis Dolmas
Staff Archaeologist

Kary L. Stackelbeck, Ph.D.
State Archaeologist

cc: SHPO

JUN 6 2025

111 Chесapeake, Room 100, Norman, Oklahoma 73019-5111 PHONE: (405) 325-7211 FAX: (405) 325-7604
A UNIT OF ARTS AND SCIENCES SERVING THE PEOPLE OF OKLAHOMA





DEPARTMENT OF THE ARMY
HEADQUARTERS, US ARMY GARRISON FORT SILL
462 HAMILTON ROAD, SUITE 120
FORT SILL OK 73503-1340

MAY 8 2025

SUBJECT: Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for a Microgrid with Backup Power, Fort Sill, Comanche County, Oklahoma

CERTIFIED MAIL: 9589 0710 5270 0627 6418 43

Apache Tribe of Oklahoma
Chairman Durrell Cooper
PO Box 1330
Anadarko, OK 73005

Dear Chairman Cooper:

Fort Sill is in the process of preparing an Environmental Assessment pursuant to the National Environmental Policy Act (NEPA – Public Law 91-190, 42 U.S.C. 4321 et seq.) to evaluate potential environmental impacts associated with the construction, operation, and maintenance of a proposed microgrid with backup power at Fort Sill. The NEPA process is also being used to fulfill Section 106 under the National Historic Preservation Action (NHPA – 54 U.S.C. 300101 et seq.). Accordingly, please find the draft *Environmental Assessment for a Microgrid with Backup Power at Fort Sill, Oklahoma* (Microgrid EA) at enclosure 1.

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This project is similar in terms of purpose and location to the previously consulted 2019 Environmental Assessment (EA) for a Renewable Energy and Energy Resiliency Project. One fundamental difference between the two projects is that the proposed facilities will be constructed, owned, operated, and maintained by Fort Sill rather than American Electric Power (AEP). Another fundamental difference is that while the solar PV arrays in the former Artillery Village housing area (portions of the 6600-6900 areas) were addressed in the 2019 EA, they were not proposed for the 3900 area as in the subject project. The final major difference between the subject project and the 2019 EA is that the current project proposes up to 8 megawatt per hour (MWh) of battery energy storage system (BESS). There was no BESS proposed in the 2019 EA at all.

The project meets the definition of an undertaking per 36 CFR 800.3(a). Fort Sill has further determined that regarding 36 CFR 800.3(a)(1), the undertaking is the type of activity that has the potential to cause effects on historic properties, assuming such historic properties are present. As such, the undertaking is subject to review under the NHPA.

The purpose of this letter is to invite you to be a consulting party in the Section 106 process for this undertaking relative to 36 CFR 800.3(f)(2), while also providing you the opportunity to comment on the draft EA and draft Finding of No Significant Impact (FONSI) prior to a final decision by the responsible official. Comments received in response to this solicitation will help Fort Sill identify

issues for inclusion in the environmental analysis for this proposal. I address this invitation to you as the Tribal Chairman in recognition of the government-to-government relationship between your tribe and the Federal Government.

This letter describes the proposed action and provides a copy of the area of potential effects (APE) that Fort Sill has determined for the undertaking.

The proposed action is to construct, operate, and maintain a microgrid with backup power on Fort Sill. Fort Sill would own and be responsible for all electrical generation assets and related equipment associated with the construction, operation, and maintenance of this action; this includes the financing, installation, permitting, operation, and maintenance of the utility system. The proposed action includes three primary elements:

- The construction, operation, and maintenance of solar PV arrays that would produce up to 24 MW of renewable energy. The solar PV arrays are proposed for location in the 3900 area and/or in portions of the 6600-6900 area that are government-owned and were formerly part of the Artillery Village housing area. The solar PV arrays will consist of fixed tilt solar PV panels and supporting infrastructure such as fencing and roads.
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The proposed area of potential effects (APE) consists of the combined total of approximately 262.65 acres that encompasses the project site along with corridors, laydown, and access to the sites for construction and connectivity of required utilities. There is no indirect APE proposed for this project because the proposed facilities will not exceed the heights of existing facilities in the broader area and there are no historic properties within line of sight of the project area so the impact on audible, visual, and atmospheric conditions will be similar to those already existing in the area. A map depicting the location of the direct APE is included at enclosure 3.

Consistent with 36 CFR 800.4(a)(2), Fort Sill has reviewed existing information in its cultural resources file to identify any known prehistoric or historic resources, including districts, buildings, structures, objects, and/or sites within the APE for the undertaking. There are no identified historic properties in the APE.

The 6600-6900 areas were developed as family housing in the mid-1950s under the 1949 Wherry Act. The housing on the south side of Artillery Village was demolished in about 2007 with the vacant land being retained by the government when other portions of Artillery Village were conveyed to the privatized housing partner under the Residential Communities Initiative (RCI) in 2008. The proposed project will only be within the government-owned section of Artillery Village.

From the 1940s through the 1970s, the 3900 area was used for conventional munitions and small arms training. Operating at various times during this period, there were five former ranges in the area. The area has been subject to remediation, but a land use control (LUC) remains in place for the northern portion of the 3900 area that prevents any intrusive activities until construction workers and site personnel undergo munitions and explosives of concern (MEC) recognition and avoidance training.

Consistent with 36 CFR 800.4(a)(2), Fort Sill has reviewed existing information in its cultural resources files to identify any known prehistoric or historic resources, including districts, buildings, structures, objects, and/or sites within the APE for the undertaking. There are no known historic properties in the APE.

Archeological surveys in the APE have included the 1978 *An Archeological Reconnaissance of Fort Sill, Oklahoma*, by C. Reid Ferring et al; the 1992-1993 *Cultural Resources Inventory of 17,068 Acres within 11 Selected Areas of the Fort Sill Military Reservation, Fort Sill, Oklahoma*, by Gathel M. Weston et al; the 2008 *National Register Eligibility Determination for Sites 34Cm-290, 34Cm-308, and 34Cm-471, Fort Sill Military Reservation, Fort Sill, Oklahoma* by Jonathan Meyer; and, the 2014 *Intensive Archeological Survey of 3,210.75 Acres and 77 National Register Site Evaluations at the Fort Sill Military Reservation, Comanche County, Oklahoma*, (Vol. 1, page 153) by R.C. Goodwin and Associates.

The soils in the west side of the APE are Vernon-Knoco complex, 5 to 12 percent slopes; Vernon-Clairemont complex, 0 to 12 percent slopes; and, Foard and Tillman soils, 1 to 3 percent slopes. The soils in the east side of the APE are all Foard and Tillman soils, 1 to 3 percent slopes. Enclosure 4 contains the soils map.

Pursuant to 36 CFR 800.4, Fort Sill is seeking information from you concerning properties within the APE which are of religious and cultural significance to the Apache Tribe of Oklahoma. In addition to identifying properties of religious and cultural significance to the Apache Tribe of Oklahoma within the APE, Fort Sill also requests that you identify any issues the Apache Tribe of Oklahoma may have concerning the undertaking's potential effects on historic properties.

Fort Sill further requests the Apache Tribe of Oklahoma identify any concerns regarding the proposed undertaking relative to the Archaeological Resources Protection Act (ARPA), 16 U.S.C. § 470aa et seq., the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 et seq., Presidential Executive Order 13007, the Native American Graves Protection and Repatriation Act (NAGPRA), 25 U.S.C. §3001 et seq., the American Indian Religious Freedom Act (AIRFA), 42 U.S.C. § 1996, and the Religious Freedom Restoration Act (RFRA), 42 U.S.C. § 200bb-1 et seq.

In order to ensure that appropriate confidentiality measures are taken, Fort Sill requests that you specifically identify those portions of the information provided by the Apache Tribe of Oklahoma that are public in nature and those portions that are confidential in nature. Fort Sill shall treat information identified as confidential in accordance with the confidentiality provisions of 36 CFR 800.11(c).

Fort Sill also invited the Cheyenne and Arapaho Tribes of Oklahoma, the Delaware Nation, the Caddo Nation of Oklahoma, the Wichita and Affiliated Tribes, the Comanche Nation, the Fort Sill - Chiricahua - Warm Springs - Apache Tribe and the Kiowa Indian Tribe of Oklahoma to be consulting parties in the Section 106 process for this undertaking relative to 36 CFR 800.3(f)(2). That correspondence also included a description of the project and maps identifying the APE, a request for information on whether there were properties of religious or cultural significance within the APE, and a request for concerns on the undertaking relative to ARPA,

16. U.S.C. § 470aa et seq., NEPA, 42 U.S.C. § 4321 et seq., Presidential Executive Order (E.O.) 13007, NAGPRA, 25 U.S.C. § 3001 et seq., AIRFA, 42 U.S.C. § 1996, and RFRA, 42 U.S.C. § 200bb-1 et seq. Their input was also requested within 30 days of receipt of Fort Sill's correspondence.

Taking into account that concerns with the project area were previously requested from all consulting parties and none were provided; there are no identified historic properties within the APE; and, the previous finding of no historic properties affected for the 2019 consultation, it is Fort Sill's finding for the proposed microgrid undertaking that no historic properties will be affected.

If you would prefer to meet face-to-face to conduct this part of the consultation process, please let me know at your earliest convenience so that we can coordinate a mutually agreeable date and time.

If the Apache Tribe of Oklahoma would like to express any comments concerning this undertaking, please contact Fort Sill in writing within 30 days of receipt of this letter. Please direct your written correspondence to Ms. Cindy Savage, DPW-Environmental Quality Division, Attn: AMIM-SIP-E, 2515 Ringgold Road, Fort Sill, OK 73503. As the Fort Sill Agency Official for NHPA matters, I have designated Ms. Savage as the Installation's official representative for this undertaking.

If there are questions or concerns, you may contact me directly at (580) 442-3106 or your staff may contact Ms. Savage at (580) 442-2849 or via email at cynthia.j.savage4.civ@army.mil.

If you have not contacted us to set up a consultation meeting or written comments are not received from your office within thirty days of receipt of this letter, we will assume that the Apache Tribe of Oklahoma has no properties of religious or cultural significance within the APE and no concerns with the finding of no historic properties affected.

As always, Fort Sill looks forward to working with your office on the preservation of our cultural heritage.

Sincerely,



Derek R. Baird
Colonel, U.S. Army
Commanding

Enclosures:

1. Draft Microgrid EA and draft FONSI
2. Location Map
3. APE Map
4. Soils Map

COMANCHE NATION



Headquarters, United States Army Garrison, Fort Sill
Attn: Ms. Cynthia J. Savage
462 Hamilton Road, Suite 120
Fort Sill, Oklahoma 73503

May 13, 2025

Re: Draft Environmental Assessment (EA) and Finding of No Significant Impact
(FONSI) for a Microgrid with Backup Power, Fort Sill, Comanche County, Oklahoma

Dear Ms. Savage:

In response to your request, the above reference project has been reviewed by staff of this office to identify areas that may potentially contain prehistoric or historic archeological materials. The location of your project has been cross referenced with the Comanche Nation site files, where an indication of "No Properties" have been identified. (IAW 36 CFR 800.4(d)(1)).

Please contact this office at (580) 492-1153 if you require additional information on this project.

This review is performed in order to identify and preserve the Comanche Nation and State cultural heritage, in conjunction with the State Historic Preservation Office.

Regards

Theodore Villicana
Comanche Nation Historic Preservation Office
Theodore E. Villicana, Technician
#6 SW "D" Avenue, Suite C
Lawton, OK. 73502

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